Master of Science in Business and Economics, specialization in managing people, knowledge and change; Degree Project (15 ECTS)

Master Thesis

Knowledge Sharing in a

Business Incubator

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Abstract

Title: Knowledge sharing in a business incubator

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Purpose: The purpose of the research is to investigate how entrepreneurs experience knowledge sharing in a business incubator. Furthermore, the study explores which factors enable or inhibit knowledge sharing.

Design/methodology/approach: The research is based on an inductive approach with twelve semi-structured interviews serving as the main empirical data, with additional unstructured observations supporting the data. Since the focus is on entrepreneurs lived experiences, a phenomenological approach is used.

Findings: The thesis argues that entrepreneurs experience four aspects; 1) open office space, 2) management support, as well as 3) activities and the 4) community – as supportive for sharing knowledge in a business incubator. Both, the notions of collaborative communities (CC) and communities of practise (COP), respectively, show crucial aspects that are of particular importance in enabling knowledge sharing. Hence, our findings show that both notions viewed from a convergent perspective could result in a mutually beneficial new framework, which can be named collaborative communities of practice (CCOP). The constructed framework constitutes a suitable illustration of how missing values in the concept of COP can be extended in order to promote knowledge sharing.

Originality/value: By outlining experienced enabling aspects to share knowledge and by introducing a merged framework regarding knowledge sharing, the authors offer a new foundation for theory building for researchers in this field, as well as interesting results for practitioners.

Keywords: Knowledge sharing, business incubator, collaborative communities, communties of practice, collaborative communities of practice.

Acknowledgement

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List of abbreviations

CC	Collaborative communities
CCOP	Collaborative communities of practice
COP	Communities of practice
Et al.	Et alia
Ibid.	Ibidem
SECI	Socialization, Externalization, Combination, Internalization
USP	Unique selling proposition

1 Introduction

The first chapter sets in motion the general introduction of the research study. After that, the problematization and the significance of the study are outlined. This will lead to the research questions that guide the entire study. It will also include a reflection of the problem and introduce the reader to the purpose and perspective of the thesis while also highlighting the research objectives. To avoid misunderstandings the basic definitions of main concepts that are significant to the study are then explained. Finally, the chapter concludes by outlining the overall structure of the whole study.

1.1 General Introduction

Today entrepreneurs and companies are faced with a complex and continuous changing environment. Through the rise of globalization and the omnipresent Internet that guides most of business processes, the flow of information has increased rapidly. When building up one's own business, entrepreneurs are not facing the dilemma of a scarce information supply but rather finding the right information. This implies that entrepreneurs also understand what they are looking for and are able to make sense of and interpret collected information. This broad pool of information directs them to engage in communities of collaboration where they can distinguish themselves and thus may gain competitive advantage. If entrepreneurs stay alone during their business start-up, and do not get in contact with other like-minded people, they might not know how to interpret necessary information and might be unsure of how to apply certain business tasks. For that reason, entrepreneurs try to socialize and gain experience from others, however they can consequently become dependent on a network of people around them. It becomes important for them to get help, inspiration, and ideas as well as to obtain knowledge from others for the success of their business (e.g. Nonaka & Takeuchi, 1995; Davenport & Prusak, 1998). Often entrepreneurs are spotted sitting in cafes working on their business idea inspired by the people around them. Here, they get access to free wireless internet and can work for long opening hours while at the same time are not isolated alone in an office or at home. Nonetheless, a necessary network of business contact is missing at cafes. Thus, business incubators, where entrepreneurs can gain affordable shared working space with other entrepreneurs (Smilor & Gill, 1986), are seen as the optimal facility for start-up firms to exchange ideas and knowledge (Bøllingtoft, 2011), which also increased rapidly during the last decades (Foertsch, 2011; Bonnett, 2011). Several studies have shown that incubators provide start-up firms with a network of useful business contacts (e.g. Peters, Rice &

Sundarajan, 2004; Hackett & Dilts, 2004; Bergek & Norrman, 2008) and knowledge they require (Hughes, Hughes & Morgan, 2007; Collinson & Gregson, 2003). At the same time, the sharing of knowledge, resources and work is counselled in the focus of many scholars (e.g. Nonaka 1994; Adler & Heckscher, 2006; Davenport & Prusak, 1998). The word 'sharing' is certainly not being as ever-present among entrepreneurs and scholars as it is nowadays. From a traditional perspective, people are working alone and are competitive, protect their ideas and only share knowledge when they perceive to gain from it. For instance, as information creates power, an individual might be motivated to monopolise it, hiding it even from close associates (Nonaka et al. 2000). However, knowledge needs to be shared in order to be created and exploited (Nonaka, 1994; Nonaka, Toyama & Konno, 2000; Davenport & Prusak, 1998) and thus the incubator environment attract attention from the entrepreneur who is reliant on new knowledge for the success of their start-up firm.

1.2   Problematization and significance of the study

During the last century, there is a radical shift in society towards a more collaborative social engagement (Adler & Heckscher, 2006) where entrepreneurs are looking to enhance their networks and to gain knowledge from others. Gevin (1998) and Kleiner and Roth (1998) argue that it is hard to share knowledge without interaction and thus there is evidence that people want to socialize and collaborate with others. Although, not all business incubators are similar and have comparable concepts and procedures, they supply entrepreneurs with attributes such as co-location of business, shared services, management assistance, and networking (e.g. Peters et al., 2004, Hackett & Dilts, 2004; Bergek & Norrman, 2008). Business incubator reduces the probability of failure and also accelerates the process of business creation by offering opportunities to start-up firms (Grimaldi & Gaandi, 2005). Additionally, there is a growing stream of research concerning incubators as means for young firms to learn, acquire and share knowledge (Hughes et al., 2007). However, how entrepreneurs and start-up firms experience the knowledge sharing process has yet to be explored. It is not transparently explained in the literature, which factors start-up firms experienced to enhance or constrain the exchange of knowledge in a business incubator. Much research is conducted about the importance of interaction to share knowledge but it is not clear how entrepreneurs experienced this interaction and which aspects they perceive to be most relevant but also inhibiting. Our research question is therefore based on two interrelated questions:

1.3   Research question

How do entrepreneurs experience the knowledge sharing process in a business incubator and which aspects might enable or inhibit it?

1.4   Objective of the study

The purpose of the research is to understand the lived experiences of an entrepreneur in the knowledge sharing process at a business incubator. For us, it is important not to put a false appearance on the business incubator, but to see it solely as a supplier of infrastructure, network and knowledge provider for entrepreneurs. The problem why many incubators as well as start-up firms fail is that they might focus too much on the firm's individual success without taking into account how important it is to interact with others in order to share expertise and knowledge (Kleiner & Roth, 1998). It is of particular importance to create an atmosphere in which members feel safe sharing their knowledge and ideas and that there is commitment amongst them to be motivated in sharing and creation of knowledge (Nonaka et al., 2000). Business incubators share the objective of encouraging entrepreneurship (Peters et al., 2004; Hacket & Dilts, 2004). But nothing is said about the role of collaborative environments that create trust, commitment and collaborative help in order to encourage start-up firms.

Thus, the major challenge of our research is to understand which factors entreprenuers experience as crucial or inhibiting to gain and share knowledge and thus to build up start-ups successfully. In particular our study extensively emphasizes the impact of communal creation in collaborative environments and how these aspects are experienced as an instigator for knowledge sharing in a business incubator.

The research objective can further being divided into sub-objectives:

- How important is the construction of a community for the exchange of knowledge in a business incubator?
- Can the concept of communities of practice play a significant role in the knowledge sharing process at business incubators?
- Does a missing community aspect in a business incubator lead to a constrained knowledge sharing process?

The research objectives will be reached; first, through the description of concepts, characteristics and principles regarding communities, collaborative environments and knowledge shar-

ing; and afterwards, our analysis supported by our empirical findings will lead us to answer our research question and objective.

1.5   Contribution of the study

From a managerial point of view, knowledge gained in our thesis can be of most relevance for business incubator, organizations and any other business entity. The results of our empirical material show the major impacts of communities of practice and collaborative environments and their impact on the knowledge sharing process. For example, a strong implication of our analysis is that communities of practice will be more effective when they take a collaborative form and focus on face-to-face interaction, trust and managerial help. The results provide an idea how to create and support an environment where knowledge sharing is perceived as a pervasive element in daily work-life. Our research can be used as the base for organizations that are looking to support such a community.

Regarding the scientific relevance of our study, this investigation contributes to the research field of knowledge sharing in business incubator and communities of practice. Researchers and practioners investigating these fields can use this research as a source of further information. Further, it entails an enhanced version of the concepts of communities of practice and collaborative communities that can be used for further elaboration.

1.6   Definitions

Reading papers and reports often causes confusion of definitions because they are interchangeably used occasionally. For most concepts and words there are no single –one-sentence – definitions feasible. However, in order to avoid misunderstandings when reading our thesis, some key definitions need to be clarified:

Business Incubator: A business incubator is a facility established to nurture young (start-up) firms during their early months or years. It usually provides affordable space, shared offices and services, hand-on management training, marketing support and, often, access to some form of finance (Business Dictionary, 2012).

Start-up: A start-up is used as a synonym for a new business.

Entrepreneurship: Entrepreneurship is defined by Bygrave and Hofer (1991) as the creation of a new organization, either as a new venture or as a venture within an existing organization.

"It involves all functions, activities and actions associated with the creation of an organization" (p. 14).

Social entrepreneurship: A social entrepreneur "links the instrumental means of entrepreneurship [...] to putatively social objectives" (Nicholls & Cho, 2008, p. 105). Hence, the main goal is to increase social, not financial impact.

Cooperativeness: Used as a synonym for the willingness to help others.

1.7   Thesis Disposition

Introduction	The introduction serves to provide general information about the research conducted. The aim of the introduction is to present the challenges of the subject and provide a problem discussion that help to guide our thesis. We hereby intend to give the reader the necessary background information needed to follow our arguments as well as the purpose and structure of the thesis.
Literature review	Provides the theoretical background for the research, and introduces the terms used later in the analysis and discussion chapter. The literature is applied specifically to the research question; therefore emphasis is given on business incubator, the concept knowledge sharing and creation, as well as on communities of practice.
Method-ology	Introduces the research philosophy and the approach adopted in the thesis; why certain methods are used, and the way the data is retrieved and analysed. A phenomenological approach is used, by collecting the data with semi-structured interviews tool.
Emperical findings	Within the empirical findings the research field and a summary of the relevant discovered aspects out of the interviews and observations are introduced.
Analysis & Discussion	In the analysis and discussion chapter, the relevant theoretical and empirical data is connected and analyzed in order to give answers to the research questions and to comply our research objectives. Furthermore, the perceptions are discussed in detail and connected with respect to the corresponding literature.
Conclusion	The conclusion summarizes our findings and discussion points. Limitations are also acknowledged and possible future research are presented.
Reference	The ending chapter of references includes all literature used. Every reference in this report are presented based upon the Havard citation system.

Figure 1: Thesis disposition

2   Literature Review

This chapter reviews relevant literature on business incubator, knowledge management, communities of practice and community aspects in the general society in order to get an understanding about the main theoretical arguments with respect to our research study. The first part entails the theories within Business Incubator, including the basic characteristics of business incubator and as well as their link to knowledge. In the second part the concept of knowledge, the different knowledge types and the SECI Model by Nonaka and Takeuchi (1995) is investigated deeper. Following this, the concept of communities of practice (Wenger, 1998) and collaborative communties (Adler & Heckscher, 2006) with respect to business incubator and knowledge sharing processes is then explained. And finally, an emerged framework based on both theories is illustrated.

2.1   The key characteristics of business incubators

Recently business incubators have become increasingly an omnipresent notion for facilities where newly founded start-up firms receive help to survive and grow until market breakthrough (Aernoudt 2004; McAdam & Marlow, 2008). By offering infrastructure and facilities to entrepreneurs business incubator decreases the risk of business failure (Grimaldi & Grandi, 2005). This idea is supported by Peters et al. (2004), when they mention that incubators are considered as a vehicle for the development and enhancement of young firms. Branstad (2010) describes a business incubator as an entity that provides physical resources and support to start-up firms which includes shared office space and technological infrastructure, such asInternet and printers. However, this support alone does not subsidize to the success of a start-up firm and seems to be obsolete (Bøllingtoft & Ulhøi, 2005). At the same time, business incubators also need to generate access to business network, know-how and new markets (Aernoudt, 2004). This contributes to the creation of economies of scale where entrepreneurs gain access to external expertise, resources and skills (Hansen, Chesbrough, Nohria & Sull, 2000). Through the combination of those skills and expertise among entrepreneurs as well as external resources and know-how an opportunity for synergy creation and development can emerge (Bøllingtoft & Ulhøi, 2005). Additionally, incubators have extend their scope of services by providing knowledge-based resources that are critical for the success of the start-up firm including entrepreneurial training, networking and business development consulting (Peters et al., 2004; Tötterman & Sten, 2005). Peters et al. (2004) argues that it is not about any of the above-mentioned criteria alone that support a start-up firm, but rather the accumulation

of infrastructure, service, networking and coaching together that assist them (Scillitoe & Chakrabarti, 2010). Popular researchers in the field of business incubator like Peters et al. (2004), Hackett and Dilts (2004), and Bergek and Norrman (2008) mention the following aspects as the key characteristics of a business incubator:

Peters et al. (2004)	Hackett and Dilts (2004)	Bergek and Norrmann (2008)
Co-location of business	Low-price rent	Shared office space to fair prices
Shared services	Shared services	A pool of shared support services under reduced overhead cost
Management assistance	Access to support network	Business support or advice (coaching)
Networking	Existence of entry/exit policies	Network provision, internal or external

Table 1: Key characteristics of a business incubator

McAdam and McAdam (2006) distinguish between for-profit, non-profit and university linked incubator and what are the benefits and traits in which they provide to their members. The non-profit incubators are particularly popular with entrepreneurs who are not creating Internet companies or who do not strive for quick monetary wins (ibid.), while it is stated that the for-profit incubators represent as much as 70 per cent of all business incubator (Peters et al., 2004).

2.1.1   Beyond the general characteristic of business incubators

Beside the key characteristics, another crucial aspect that is not extensively mentioned among the investigated literature is that business incubator also provides a conductive environment for socializing and the sharing of knowledge among other entrepreneurs (Scillitoe & Chakrabarti, 2005). Through the shared working space, formal and informal relationships with other members of the incubator can build where knowledge can be exchanged and a network of people can be created (Duff, 1994; Lyons, 2002). This can increase the speed of acquiring knowledge of certain business processes, and thus can become of much importance to an emerging young firm that may have had prior limited experience or knowledge (Hughes et al., 2007).

Entrepreneurs can benefit from this network by gaining less costly resources, information, advice and help as when they need to acquire those on the general market (Peters et al., 2004). Tötterman and Sten (2005) say that incubator can give credibility to start-up firms for building and extending their own network externally and thus make contact to potential partners and customers. It is argued that intangible benefits like networks and knowledge sharing of-

fered by incubators are more valuable than the tangible infrastructure and services (Fang, Tsai & Lin, 2010). Pena (2002, p. 19) in his article asserts:

"Our results show that the most successful entrepreneurs from our sample are the ones who value most not only the tangible services provided by the business centers. [...] They also value most the opportunity offered by the incubation center to share experiences and discuss business issues with other entrepreneurs hosted by the same center and living under the same roof. Obviously, the business incubation center offers a unique setting to develop an important relational capital element, such as the support climate among entrepreneurs created within the incubator to overcome together the difficult moments of the firm gestation period."

2.1.2   Knowledge sharing in business incubators

As most start-up firms are based on innovative ideas where knowledge is not objectively available everywhere and at all times, a business incubator plays an important role as a knowledge enabler (Hennessy, 2012). Branstad (2010) states in his paper, the responsibilities and challenges of incubators are centralized in giving entrepreneurs access to the needed knowledge. This, in contrast to the findings of Bøllingtoft (2011) and Hansson (2007), emphasises solely on providing access to existing knowledge without stresses the impact of social interaction and consequently generating new knowledge. Nevertheless, an important characteristic of incubators is also that official and non-official procedures of knowledge transfer, explicit and tacit knowledge sharing, as well as creation of knowledge networks and establishing learning environments is pre-existing. Collinson and Gregson (2004, p. 192) state that "start-up firms are arguably constrained far more by knowledge limitations than by financial limitations." The knowledge transfer and exchange within the incubator is proved by the fact that entrepreneurs share workspace and therefore are automatically encouraged to communicate (Bergek & Norman, 2008; Lyons, 2000). It is thus to presume that the collection of different entrepreneurs can contribute more to an innovation than an individual entrepreneur alone. When entrepreneurs are working alongside one another they create opportunities for enhanced knowledge and experience sharing (Lyons, 2000). They are able to quickly and straightforward transfer their knowledge because of the near allocation and open communication availability (Lewis, 2001). In order to discuss the knowledge sharing process at business incubator more precise, different types of knowledge and particular processes need to be explained.

2.2   Knowledge

2.2.1   The concept of knowledge

Before we can evaluate concepts concerning how knowledge is being shared; we should first look on the historical nature of information and knowledge and how it is constructed. Michael Polanyi (1958) was the first to propose a concept of knowledge that changed the way knowledge is generated. He suggested that what guides inquiry in every field is what he named as *tacit insinuation* or *intuition* (Polanyi 1958), which is developed and raised through experience and trained capacities a person has gained over years. Consequently, an enormous amount of knowledge has been stored or experienced without being aware of it. A well-known example Polanyi uses to illustrate the tacit knowledge is "to explain someone how to ride a bicycle". This knowledge cannot easily be transferred and made explicit by communication as he said, "we know more than we can tell" (1966, p. 4). Nonetheless, this knowledge basically guides how we perform any activity we are doing; the know-how, so to say. Hence, Polanyi centralizes his theory on the fact that each individual creates knowledge; it automatically contains feelings and passion. Therefore, contrary to a good that is shared, knowledge is always being reconstructed as it moves from one person to another where the interpretation of information is differently; based on prior experience, sense making and language differences. Kalling and Styhre (2003) state that information arises when it is located in a meaningful context. The flow of information creates knowledge, which is interpreted differently by individuals based on personal beliefs and the commitment of the "creator". Both knowledge and information are context-specific and this relationship between the two is constructed depending on the environment and social relationship between people (Nonaka & Takeuchi, 1995). It is developed by consensus based upon negotiated meanings (Weick, 1995) and thus, knowledge creation and sharing is dependent on the meaning that is contributed to it and is not objectively available per se. Before getting to the concepts of knowledge creation, we should focus on which types of knowledge are distinguished.

2.2.2   Types of knowledge

Nonaka (1994) describes the most present concept on knowledge types as tacit and explicit knowledge. The former type can be characterized as subjective knowledge whereas the latter type is more attributed towards objective knowledge. Explicit knowledge can be easily exchanged between individuals in a formal and accessible way by the use of letters, mathematical formulas, the intranet, or databases. Because explicit knowledge is available in physical

form, it can be easily exploited by the firms to share and manipulate organizational knowledge (Scarbrough, Swan, & Preston, 1999). It is, thus described as tangible knowledge. Tacit knowledge on the other hand is much more difficult to share because it is based on personal experiences and thoughts and consequently hard to put into a formal language (Callahan, 2005). It resides intangible inside a person's mind and needs to be first encoded (Nonaka, 1991). Both types of knowledge are in a mutual relationship and they form the key dynamics of knowledge creation in organizations (Nonaka, 1994; Nonaka & Takeuchi, 1995). Together they form the processes of knowledge conversion making the knowledge sharing process possible. Albeit it is simply astounding and hard to convert tacit into explicit knowledge and there is not much value for start-up firms when they do not gain the intangible knowledge of other members at the incubator. As a result, the success of knowledge creation and sharing is in the deployment of tacit knowledge. This interaction of tacit and explicit knowledge is conceptualized by the SECI-model (Nonaka & Takeuchi, 1995).

2.2.3 SECI – Model

The SECI model is build upon four stages where the types of knowledge are interacting; Socialization, Externalization, Combination and Internalization. The aim of the SECI model is to improve and add value to how tacit knowledge can be turned into explicit knowledge through dialogue (Nonaka & Takeuchi, 1995), so that is simple to access and utilize by individuals in an organization.

"*The SECI process shows that knowledge is created as it runs through different levels in the company and between groups and individuals. Knowledge value is hence created through synergies between the owners of knowledge, both individual and group, within the organizational framework*" (p. 14).
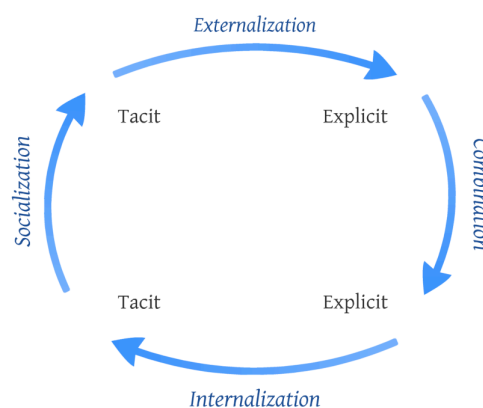
Figure 2: SECI - Model (Nonaka and Takeuchi, 1995)

Socialization mode: The first mode, socialization, involves the process of sharing tacit knowledge of an individual with tacit knowledge of another individual, without making it explicit first. During this, joint activities such as shared workspace, group work or social events help individuals to obtain and observe experiences from others, by social interacting with each other. When there is a base of shared experiences between people that lies in the interests of both individuals, they can enhance their way of making sense of their experience and gain new tacit knowledge (Nonaka & Konno, 1998). Otherwise, without a common form of experience or mindset, they are not able to make use of that information (ibid.)

Externalizaton mode: Externalization is the process of formulating tacit knowledge into explicit knowledge through different techniques such as models, hypotheses, metaphors and analogies. This is guided by a social interacting process that is based on conversations and reflections between individuals that results in explicit knowledge (Nonaka, Toyama, and Konno, 2000). The core issue is to form personal knowledge into an understandable explicit form. To capture and formalize a person's experience is nonetheless very difficult and often lacks important information. Hence, it must be said that making tacit knowledge explicit is the key in the knowledge creation process and can be viewed as the most important process among the four (Nonaka & Konno, 1998).

Combination mode: The combination process implies the conversion of explicit knowledge into new extended explicit knowledge. New explicit knowledge can be formed or reinterpreted by individuals exchanging and incorporating knowledge through the exchange of documents, e-mail, phone calls and meetings. This can also include the capturing of external knowledge that is then combined with the internal knowledge that in turn can be presented and pass over to other members. It becomes much easier to evaluate on the effectiveness of conceptualized knowledge and can serve as a justification source (ibid.).

Internalization mode: The last process is that of turning explicit knowledge into tacit knowledge that is called the process of internalization. Exercises, training and 'Learning by doing' help an individual to internalize the experience they have gained using explicit knowledge and transform it into their own tacit knowledge (Nonaka et al., 2000). How or if it is created cannot be reflected upon and is therefore accepted as a true belief making it hard to question and investigate (ibid.).

2.2.4   Critiques on knowledge concepts

Alvesson (2007) criticizes Nonaka and Takeuchi's claim that the gained explicit knowledge in the combination phase can be used as justification of existing knowledge, because it is impossible to measure the quality of knowledge products or services. Furthermore, Alvesson and Svenningson (2007) address the problem of following a certain categorized way, such as a n-step model, in knowledge sharing and creation. This critique comes along with the fact that firm's environments change continuously and cannot be predicted nor framed in a recurring process (ibid.). Tacit knowledge is hard to encrypt and there is no one "how-to" method in which someone can express it (Teece, 1998). It creates the framework of an individual's understanding and in contrast to explicit knowledge, tacit knowledge does not easily surrender itself to articulation and documentation as in the form of a book (ibid.). Additionally, both knowledge types are not an easy topic you can distinguish from each other objectively, it is rather a process by which it is created dependent on the environment and background of the one who uses it (Tsoukas, 2005). However, it is nonetheless not impossible to share knowledge however it is merely a process of action (ibid.). The process of action might come in the form of collaborative interaction among people. Therefore, it is important to look into aspects and concepts where individuals work together.

2.2.5   How can the knowledge sharing process being enhanced

During the late nineteenth century firms and entrepreneurs were constrained by there own boundaries of work processes (Chesbrough, 2003). Innovations and new venture creation was protected against 'potential' competitors and 'sharing' was - more or less - a word of foreign origin. However, for firms to generate and gain new knowledge and thus find innovative solutions for prospective products, services and markets it was essential to incorporate a wider community (see Amidon, 1998; Miller & Morris, 1999). Chesbrough (2003) argues that firms instead of being locked in by the 'boundaries of the firm' can and should use both internal and external ideas in order to foster innovation. We are not going to go much into Chesbrough's model of open- and closed innovation, nonetheless, it is important to mention that in order to cumulate new knowledge and to share it, one must get involved and interact with others (Debackere, Clarysse, Wijnber & Rappa, 1994; Nonaka & Takeuchi, 1995; Nonaka & Toyama, 2003). As some authors claim the transfer of knowledge must be based on some kind of shared common understanding and the willingness to work towards a common goal (Swan, Newell, Scarbrough & Hislop, 1999, Nonaka et al., 2000). Kippenberger (1998) in his article argues that individuals start sharing their tacit knowledge when they have to

work on the same problems because they need to exchange their experiences in order to solve those problems. For him the knowledge base or repertoire of a firm is built on the collective mind-sets and shared experiences of those who are interacting and are members of that firm (ibid.). The tacit knowledge of the individuals influences the behaviour of the firm's members and creates a certain culture that is in turn built on the mind-set of the individuals (ibid.). Consequently, the interaction and mutual exchange of tacit knowledge makes it a socially constructed process (Berger & Luckmann, 1966) that is dependent on collaboration (Tapscott, 2006).

2.2.6   The role of networks

In order to create new ideas and enable collaboration one must create a network of people with a broad context of experience and knowledge (Tapscott, 2006). Networks create an interactive social communication ground where knowledge sharing is stimulated (Swan et al., 1999) and that makes it crucial to improve the idea generation process. Nonaka (1994) already argued that the informal community of social interaction is central for new ideas to occur. However, a network of people or contacts can also be seen as a superficial opportunity for gaining excess to information only if they are needed or if they are of use in the short term (Reagans & McEvily, 2003). The important characteristics to enable knowledge sharing is to be willing to work on the same problems together (Kippenberger, 1998) towards a common goal (Swan et al., 1999, Nonaka et al., 2000), and thus not warranted by networks.

2.3   Collaborative communities

Adler and Heckscher (2006) claim that a new form of community – what they call collaborative community (CC) – has emerged in the society where the focus lies on the 'contribution to the collective purpose, and contribution to the success of others' (p. 39). The Open Source movement in software production is usually used as the prime example of new forms of community-based work and knowledge creation that go beyond the limits of bounded firm-based models (Adler & Heckscher, 2006). Both argue that CCs form when people work together to create shared value, and that it enables an enlarged scope of simultaneous knowledge generation and sharing. This does not happen without an enormous sense of trust among members. Studdard (2006) argues that business incubator promote the binding of social relationships that gives entrepreneurs a feeling of trust and cohesiveness, because they work in a closed working area. Adler and Heckscher (2006) however argue that in order to build such a collaborative community firms must define and build a shared purpose among its

members, cultivate and enhance an ethic of contribution, and create an infrastructure in which collaboration is valued and rewarded (ibid.). Members of the community need to commit towards the shared purpose of the overall goal in which the group wants to achieve, which Heckscher (1998) describes as 'community of purpose' (also explained in Davenport and Hall, 2002). It must be somehow embodied in the mind-set of the members. This purpose should not be bound in an incontrovertible taken for granted purpose, but supposed to be critically disputable in an open and respectful discourse between members (Adler, Kwon & Heckscher, 2008). Adler and Heckscher (2006), focus extensively on the aspect of cooperation among the collaborative community in which three fundamental dimensions are crucial.

2.3.1   The fundaments of a collaborative community

First of all, it is important that members of the community have shared values they can rely on. This provides members with credibility that others follow those values and give them a form of trust. Those values can be embedded in honesty, collegiality and contribution. They work towards a common goal and underpin it with commitment and loyalty. "Collaborative Community is distinctive in its reliance on value rationality" (Adler & Heckscher, 2006, p. 16).

Secondly, Adler and Heckscher (2006.) depart from the traditional view of structures, authority and the division of labour and underline that collaborative communities support an 'interdependent process management' with formal and informal structures where labour is organically coordinated by collaboration. The management task is "to help the community to work effectively" (p. 61).

The third fundamental aspect is that a community needs to internalize a form of identities that might be based on multiple identities. In that sense, it must respect, different opinions and see them as opportunity, so that there is no one moral way of acting but instead an interdependent set that are interactively communicated.

Table 2 illustrates the key principles and characteristics of a CC that was explained in the previous subsections.

The key principles of collaborative communities
Contribution towards a collective purpose and success of others' built the fundament of the community
Member work together to create shared values
Values such as honesty, collegiality and contribution are embedded in the community
Community internalize an identity that can be based on multiple identities that is communicated freely
Generation and sharing of knowledge are primary benefits to members
Management helps the community to work effectively
Horizontal hierarchal structures are embodied that encounter knowledge sharing

Table 2: The key principles of Collaborative Communities

2.3.2   Knowledge sharing in collaborative communities

Interaction among people cannot be programmed or directed top-down, it might work for routine tasks and sharing of explicit knowledge that is easily available. However, for tasks that are non-routine and where people have different knowledge bases it is relatively less effective (Adler & Heckscher, 2006; Adler, Kwon & Heckscher, 2008). It is within the community, with the characteristics described above, which make the knowledge sharing process effective because coordination problems are diminished. The most effective knowledge exchange occurs when different people with different backgrounds are brought together (ibid.). They must, however trust each other that their knowledge are competent in nature.

A way that hinders the knowledge sharing process is that in traditional organisations, people are bound in hierarchies where they do not challenge any knowledge from people on the higher level in order to protect their jobs for instance. Moreover, people are intended to do their predefined jobs with resources that are allocated in advance without having autonomy about any business process decision. This, according to Adler and Heckscher (2006) are "powerful boundaries to open discussion and sharing of knowledge" (p. 483). People are more concerned about their job-safety and self-protection than to bring innovation about. Hierarchies, top-down coordination and other bureaucratic approaches are those that entail more fear than they encounter knowledge sharing, innovation and thus business growth. Until recently people believe that knowledge is equal to power, therefore it must be protected and kept safe. To operate efficiently and to gain as much knowledge as possible it needs to be perceived as: knowledge is equal to power, so share it and it even multiplies (Allee, 2000).

The growing role of communities and collaboration concerning start-up firms in business incubator is often underestimated (Bøllingtoft, 2011). However, the importance of collaboratively working together and sharing similar values and goals enable start-up firms to learn from each other and bring their business forward (Wenger, 1998; Adler & Heckscher, 2006). An effective method to team different groups of people and firms who share something in common is incorporated in the model of "Communities of Practice" (COP) first introduced by Wenger and Lave in 1991.

2.4   Communities of practice

2.4.1   The concept of communities of practice

Lave and Wenger (1991) and Wenger (1998) elaborated on the aspect of knowledge as a process where a group of individuals collectively learn and work towards a common goal. Leveraging personal networks and bringing together a heterogeneous set of start-up firms in form of a COP can contribute to connecting individual expertise that would remain isolated elsewise. Creating a base of community substantiates a common perspective and expertise and knowledge is shared very liberally in a social process (Hinds & Pfeffer, 2003). That develops the learning process of all involved (Lave & Wenger, 1991). Learning as a social engagement means that members, such as start-up firms engage in the practices of the community and creating identities in relation to this community (Wenger, 1998). For organizations, such as a business incubator it is important to sustain this community and keep it together. In practice, it provides members to utilize their knowledge in the best proficient way and to unfurl for new ideas (ibid.).

Nonetheless, a COP cannot be seen as any kind of community in the general sense. Wenger (1998) emphasize on three characteristics that are essential: - The *domain;* the *community;* and the *practice* -

COP need to have a shared set of interest towards a common *domain* they are following. It is not a group of people who randomly meet and talk to each other, but rather a cluster of member who have commitment to one domain that illustrates their identity. Striving for their identity and following their interest in the domain, members interact, help each other, exchange information and form new ideas.

A COP creates a *community* for people where they can learn and gain knowledge by collaboratively working together. It is conceptualized as "a group of people, who share a concern, a

set of problems, or a passion about a topic" (Wenger, McDermott & Snyder, 2002, p. 4). That passion, the commitment of members and the identification with the community holds the COP together (ibid.). They create a form of mutual engagement and consideration, and hence create a form of trust among members (Alvesson, 2007). The interaction occurs mainly informal, by discussion, unofficial meeting and information sharing. Wenger et al. (2002) describes COP as where knowledge is shared most often via Internet, when its members cannot rely on face-to-face interactions as their main way of communication, because they do not work physically in the same area.

Members of a COP also develop *shared practices* in form of experiences, stories, tools or methods to handle certain problems (Wenger, 1998, Wenger et al., 2002). They receive help from others member very quickly (Wenger et al., 2002) by their developed repertoire of practices that help them in accomplishing certain tasks. A COP creates an area of problem solving where members increase their possibility to minimize risk and contribute more to the success of the company because they can choose from a broader spectrum of knowledge sources. The support from other members of the community make them poised in approaching certain problems with much more confidence, because they feel safe and assisted. Hence, as the members help each other with urgent difficulties, they also contribute to the acquisition of new knowledge (ibid.). On the other hand, as they share ideas, they develop shared ways of doing things and common practices occur (Dermott, 1999; Wenger et. al., 2002). The phrase "common practices", however, does not categorically imply that it results in new knowledge but rather consolidate different routines to one way of use. The combination of all three characteristics parallel constitutes to the creation of a COP and provides an instrument to share knowledge most efficient (ibid.).

Table 3 summarizes the key principles of communities of practices.

The key principles of communities of practices
Members share a concern, a set of problems, or a passion about a topic
Members have commitment to one domain that illustrates their identity
Members help each other, exchange information and form new idea to strive for their identity
No face-to-face interaction is required
Shared practices are developed that help to solve problems
Members act informal and within no structural hierarchies

Table 3: The key principles of communities of practice

2.4.2   Knowledge sharing in communities of practice

According to Jashapara (2004) COP influences the knowledge sharing process and especially emphasize on the externalization mode explained in the SECI Model. But it also represents a useful tool in the tacit to tacit socialization mode, as well as the other mode in the knowledge creation model (ibid.). There is a mutual relationship between the SECI and the COP concepts for the success of making the transition from tacit knowledge within the individual to explicit knowledge of a group. By all the benefits they provide they can have a significant impact on the knowledge exchange and generation process than more formal, hierarchal organizational forms (Adler, Kwon, & Heckscher, 2008).

How a COP works out is dependent on the encouragement in the form of effort, time, and resources they generate and use (Ahmed, Lim & Loh, 2002). They rely heavily on the participation of their members; the community will last as long as people are interested in maintaining it (Wenger & Snyder, 2006). However, the environment of mutual support, honesty and respect among the members of the COP enable the knowledge sharing process (Ahmed et al., 2002). If one of the start-up misses resources or has a problem it can become the help of someone else at the incubator.

The motivation to share knowledge is however not ever present; there are certainly barriers to it (Kalling & Styre, 2003). Often, knowledge is being seen as a competitive advantage that distinguishes you from others. Sharing it would imply that you loose this advantage. Furthermore, knowledge is also seen as power. Foucault (1972) argued heavily on the fact that knowledge constructs truth that is always dependent on power. If you are the only available recourse with that knowledge you also have the power in saying what knowledge is the truth.

Brown et al. (2003), and Wenger et al. (2002), moreover argue that new knowledge can be gained when others respond and help on specific problems. The question is if new knowledge is indeed gained, or already existing explicit knowledge shared. From a social constructivism perspective it is to assume that by the exchange of knowledge, impartial if it is explicit or tacit knowledge, new knowledge comes about because of the contextual factors that contribute the situation and construct something different; apparently new (Lecture, Dan Kärreman, BUSN46, February 2012). According to Davenport and Hall (2002) COP are the main sources for the interplay of tacit and explicit knowledge. They ensure the sharing of tacit knowledge and informal learning method such as storytelling, conversation, coaching and mentoring (Wenger et al., 2002).

Nonaka et al. (2002) say that the concept of COP contributes to the encouragement of SECI merely implicitly because they only exchange knowledge that is embedded in the community within its boundaries. They also suggest that at the foundation of the SECI Model lies in the "concept of ba" and that this reflects the context that knowledge needs in order to exist, in which it is shared, created, and utilized (ibid.). Furthermore they assert, although the "concept of ba" shows similarities with that of COP, they differentiate in the point that a COP is a place where members learn and share knowledge that already exists in the community, whereas "ba" is a place where new knowledge is created. It is not about characterizing the "concept of ba" in detail but focusing on the paradoxical issue that COP do not generate new knowledge. Paradoxical in the sense because knowledge is socially constructed and thus generally implies a form of new knowledge (Lecture, Dan Kärreman, BUSN46, February 2012). On the other hand, it is restricted to the community and boundaries in which they interact and therefore knowledge is constrained to the amount of knowledge that is "in stock". Hislop (2005) mentioned COPs could have the advantage that the knowledge generation and creation process can be actively supported and thus being influenced, which happens through various interaction and informal methods within COP (Wenger et al., 2002). Accordingly, the knowledge that is shared by their members is a form of group knowledge with both tacit and explicit elements impersonated (Hislop 2005). Consequently, and most importantly, COP can facilitate the knowledge process by either strengthening levels of innovativeness through supporting creation, development and application of knowledge; or by encouraging knowledge sharing, individual, and group learning (Brown & Duguid, 1991; Hislop, 2005).

2.5   The integration of COP and CC

No precise research concerning the use of communities of practice as a tool to increase the knowledge sharing process at the business incubator could be found. Bøllingtoft (2011) touched on it as she describes in her article the importance of a network or group of entrepreneurs in an incubator that have similar interest and concerns who interact for a mutual assistance and support. The cooperation among members of the incubator to work together and have a positive attitude towards knowledge sharing and the willingness to spend their time on social and professional interaction is crucial for start-up firms (ibid.). This shows common features towards Adler and Heckscher's (2006) concept of collaborative communities and the 'collective purpose' and 'contribution to the success of others' (p. 39). But it is also in line with Wenger (1998) and the principles of COP where members share their knowledge and ideas and help each other to solve problems. The opportunities that can occur while seeing the

incubator more as cooperation form than as a network form enables to expand the interaction of start-ups (Bøllingtoft, 2011). Under networking activities start-ups support and help each other from a peer perspective whereas under a more cooperative aspect they interact and may discover also new ideas and business opportunities because they also interact in a more informal way (ibid.), like as communities of practice do (Wenger et al., 2002; Wenger & Snyder, 2006).

According to Wenger and Snyder (2006) COP are fundamentally informal and self-organizing and cannot easily be managed. People come together in a COP because they want to share their ideas, get help or be part of the group without belonging to a formal structure (Wenger, 1998). However, if you want to efficiently gain knowledge and learn it might be better to interact intentionally. Adler and Heckscher (2006) in their concept of CC show that management can indeed help members of the community to work more effective and still work independently. Wenger and Snyder (2006) argue that it is more about providing the infrastructure so that the right people get together.

Additionally, members of a COP can chose from a developed repertoire of common practices (Wenger 1998, Wenger and Snyder, 2006), routines so to say, and therefore could minimize risk. According to Adler and Heckscher (2006) developed routines concern people more "to focus on procedures and practices rather than concern about the results" (p. 26).

Communities of practice can arise wherever a group of people join together with a shared concern or passion for the same topic (Wenger, 1998; Wenger et al., 2000). The medium where and how this occurs is not specific and can be based on e-mail exchange or other non-physical levels (Wenger, 1998). Adler and Heckscher (2006) emphasize extensively on the importance of trust among community members, because they are dependent on others' competencies and skills, which they can often hardly evaluate. They also "interact more easily with those whom they trust and feel close with, and this is an important basis of knowledge sharing and joint problem solving" (ibid., p. 312). Here, the importance of face-to-face interaction and physical help becomes much more important. They can build a significant foundation of trust as if it is based on impersonal context alone.

As shown in the previous subsections, the principles of COP, proposed by Wenger (1998), and CC, by Adler and Heckscher (2006) overlap in several areas. Both concepts stress the importance of community creation and social interaction in order to enhance the knowledge sharing process. There are certain aspects where both concepts are different but nevertheless

are crucial for the knowledge sharing process. Hence, to look upon both concepts proceeding from a convergent perspective could result in a mutually beneficial new framework that can be called "collaborative communities of practice" (CCOP) (illustrated in figure 3). This inclusion provides a framework where principles of both concepts can be extended and new conditions demonstrated. The CCOP can serve as a framework that instead of substituting COP and CC merges their strength.
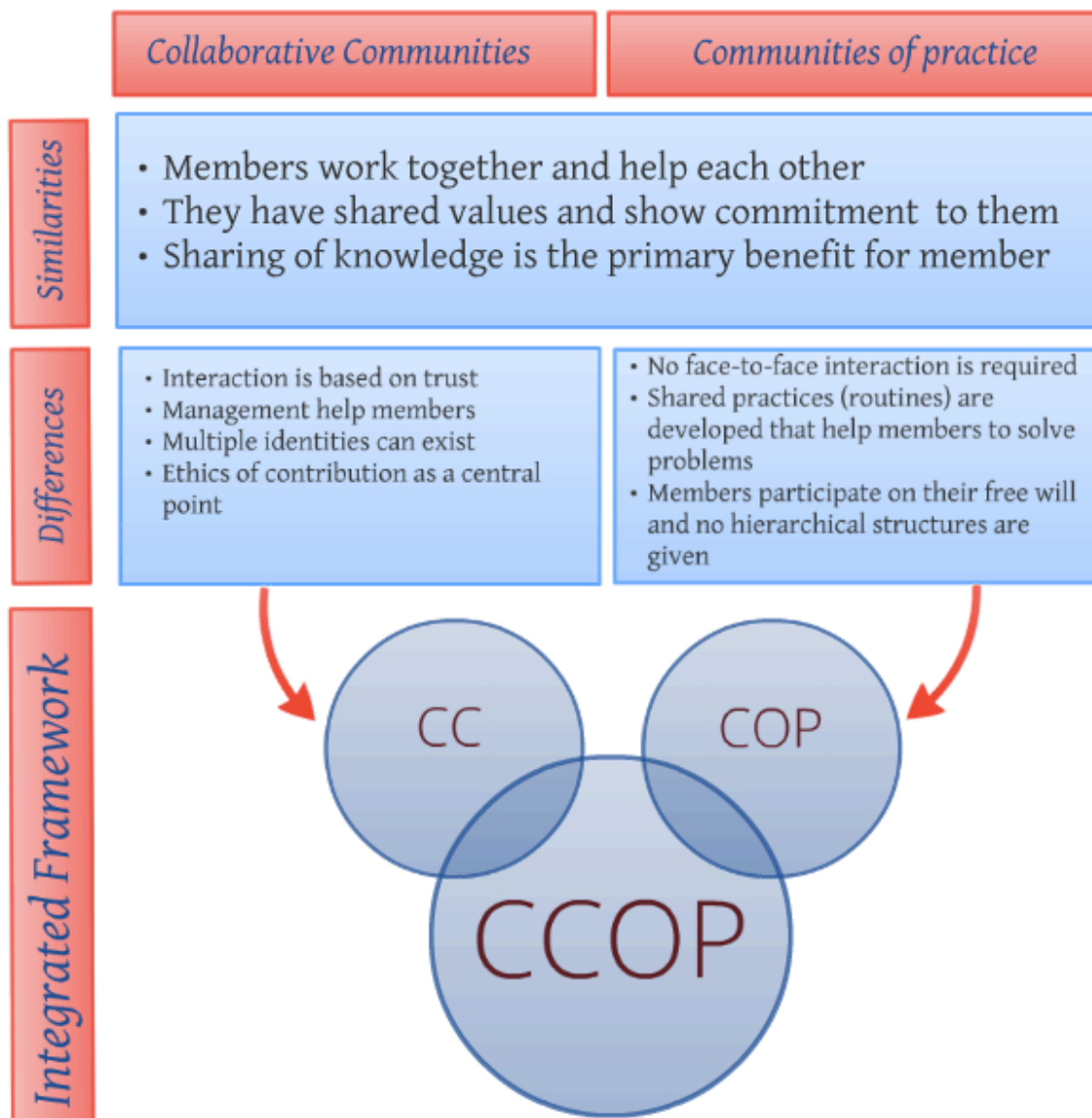
Figure 3: Collaborative communities of practice (CCOP)

3   Methodology

This chapter aims to describe the way in which the research has been conducted since it affects the type of results. It incorporates the research strategy, the philosophical standpoint of the researchers, methods, and the research process. Finally, a discussion regarding data collection as well as reflectivity and biases are also presented.

Starting off from a very strong personal interest in the topic of entrepreneurship and the effects of business incubator, the first step was to get a more detailed overview of the research field and identify research gaps as well as pointing out the challenges that practitioners are dealing with. Hence, an extensive and broad screening of the existing literature was done while also discussing the issue with both researchers from Lund University and entrepreneurs who have prior experience in this manner.

3.1   Qualitative research

During the research a qualitative research method is used to answer the research question. According to Bryman and Bell (2007) a qualitative research strategy value words more than quantifiable data and hence is more suitable when searching for meaning than for facts. The focus of this kind of research is to describe and interpret results in the search for underlying reasons to illuminate an issue (Gillham, 2000). A qualitative research strategy seems appropriate since they are designed for studying cultural and social phenomena (Creswell, 2009), which we believe knowledge sharing and communities are. We want to create an understanding of what factors that affects the transfer of knowledge in an incubator by illuminating the process and the underlying reasons for the transfer to occur with respect to the importance of a collaborative community. This can be done by gathering qualitative data consisting of people's feelings, perceptions and experiences.

3.2   Philosophical standpoint

Qualitative research is a broad umbrella concept that involves different research methodologies, methods and theories, which all aim to understand and explain how people make sense of their experiences, behaviours and social interactions (Creswell, 2003). In the research process the researcher captures an important role in how to make sense about the nature of reality (ontology), how to make sense about experiences (epistemology) and how to study and gain knowledge about what we want to know (methodology) (Denzin & Lincoln, 1994). There-

fore, the research is constructed depending on the researchers' set of beliefs and related worldview, where the most basic forms are represented by positivism, critical theory, and constructionism/interpretative (Creswell & Miller, 2000). We advocate a social constructionism view.

Social constructionism implies that the researcher never really know what the research will intend to find out because there are multiple realities and experiences. Rather they will construct an understanding taking this multiple things into account and base their interpretation on those findings. Consequently, this approach allows us to recognize that the participants have different views of reality and that we represent those views subjectively trough our interpretations (Cassell, 2005; Saunders, Lewis & Thornholl, 2009). Therefore we are aware that the participants might experience the phenomenon of knowledge sharing in an incubator in different ways, and that we as researchers play a central role in the interpretation and analysis of the responses, since the answers we get as well as our interpretation of them are unavoidable context dependent. Hence we do not stress that we come up with an unambiguous truth regarding the perceptions of knowledge sharing and the importance of communities (Alvesson & Sköldberg, 2009).

The research techniques that are used to collect data, as well as the research design and methodologies to interpret and make sense of the research, are all under the umbrella of the researcher's selected paradigm. The paradigm thus constructs the methodology and techniques in the way it would like to employ to conduct the research. There is not one methodology that is dominating over another, however it is important that the methodology is in line with the researchers intentions.

3.3   Research methodology and methods

The phenomenological approach is consistent with our general social constructionism research philosophy, according to which reality is precisely socially constructed (Alvesson & Sköldberg, 2009; Cassell, 2005; Saunders et al., 2009).

Since the goal is to describe entrepreneurs' lived experience of knowledge sharing, this study uses a phenomenological approach. More specifically, the phenomenological approach can help to illuminate how entrepreneurs perceive knowledge sharing in an incubator for social innovations. Creswell, Hanson, Clark Plano and Morales (2007) state that the purpose of phenomenology is "to reduce the experiences of persons with a phenomenon to a description of the universal essence" (p. 252). For that purpose qualitative researchers identify a phenome-

non. The goal is to describe what all participants have in common while they experience this phenomenon. They explain further that "[p]henomenology is not only a description but also an interpretive process in which the researcher makes an interpretation of the meaning of the lived experiences" (p. 253). This goes in line with the hermeneutic phenomenology approach, in which the researcher not needs to put aside as much as possible his or her experiences to take a fresh perspective of the phenomenon under examination, as it should be done in transcendental or psychological phenomenology (ibid.). Therefore, the phenomenological approach fits to answer our research question - *how does an incubator enable or constrain the knowledge sharing process* - since a hermeneutical phenomenological approach helps us to understand how entrepreneurs experience the phenomena of knowledge sharing, and allows us to make interpretations about how knowledge sharing occurs in the incubator in which the participants experienced it.

3.4   Research design

In social science research, induction and deduction are the two main approaches, which are differentiated between (Bryman & Bell, 2007). Whereas an inductive approach proceeds from a number of single cases and makes the assumptions that the phenomena that has been observed is also generally valid, the deductive approach proceeds from a universal rule and alleges this rule explains a single case (Alvesson & Sköldberg, 2009). Saunders et al. (2009) explain that induction starts with gathering of empirical data whereas deduction starts from already existing theories. In the induction approach conclusions are drawn from the empirical data to change, complement or confirm existing theories, whereas in the deduction empirical data is gathered after the theoretical base is constructed (Glaser & Strauss, 1967). Saunders et al. (2009) also argue that induction uses qualitative data and deduction quantitative data.

Since we proceed on the basis of many observations gathered from our empirical material in the field of knowledge sharing processes at an incubator, we derive a general principle with an inductive reasoning (Thomas, 2009). In this regard, as more observations you can make as more you can be sure that your general principle is true. On the other hand, assuming there is no other truth than our principles might be misleading. There are certainly differences and limitations between geographic and economical preconditions with respect to business incubator that are not of investigation in our research. However, with our findings we can indeed contribute to the concept of knowledge sharing at business incubator and enhance theoretical concepts about it.

3.5   Data Collection

3.5.1   Research process

Personal interests in knowledge sharing, innovations and entrepreneurship induced us to investigate within this area. The increasing amount of business incubator around Europe and the world raised the question of the significant contribution of incubator towards the success of start-up firms. Along with this in mind, through a personal contact with connections to the managing director we hade the possibility to get access to a business incubator. This constellation led us to critically investigate the knowledge sharing process in an incubator called "the Hub".

3.5.2   Interviews

The primary empirical sources of data collection in our study are interviews. This is a common used method for collecting data in the interpretivism approach (Bryman & Bell, 2007). Researches can choose from three types of interviews: structured, semi-structured and unstructured (Saunders et al., 2009). We conducted semi-structured interviews, which are characterised that the researcher has an interview guideline with themes and question, but is allowed for changing the sequence of the questions in the interview guide as well as asking further questions to learn more about a relevant answer an interviewee might have given (Bryman & Bell, 2007).

During our interviews we used an interview guide (Appendix 1) to make sure that all information can be obtained and no questions remain unanswered. The guide represented a frame for the interviews but did not account for a strict line to follow. Nevertheless, an attempt was made to steer the discussion in the direction of the established categories.

Usually, the interview started with a general introduction about the research topic and how we are going to develop our study. During that it is also discussed whether the interviewees agreed with publishing their interview in the thesis. Then, the interviewee background as well as our background was discussed in order to get more personalized with the interviewee and to get to know the person better. In a next step, questions were asked about their experience concerning the knowledge sharing process inside the Hub and related challenges and opportunities. This also entailed questions regarding the community inside the Hub but also about experience in other business incubator. Depending on their role and position, specific questions were raised. Finally, the interviewee was asked to reflect on the interview and what they think can be improved or what other questions they might have that have not been asked.

During the first two interviews and after the reflection with the interviewees we experienced that our role as an interviewer is essential. We changed our interview style where only one of us interviewed -and the other observed and asked follow-up questions - to an interchangeable setting. Here, we had the chance to cooperatively get in interaction with the interviewee and raised questions whenever it was value adding.

We recorded the interviews by tape recording as well as digital recording tools to capture all relevant findings (Yin, 2003). Hancock (1998) suggests that recorded data then should be transcribed to take valuable data for the analysis. We transcribed all interviews into a full transcript so that we avoid possible biased interpretation of the data at the analysis. It is important to mention that we conducted the interviews in German. The transcripts are therefore in German. The quotes we used from the interviews were originally in German and were analogously translated.

3.5.3   Interview Trial

Before we conducted the interviews for our research, we made a trial interview in Malmö, Sweden with a person who was acquainted with the general topic of our research. The objective to do this prior interview was that we wanted to experience how to conduct interviews but also to get feedback about the content of our questions. After that we were able to adjust certain questions that either entailed difficulties in understanding or confused the interviewee.

3.5.4   Interview participants

The homepage of the Hub Zurich introduces 39 Hub members with a picture, name and a short description about their business. Some of them provide also a webpage address. (Hub Zurich, 2012a) Through this information we were able to contact 27 Hub members via email, Facebook or webpage before the observation week to provide an illustration of the research topic and to ask for an interview. Eleven of those gave us a respond and seven were able and willing to participate in an interview. Further contacts emerged during the observation period at the Hub. In total we conducted twelve semi-structured interviews. The interviews were conducted face to face, eleven at the Hub in Zurich and one in a restaurant at the main train station in Zurich. Eight interviews were conducted by the two of us researcher together and four by one researcher alone. The interview participants were mainly entrepreneurs who are members at the Hub in Zurich but also partners and externally involved people. A list of interviewees can be found in the Appendix 2. Significant for our research is that all participants

in our research spend a considerable time at the Hub and therefore have extensive personal experiences about the phenomenon that we investigate.

3.5.5   Unstructured observations

Complementary to the interviews, we made unstructured observations, in which we acted as participant observers. More precisely, researcher as observer, that means we took part in activities and our identity as researchers was revealed (ibid.).

In this role we tried to interact and participate in social situation, which we investigate in order to get a better chance to understand what is going on in the research field (Thomas, 2009). During this, we have not been observers who analyse a situation from a solely passive position but instead we engaged in conversations with people and are working in an open collaborative style at the research site. This means that we participate in daily routine work, such as preparation of events in the evening and meetings, but also as active members of the community inside the research site, for instance sharing workspace and engaging in group work, conferences, and participating in informal diner and coffee breaks, to get to know the participant intentions and ideas. Therein, we are actively participating in group-work by contributing with our own experiences. Additionally, we also kept notes about what people are doing; how they interact and communicate to understand the situation we are going to investigate. The observations are used to support or oppose interview findings.

3.6   Data Analysis

3.6.1   Qualitative content analysis

We used content analysis to analyse the empirical data. More precisely, qualitative content analysis, since we used an inductive approach in this study (White & Marsh, 2006). Content analysis belongs to the most commonly used methods for analysing qualitative data (Twycross & Shields, 2008) and since our study contains verbal data and is designed to be interpretative this is a suitable method. The origin of content analysis lies in analysing trends in mass communication and is now used for further and deeper analysis of huge amounts of data, that for instant is generated through interviews (Harwood & Gary, 2003; White & Marsh, 2006). Krippendorff (2004) defines content analysis as "a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the context of their use" (p. 18). White and Marsh (2006) emphasize that the researcher makes inferences. They further explain that "the researcher uses analytical constructs, or rules of inference, to move

from the text to the answers to the research questions" (p. 27). According to Krippendorff (2004), the analytical constructs emerge from: existing theories or practices, the experience or the knowledge of experts, and through previous research. When the themes are identified the interpretation starts. Mayring (2003) introduces three basics forms of interpretation in qualitative content analysis: 'summary' (summarising the data), 'explication' (finding further material) and 'structuring' (filtering important aspects). We used the 'structuring' form, by filtering the relevant content out of the material white the help of the themes, which we generated before and interpreted them.

3.6.2   Themes and content analysis

In the process of our qualitative content analysis we first transcribed the interviews verbatim as described under 3.5.2. Then we read some interview transcripts as well as observational field notes a few times and looked for emerging themes, which embody ideas about our research questions. Themes could be words, phrases, sentences or paragraphs (Harwood & Gary, 2003). We used the program Wordle, which generates 'word clouds' from the transcripts, to get an overview. The cloud shows the most mentioned words in the text and can therefore be a useful tool to find themes. By analysing the transcripts independent from each other and through merging our analysis, themes were carefully founded and revised within the process of analysis. We identified three main themes: knowledge sharing, incubators and community. Then we coded all of the interview transcripts and observation protocols with the identified themes. Through highlighting the text, by using a different colour for each theme. Through this process, we talked a lot with each other regarding the themes and how they can be interpreted. After all transcripts and protocols were coded, we created three documents where the data of the themes were assembled. Finally these documents were interpreted and the resulting findings were summarized.

3.7   Validity and reliability

In qualitative research validity is an important issue, especially when small samples are used to investigate the experience of a phenomenon (Jasper, 1994). To contribute to the validity and trustworthiness of our study, we used triangulation, a method by which we collected data from multiple sources in order to get different sources of evidence (Yin, 2003). These sources included interviews, observations and the web page of the Hub Zurich as well as the one of the Hub network. Since we investigated the lived experience of the participants, semi-structured interviews were our main empirical data. The other two methods were used to get a

better understanding of the research field and to support our empirical material. In phenomenology it is about understanding the lived experience of a phenomenon of each individual and that is where the validity is grounded (Jasper, 1994). We interpreted the lived experience of the individuals and therefore our "interpretations [are] no more or no less than interpretive possibilities" (Seamon, 2000, p. 171). The fact that we were two researchers analysing the empirical data independently, meant that we controlled for bias and inaccurate interpretations of interviews (Jasper 1994). Additionally, by outlining and documenting the steps we took in the research we made it replicable, thus ensuring reliability (Yin, 2003). Furthermore we reflected on the findings gleaned from observations and interviews, and we were aware of our assumptions and biases.

3.7.1 Assumptions and Reflexivity

In a qualitative research the scope of interpretation is constructed by the self of the researcher and their boundaries (Denzin, 1989). That means that the researcher has a great impact in the whole process and that biases and assumptions, as prior experience and pre-understanding about the topic but also their worldview affect all aspects of their research (Alvesson & Sköldberg, 2009). Being reflexive is a way to take that into account.

Being reflexive means to be transparent about own beliefs, emotions, political, cultural and social biases and bear in mind that those aspects can diverge between the researcher and the object to be researched (Alvesson & Sköldberg, 2009). Often, those values can shape the research beforehand or being changed and manipulated during the research through the accumulation of different subjects that mutually stimulate each other's perspective. During an interview for instance, different interpretations are constructed based on the interpretation of the context of the interview and the perspective of the participant. Consequently, it is crucial that we are aware of the influence other people can have on our interpretation of different aspects. Alvesson and Sköldberg (2009) describe this reflective process as "the interpretation of interpretation and the launching of critical self-exploration of one's own interpretations" (p.6). John Dewey (2004; originally from 1920) adds also that we should be sceptical about our thoughts and that we always should look for evidence in our argumentation so to say we should be instinctively critical.

The participative approach we used in our field study helped us to reflect on our individual biases and assumptions because it provided us an in-depth knowledge of the research object. Moreover, we tried to broaden the scope of our interview participant by interviewing people

who have different business backgrounds and memberships at the Hub. After each working day at the field we took sufficient time to reflect individually upon the experiences we had gained throughout the day and made notes about what we had observed. At the next morning we reflected on our data from the previous day and recorded each discussion on tape. We concluded beforehand that in the reflection and discussion we are honest with our thoughts and ideas and that we remain open to feedback without being prejudiced. Additionally, we individually kept an account of field notes in a research diary where biases, ideas, impressions, reflections, problems and or questions as well as everything that came in mind is noted. This helps us to capture the holistic picture of all parts taken together.

After each interview we also asked the interviewee to reflect on the procedure of the interview and how he or she noticed it. We think an open and honest interaction with the interview participants helps to understand others' opinions and provide us with an open and critically reflection about ourselves. The active participation in the field also enabled us to reflect upon our biases and assumptions and we felt more confident and broaden our horizon for upcoming interviews and observations. It must be clear that it was not about removing biases but to make them visible and to take them into account (Hardy, Phillips & Clegg, 2001). During the interviews we tried to suspend our assumptions, in order to not affect the participants.

3.7.2 Ethical Concerns

Since data we collected from the Hub are also from separate individual start-up firms we ensured strict confidentiality about information we got. All research interviewees were asked beforehand about anonymous observation recording where all interviewees agreed on mention their names in our research. Furthermore, during observations we introduced ourselves every time to new participants in the field and explained our research study and asked for permission to observe. Additionally, all interview participants but also other members we met during our observations were informed that whenever they would like to have information about our research process they can contact us.

4   Empirical findings

This chapter introduces the field in which the research was conducted and the discovered aspects that are found to be relevant. Our findings are facts as well as lived experience of the interview participants. They are intended to represent a subjective view of the participants' answers. The Hub as a business incubator and the factors that enhance the knowledge sharing process, according to the experience of the participants, are explained.

4.1   The Hub

The Hub is a mixed structure combining a trust community, co-working space and a start-up incubator to create a habitat for social innovation, with offices in over 25 cities around the world. The Hub is designed to facilitate innovative solutions to tackle multiple crises in the global economic, social and ecological spheres (Hub Zurich, 2012b). It is a place "where entrepreneurs and social innovators come together to realize their ideas for a sustainable society" (ibid.). The Hub offers different membership ranges, from one day a month to unlimited use of office space (Isabelle). Through a membership, the members get not only access to the collaborative workspace but also to a growing network, resources, connections, knowledge and experience (ibid.). The first Hub was founded 2005 in London, England, and since then new Hubs were established around the world (Hub Zurich, 2012b). Today, the Hub is organised as an association, based in Vienna, Austria, which coordinates the interests of the global network (The Hub, 2012a). The local spaces, are members of the Hub association, share the same brand and core identity, but are organised and run independently (ibid.). This study was done at "the Hub Zurich" in Zurich, Switzerland. The Hub Zurich is located in two arches at the railway viaduct in Kreis 5, one of the most impulsive areas in Zurich, close to the train station Hardbrücke and therefore just a few minutes from downtown Zurich and the airport. The Hub Zurich was founded in 2011 and is organised as an association and thus is run as a non-profit incubator (Isabelle).

4.1.1   The Hub's structural architecture

The core element and responsibility of the Hub Zurich is embedded in the support of social entrepreneurs by providing the required infrastructure so as they can successfully generate their business ideas, gain economies of scale and establish their firm (Bertram). An illustration of the structural architecture of the hub can be found in picture 2.
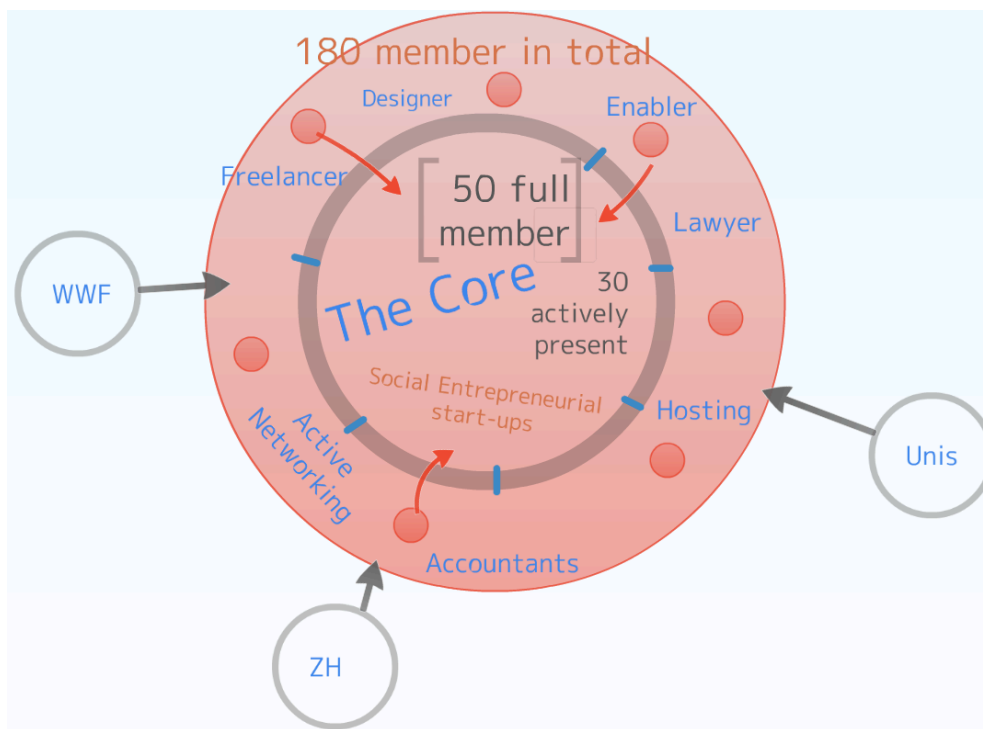
Figure 4: The function of the Hub (Bertram, 2012)

The core member group consist of about 50 entrepreneurs, whereas nearly 30 work 3 to 4 times a week at the Hub. This outlines the main business of the Hub Zurich in which the core activities are centred around (Bertram). The second area consists of the so-called "enabler" (Bertram). Here, people such as freelancers, designers, lawyers and accountants are included. This involves all people that bring along certain but different expertise into the Hub and act in a complementary way. They do not approach into the network to offer their services but to contribute and help the core member to successfully generate their business. Two Hosts, employed by the Hub, are engaged in connecting those two areas and know exactly which enabler can help in a specific task. The Hosts act as active networker by constantly communicating with members and thus know where problems and potential obstacles may occur and thus connects people and emphatically attempts to create synergies (Bertram).

4.1.2   The Hubbers

Currently, the Hub Zurich has around 180 members. Internally they are named Hubbers. Those are people with totally different backgrounds, projects and ideas but with a common goal, to achieve a social or environmental impact, respectively (Isabelle). To become a Hubber at the Hub Zurich, three criteria: personality, project, and ecosystem fit, which are evalu-

ated during an informal interview with the managing team must be fulfilled (Hub Zurich, 2012c). Table 4 gives an overview of these criteria.

Criteria	Meaning
Personal fit	Passionate about social innovation, entrepreneurial spirit and collaborative attitude
Project fit	Alignment with the Hub's mission of enabling enterprising ideas for sustainable impact
Ecosystem fit	Contribution to the Hub's community, with a special focus on ensuring diversity

Table 4: Hub member criteria (Hub Zurich, 2012c)

4.1.3   The Hub Zurich as a business incubator

The Hub offers a collaborative workspace, where people can interact with each other, and service to support social innovations. Since the Hub is located in two arches, it was architectural used to build two different areas. One of the arches is intended for social interaction whereas the other is more designed as a flexible, open, shared, workspace area with a more focused atmosphere (Isabelle). In the former arches people hold small talks or use it for coffee breaks. But they also use the space to work, because they like the interactions between different workstations (Peter; Tim). In the official work area, even though people sit close to each other it is not forbidden to interact, here it is less noisy and people are more focused on work. The Hub sees its own strengths in networking and community building (Hagen). Through networking the Hub itself has well-known partners, organisations and companies, and donors that also support the Hubbers with know-how, contacts and in some cases with financial support in the form of fellowship programs (Roman; Simone; Stella). Besides networking; an inspiring workspace, a vibrant community and meaningful events, there are three key elements of the Hub that work to support a sustainable impact (see figure 5) (The Hub, 2012b).

Figure 5: The key elements of the Hub (The Hub, 2012b)

The Hub is in constant contact with the community in order to support them consistently and to be aware of actual problems. Different activity formats with the intention to exchange know-how and to build a network and support the individual start-up firms are tested and adjusted (Hagen). The inspiring space offered to the people rounds out the key elements to gain a sustainable impact.

4.2   How entrepreneurs experience knowledge sharing at the Hub

The Hub encourages Hubbers to share know-how, experience, ideas, opinions and contacts (Hagen). The following subsequent chapters describe how Hubbers experience knowledge sharing at the Hub and how their experiences enhance or hinder the knowledge sharing process.

4.2.1   The open office space

Interview participants disclose that from their experiences the office space at the Hub is an important condition to share knowledge. Simone declares it:

"First of all I got an office space, which is quite valuable, so that I do not have to work at home. And there are not much other places where you have such social interactions and that is the important thing for me. Here, I do not have to eat lunch alone and it [the environment] promotes the exchange for business reasons in order to get new contacts and opportunities for collaboration."

And still others who are advanced in their business development emphasize more on the socializing aspect and ability to meet others rather than to merely go to a place to work.

"Here it is not different then in a private network, which I use since many years every day. The difference here is that you have a space and that's valuable. Not as a place where I sit down whit my laptop to work, this is what I can do also at home. But as a space where you can talk and get in contact with members, which is very valuable. […] The possibility that a random conversation results in something good is much higher as if you talk to your table neighbour in a coffee place." (Sascha)

The experience of the Hubbers show that the Hub is not just a normal place to work. The design and the infrastructure of the Hub invites people to start to communicate and therefore share their knowledge with each other. The collaborative workspace is very meaningful to them as Tim, Markus and Hagen explain it:

"The fact that you sit close to each other, promotes exchange more than if you would have your own office." (Tim)

"You have to walk by people and that's valuable." (Markus)

"Encounters happen always in the intermediate spaces. I would not go to a workspace and start to talk directly to someone, instead we meet randomly in the Hosting section and often in the kitchen."(Hagen)

The Hub also provides different opportunities to get in contact with others as Simone and Peter describe it:

"There are opportunities everywhere to leave messages interactively. There is even a bulletin board on the toilet, however I am not revealing whether or not I use it. Now there is even this new 'I need or I offer' blackboard. I will post something soon because I need to get a graphic designer." (Simone)

"We posted some possible slogans on the blackboard in order to get some feedback from others. And we got good feedback." (Peter)

Additionally, the Hub has its own internal online network, called 'Hubbing Point' which connects all Hubbers around the globe (Bertram). At the moment it is still under construction and works only local (Isabelle). Besides, knowledge sharing is more personal as Marco experiences show:

"Mainly it goes over the personal contact and social media are only an extension of the personal relationship."

The Hubbing Point is not used that often, as for instance other social media such as Facebook and LinkedIn, but it may have the potential when its full purpose is realised (Marco; Sascha; Thomas). However, some appreciate that there are different opportunities to choose to get in contact with others and that it is not solely based on Internet technology:

"Here it is a mix between old-school and Internet technology and I like that. I am on this Hubbing Point site, but also like it that they hang it up as well as the 'I need or I offer' so that you can walk by and look at it. I find this useful." (Robert)

There are many incentives and formats used that enhance the knowledge sharing processes, nevertheless there are still opportunities to improve it in terms of layout and creativity so that even more exchange occurs (Hagen; Markus). Hagen reflects on it as:

"The environment intends to be like a Google office, where you have elements where you can rest or swing and such things. Something that helps you to feel like home and not like at work where you have the feeling of sitting in front of a desk and would like to go home as quickly as possible."

However, the Hubbers are pleased with the infrastructure and atmosphere at the Hub and appreciate it a lot as Bertram and Thomas indicate:

"It is just this atmosphere, you feel good working here. [...] It looks cool and it is small and it is like family." (Bertram)

"I like it here because it is not a normal office. [...] I cannot work in a normal office, and here I get a change of scenery. It is not so quiet here and I appreciate that. There are a lot of people working on many different things and therefore conversations arise. It is an inspiring environment. I like it if two people are talking and I'm working on something next to them. Even if it is a strategy paper or whatever. And if I need it more silent, then I can just wear headphones and everyone gets it that I want work for me and that really works well. Sometimes I just lean back a bit and listen to the conversations and then I will have something new in mind and then I write again. It is still a little more structured than in a coffee place." (Thomas)

While Thomas has no problem with the noise, Robert finds it disturbing:

"In the working area the atmosphere is focused, but sometimes there are a few people which are talking about their business. They should better retreat to the interaction area. A little background noise or if people have a short discussion is not a problem, but if they declare it as a meeting room then it is disturbing."

According to Peter, as firms grow the disadvantages of open space become more apparent, so that:

"Now, since we work more and more as a team, we need a space were we can retreat and have discussions in our team."

However, the environment is inspiring and very pleasing (Simone) and there are many encounter zones in which the Hubbers are able to get in contact with each other. And for the Hubbers it is important to have a space, where they can meet in person like-minded people (Bertram; Hagen; Marco; Markus; Sascha).

4.2.2   The management support (Hosts)

One of the unique selling propositions (USP) of the Hub is that it offers a fast growing and active network (Bertram; Markus). Active networking in that sense means to deliberately bring people together, in order to solve someone's problem (Bertram). The aim is to make unlikely connections happen (The Hub, 2012c). This is achieved through the service of the 'Hosts', the two managing directors of the Hub.

"Nils before made that great.[1] He would think of what kind problem you have and if there is someone with a problem where you have the solution, or vice versa. […] And this is the USP of the Hub otherwise it would just be a workspace" (Markus).

For the Hubbers it is important to get to know other people in order to develop their ideas and to get help to solve problems, as Sascha explains:

"As an entrepreneur, you create 1% of the value of your own project, the other 99% comes through others. Therefore, every good entrepreneur is actually a networker."

Therefore it is important to get in touch with other people such as peers, costumers and cooperation-partners' (ibid.). And at the Hub this works well as Marco describes:

"Here you have a network that constantly extends. At the beginning you have just a few contacts but that does not matter because the Host knows people and knows who you can ask."

The Hosts actively connect Hubbers with each other when they see a potential match for cooperation or a problem that might be able to be solved. Complementary, it is the task of the Host to assist Hubbers to get in contact with enablers or advisors in the network (Bertram; Hagen). Through the personal experience Simone and Stella emphasize the importance of that by saying:

"Something really important is that you get access to contacts which you would not have otherwise. For instance to the WWF, there is a tight connection directly to Holger Riem, who is in the very upper management level, and from outside you would have little chance to get in contact with him" (Simone)

"Very interesting for me are people like Isabelle, the Hosts, which really have an overview. […] I think this is really the most valuable. If I need something, then I can ask them, since I

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[1] Note: Nils is a founder of the Hub and also worked as a host before Isabelle and Bertram take on the position of the Hosts.

know how well they are interconnected. […] The network has proved in the end *as* very valuable.*" (Stella)

The Hubbers also approach the Hosts. We heard a Hubber asking Bertram "can you connect us with someone who has experience in this field?" (Unknown). But not only are the Hosts active in bringing people together, as Hagen suggests:

"I have to say that also members who are here quite often are also hosting spontaneously. If people come to the Hub then they help those even if it is not their responsibility."

Besides the active networking, the Hosts are also jointly responsible for the atmosphere.

"Here, everyone is responsible for the mood of themselves and the community, but the Hosts, such as Bertram, ensure the mood more than the members. […] He has the skill to mediate among people, always has an open ear and the right tips ready for questions." (Marco)

They are also responsible for activities such as events and recommend that people take part in events that fit their needs:

"If I am here, Isabelle makes me attentive to an event, under the motto that would be something cool for you." (Thomas)

Summarized, the Hubbers experience the Hosts as important and valuable. They wish even more active networking on the part of the Hosts:

"What the Hub does not do enough, is that they actively bring people together." (Sascha)

"I wish there was even more support. […] the support intensity has decreased." (Simone)

4.2.3   The activities

Another form to conduct active networking and share knowledge at the Hub is by participating in events that are organised by the Hub. Some of them are only for Hubbers and others are open to the public (Hagen). Sascha explains how he takes part in an event:

"The Hub is more than just a room, just an open space and few interesting people who talk to each other, while that is good, there are also these events which are very valuable for me. At an event someone who is familiar with the topic, a Hubber or someone else will present something interesting and we all might learn something interesting, anything that encourages a worthwhile exchange. And then you discuss it with people and you get quite a few beneficial ideas during the evening. This is more valuable than if you just say here is a beautiful space,

here is coffee for everyone, now you have two hours to talk. That is ok, but if there is an event that stimulates a debate that is even better."

The Hub also uses particular activities to bring people together that they get to know each other and to socialize. Simone's experience in such an event:

"[…] It has resulted in a very good cooperation. With the Tourism School Chur that is now almost existential for my project. The professor, who works there, is also a Hubber. It turned out that way: We met at a funny Hub event called 'Hub express'. It was about bringing simply as many people together as possible, to introduce one's self and then go to the next; such as speed dating. It worked perfectly. From that night I probably made contact with three people, but one of them is now truly a professional collaboration."

Another event that gains exceptional attention by the Hubbers is the 'Sexy Salad' that takes place every Wednesday. Here, Hubbers prepare Salad and eat lunch together. At the same time, they get the opportunity to exchange their knowledge and to socialize which helps them a lot, as Simone explains:

"I find the Sexy Salad, for example, very important. That you can come together and talk. Otherwise, you are sitting just behind the computer. That is the chance to get to know someone. Therefore I find it very important." (Simone)

We also participated in one Sexy Salad and had good conversations about our research project as well as private matters. While we were preparing our salads in the kitchen interactions already got started and went on during the lunch. The environment was also very international; people from Holland, Russia, Germany and Switzerland were present and therefore some spoke English. We also experienced that two of the participants decided to continue their conversation at a later stage again where they can go much more into details of their business. We also found stumbled upon two new interview partners during that lunch.

An additional event is the 'Peer-to-Peer lab'. Here, a Hubber gets the opportunity for one and a half hours to introduce his or her business idea and the opportunity to ask two or three questions about it. After that, the peers will deal one and a half hours with the idea and the questions and give feedback and inputs. The peers, which are organised by the Hub, are people with experience in this particular field, which can be other Hubbers or external professionals (Hagen). Thomas for example considers the event as very useful:

"A new chance for me was at the sounding boards, which is held here. People can introduce their ideas and then get feedback. It is a very comfortable and open dialogue with the people.

[…] The event is as when you are in an aquarium, you can present your idea in a protected environment and even if you fail with it, you learn something. Afterwards if you really go out and try to sell your idea it is already approved to a certain extent. Consequently, I think people are ready to share in order to get feedback. […] For instance, the first two or three "peer to peer labs' went really well and everyone obtained good results, and as a result people desire more of these events when they had a new idea. They saw that people are not just coming to talk a little bit, but rather give concrete feedback that can be grasped."

Similar to the 'Peer-to-Peer Lab' is a 'Pitching-Session'. At a 'pitching session' a Hubber introduces his/her idea, and gets critical feedback from other Hubbers. They are organised in front of a big audience but it can also take place between two Hubbers (Marco; Robert; Stella). Another event that has the same features as the 'Pitching-Session' is called "Grill and Chill." Here Hubbers introduce their project and get feedback and inputs, while having something to eat from the grill and a cold beer. Robert's experience:

"The Hub organizes, for example, a 'Grill and Chill' event which I think is very good. […] It was a bit uncoordinated, as a pitch is supposed to be […] However, this is a platform that I can imagine to use. People actually got really good feedback. There were people who were interested and also knew what they were talking about."

In general, the Hubbers experience the activities as supportive in order to get to know new people and share knowledge. The only problem that might occur is that they take to much time, as Marco perceives it:

"Especially here, with the Sexy Salad and the other events where a lot of exchange happens. The danger is that too much exchange happens and that you are no longer actually doing your work, which must be done. But that has a lot to do with the self-discipline of each individual.

We also had the chance to participate at an open event with the topic *'Crowd funding – just another hype'*. Following the presentation from two lecturers with differing opinions regarding 'Crowd funding'[2], the audience was separated into small groups where they had the chance to share their experiences on the topic. Afterwards the audience came back together to

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[2] Crowd funding is a financing method for someone (in this case a business start-up) in order to collect monetary funds. In return, financial contributors receive shares or monetary interests (Kappel, 2009).

talk interactively about their own experiences and also what they have gained from the group discussions.

4.2.4   The community

The inspiring space, the meaningful events and activities, and the active networking through the Hosts, helped the Hub to develop a community. First of all, the Hubbers feel comfortable to be here as Robert demonstrates:

"For me, the Hub has also a social component. If the only desire was to have a workplace, I could have stayed at the Technopark[3]. Here you are together with people that are engaged in a social environment and care about it. They have a different mind-set than brokers or insurance agents. And that fits pretty well. You can sit at the table for lunch and you do not feel strange."

Robert asserts, this is the common mind-set that shapes the community at the Hub. Even though everyone has his/her own business, the Hub community is like a big team, where everyone together tries to have a social or environmental impact (Bertram). The Hub team is aware that a strong community could also appear like a barrier to not members or to new members. As the Hub's web page is in English, most of the events are in English, and entry identification is required it may also appear a little bit elitist. But still the community is one of the important things (Hagen). Between the Hubbers there is no rivalry. If two Hubbers work on the same idea, they probable will manage to find a way together in order to develop the idea and to obtain an impact. Consequently, the common mind-set encourages Hubbers to share their knowledge, as Peter and Marco describe:

"Everyone is really open. And this openness creates a dynamic where people share and help. It is like a free knowledge-market. Everyone has the same mind-set. No competition. It is like a family that is happy for each other if someone moves forward." (Marco)

This has a lot to do with the personality of a Hubber, for instance how he or she is honest and open, which is seen as an important attribute to fit into the Hub community (Hagen; Marco; Sascha; Thomas). By choosing to be a part of the Hub, a person becomes not just a user of the office space but rather a part of the community. This is also the reason they call themselves Hubbers, it combines to be a part of something special. The Hubbers like to come to the Hub,

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[3] The Technopark is another business incubator located in Zurich.

because here they meet like-minded people. The people need to like each other in order that they will share their problems and know-how as Marco explains it:

"I think the main criterion is sympathy, so that you are able to make use of opposing ideas. And the second criterion is the common interest. I think it does not really take more. It is like at a pub. There, people sit together, who have a common interest and somehow get along."

During our week at the Hub we felt very welcome and as a part of the community. Once after lunch for instance we were playing outside with a football together with Hubbers and experienced the community outside the office environment. As long as someone is friendly they do not need to know each other well to get along (Marco; Markus; Thomas). Sascha experiences also the common mind-set as present, and highlights additionally the advantage of the diversity of the community:

"People do not have the same background, the people have very different backgrounds and therefore different approaches to solve a problem and that makes it very interesting. What they have in common is that all try to improve the world. […] There is a great mix. Some are very experienced people who already have built up several projects successfully and achieved something, whereas others are quite young, directly from the University, but have good ideas and are very ambitions. This is a good thing, that there is a mix."

Even though they have different backgrounds and approaches to solving a problem, they share some social interests, responsibilities, and they like to help each other. There exists a give and take culture. Of course, because people would like to bring their own idea or business further but they are also happy for others if they have success and therefore a social or environmental impact.

"The basic setting to achieve an impact with my project also affects me. I like to give advice to others. The people have no fear that someone could copy their idea and therefore they are more open and helpful"

Within the community the Hubbers trust each other and they deem it necessary to have a physical space where they can build up a bound of trust, in order to share their know-how and ideas with each other. Marco's experiences supports this observation as he says:

"The special thing about the Hub is the community. […] If there is a foundation of trust, it also works with the knowledge sharing. […] I am willing to share knowledge. […] Because all Hubbers have a similar background in having a common goal, you will find a way to work together instead of against each other."

Through the fact that there exist a community, the Hubbers are even more open and willing to share their know-how as well as not afraid to ask questions if they have a problem. Hagen illustrates this by making a comparison:

"It is like at a party, good parties end in the kitchen and people talking, here it is the same."

From his experience as a part of the Hub community, Thomas summaries everything quite well:

"I talk to people everywhere. Funny enough, it already starts when I enter a room because I know someone or someone introduces me to a third person. Or, automatically when you sit next to someone at the combination tables. At least to those people that I do not know I just say shortly hello, it is not about telling the whole business, like in a sales pitch, but just to say hello, I am Thomas. And then sometimes in the day, or next time we see each other we speak. If you are here over lunch, we often eat lunch together and then there are just talks. Also at events. At some point when you see the people, you start to wonder what they actually do or who they are. So, for me, that means, I get to know people while working during breaks and at events"

5   Data Analysis and Discussion

In this chapter, the empirical findings are merged with the theoretical framework and analysed in detail. By using content analysis, relevant empirical material is filtered in order to answer the research question. Extracts from the transcribed interviews are used to support the arguments that are made. Furthermore, it will be discussed how business incubator can improve knowledge sharing processes by emphasizing the concept of communities of practice and collaborative communities introduced by Wenger (1998) and Adler and Heckscher (2006).

5.1   What distinguish the Hub from other business incubator

The Hub Zurich has being dedicated for themselves to support social business start-up firms whenever they can (Bertram; Hagen). They provide Hubbers with the traditional characteristics of an incubator explained by Peters et al. (2004), Hackett and Fillts (2005), Bergek and Norrmann (2008), by offering for instance infrastructure, network capabilities, and service help. However, their deep-rooted intention and social responsibility towards Hubbers and the general society as well as the aspect of a sustainable impact lead them to strive for another important distinction from other business incubator. Hagen describes the unique objective as:

"A really important aspect in which we distinguish ourselves from other incubator is the physical interactive space we provide, where we try to build and help start-ups to accomplish structures that help them to grow, succeed, and to increase scaling effects, which eventually helps to achieve sustainability."

The central point of Hagen's explanation is not that they distinguish from other incubator because of the services they offer start-up firms but the fact that he integrates the aspect of sustainability. This shows that the Hub is not solely anxious about helping in the short run but to go beyond typical business incubator support (as described by Fry (1987) or Allen & McCluskey (1990)) and focus on the long-term success of their members even after they have left the Hub. Thus, as argued by Aernoudt (2004), the term 'business incubator' is often used as an 'umbrella word', but basically is heterogeneous in reality.

It is of particular importance for the Hub not to put most attention on for-profit or non-profit aspects of the start-ups as they are distinguished usually (McAdam & McAdam, 2006). For them it is much more decisive that they act 'for purpose' (Bertram). All Hubbers are willing

to contribute with their business idea towards a sustainable 'better' world (Interview…) and they emphasize incredibly on the social intercourse at the Hub. Bertram, in the position of a host, describes the concerns of the Hub as:

"The most important aspect is that they all want to make something different; it is about working 'for purpose' and not any other economic ideal such as for profit or not for profit. It is about creating added value; and description such as social or the like already restricts it. It is about changing something. This ultimately starts in the social interaction among the people here. To send people to the slaughter but still want to have business success does not work. It is about the 'how'. This is essential."

Bertram's argument demonstrates that according to him, start-up firms do not have to be profit seeking nor the other way around but they need to be inclined to create a social impact with their business. In his interpretation he also emphasizes heavily on the social discourse as a basic attitude that people need to internalize when they want to be part of the Hub. This is in line with the argument by Bøllingtoft (2011) that cooperation among start-up firms is crucial and that this form enhances the interaction and therewith the knowledge sharing process. In comparison to other business incubator you can gain a community feeling where people with a common interest cooperate (Peter; Marco). This creates also a sense of openness (Marco), which implies that you can share your thoughts in a free more active form that in turn enhances the knowledge and idea generation processes (Nonaka, 1995; Adler & Heckscher, 2006; Alvesson, 2007). Before we consider the concepts of knowledge sharing more in-depth we should accentuate the importance of the social intercourse and investigate the Hub as a collaborative community.

5.2 Knowledge sharing enablers at the Hub

5.2.1 The importance of a collaborative community at the Hub[4]

The proposed assumption by Adler and Heckscher (2006) that the society has shifted from the individual self-protection towards a cooperative society where people help and support each other can serve as a paradigm for the Hub Zurich.

As discussed earlier, knowledge sharing is crucial in order to develop new knowledge and in problem solving (Nonaka & Takeuchi, 1995) and therefore each incubator has the goal to

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[4] The key principles identified in chapter 2 (table 2) can be used as an illustration for the subsequent chapters.

achieve exchange in order to support start-ups (Peters et al., 2004). The Hub has recognized that start-ups through collaboratively working together improve the knowledge sharing process. Bertram says it clear and shortly:

"Collaboration is everything"

The Hub community personifies an" ethic of contribution", as Adler and Heckscher (2006, p. 16) portray it in all sense. *It is a culture of "give-and-take" that Hubbers encourage to share their experience and knowledge* (Bertram; Sascha) that *results in a win-win situation for all* (Simone). Equivalent to Adler's and Heckscher's (2006) thoughts, it becomes a natural good will that is embodied in the mind-set of the Huber, according to Markus:

"I interpret it like this: You give something and you gain trust from someone, so in return, you always get something back. Not one to one, but maybe at some point someone else gives you something and again you give something in return and so on. It works like a knowledge carousel. Sharing is caring and you do not get harmed doing it."

Both metaphors, the "knowledge carousel" and the "sharing is caring" that Markus use, mirror the deep-rooted commitment they have towards sharing knowledge and help. Sharing is caring in this sense means that you should share your knowledge with everyone who is missing this knowledge, which builds the fundament of a community (Adler & Heckscher, 2006). When you help others it is the best way to show that you care about them. D'Angelo (no date) in one of his quotes says that "Without a sense of caring, there is no sense of community". This quote is closely linked with Markus interpretation and reflects perfectly on which the community at the Hub is based on.

The collegial contact at the Hub is based on friendly manners that incorporate a trusted, respectful intertwined community. It is of particular importance that those manners are transparent and communicated in an open discourse among all Hubbers (Bertram). Additionally, these manners are carried out together on in extra event in which a consensus positive communication is grounded (Simone). This also reflects that the community does accept and promote different opinions and strives for an open an honest discourse, something that Adler and Heckscher (2006) highlighted as a key distinction of collaborative communities.

A formal structure of resource delegation does not exist in the Hub, which is also considered to be of particular importance in a collaborative community (Adler & Heckscher, 2006). Two Hosts are employed as enablers and support for the Hubbers. They are not regarded as employers but more as the interface to facilitate active networking and to keep up the atmos-

phere (Simone, Marco). Everyone is working here for themselves and are not on the payroll of the Hub, except that they have to pay for the membership, but nonetheless do not have any particular liabilities. However, what has to be mention is that occasionally Hubbers also act like host (Isabelle). Observations at the Hub have shown that Hubbers help others to connect with their network and try to build synergies. This mirrors the enormous impact of the community aspect at the Hub regarding the fact that they are practically independent firms. It is their spirit, their tenor, to help others without loosing the focus of their own business and their entrepreneurial matters; it goes hand in hand (Hagen).

5.2.2   How the open office space and activities enable the knowledge sharing process at the Hub

For the Hub, the knowledge sharing process is embodied and given as a matter of course. The SECI - knowledge conversion modes happening in the Hub in informal and formal approaches. Most intensively, Hubbers characterize the knowledge at the Hub as predominantly tacit knowledge (Tim; Stella; Robert; Markus; Marco). The subsequent paragraphs show how knowledge conversion modes are present in the Hub and how the open office space and the different activities enhance the knowledge sharing process.

Socialization mode: First of all, the tacit knowledge sharing at the Hub can be observed through spontaneous and informal interaction among Hubbers, informal collaborative events, and the cooperativeness among themselves. Hubbers, but also external people talk to each other freely at the coffee corner about their business and the listen carefully and reflect on each other's ideas and the conversation develops (Observation). The spontaneous and informal interaction enables Hubbers to share their experiences, thoughts and possibly emotions, and thus their tacit knowledge in a quick and direct way. The link of a common mind-set, openness, reflection and cooperativeness allows them to understand others' ways of feeling and thinking (Nonaka & Kono, 1998). Through spontaneous interaction problems can be solved unintentionally (Peter) wherein Hubbers learn from the experience and help of the others and therefore generate tacit knowledge. During the Hub events, Hubbers are grouped and guided to work together either, by preparing lunch, working in group-workshops, or interacting in feedback sessions. Throughout these events Hubbers are in close dialogue with each other and are forced to actively interact because they share room and time (Robert; Tim). Robert makes this experience very clear:

"While you are sitting at lunch, you get in contact with other Hubbers and you see where and what you can contribute to different ideas. Then, it ordinarily results that you are able to provide them with help and suggestions and knowledge exchange occur."

It is interesting to see that Hubbers exchange knowledge about business ideas during lunchtime, they could probably also talk about a television show instead. This demonstrates the interest Hubbers have in each other's ideas but it also shows that they strive to share ideas. The informal and spontaneous interactions, where Hubber exchanges their ideas are not a side effect that occurs without reason. Rather, people looking to engage in contact with others to gain experiences and possibly spread their network and knowledge, otherwise they could build up their business alone (Tim). It is implicitly manifested to share and help whenever possible, as Tim points out:

"Here, you can find knowledge sharing everywhere. Someone askes you whether someone has a pc, a printer or similar; does anyone know this or that; or for example, as it was just the case, someone came over to us and asked if we can help him solving a problem and then you automatically exchange your ideas with each other."

These observations suggest that the sharing and dissemination of tacit knowledge constantly takes place among Hubbers, which becomes an important element for the Hub in the knowledge generation process, as stated by Nonaka and Takeuchi (1995). The importance of informal dialogs is extraordinary Markus confirms:

"When you only talk on formal meetings, with a structured agenda all time, you stick to those happenings, and thus innovation cannot happen at all. They, instead, occur in informal conversations." *(Markus)*

Sascha stresses that:

"The informal exchange and getting good people together is indeed the future."

Both arguments are very engaging and share strong claims. However, the important thing is that their interpretations show that informal interaction is imperative in order to share knowledge. As Mitchell (2005) asserts, a good opportunity for knowledge sharing occurs during social interaction during coffee breaks or the chats that occur in between. This argument is in line with the impression of our own observations and of the interviewees shared experiences. Especially, considering the fact that most ideas and knowledge are generated while having informal talks (Tim; Peter; Markus) and thus confirms Mitchell's (2005) argument.

Furthermore, regular feedback and training sessions reflect the socialization process. Often, people require and get feedback in an informal conversation (Interview: Hagen; Marco; Stella), but feedback is also intentionally regularly requested when Hubbers are looking to get help and gain from the experience of others in the Hub. For example:

"Often, someone from the Hub comes to me with a new idea or something he or she would like to discuss and ask me for feedback. And then we meet for an hour or so and I will try to give constructive feedback" (Sascha).

Sascha's experiences show the cooperativeness to support others and to provide them with their experience. It is not his duty to provide feedback, nor does he get paid to do it (Sascha). It is his free will, where he can pass on his knowledge and also gain the ideas of other Hubbers. This helps the Hubber to solve problems and apply external experience to their own knowledge base, and thus develop opportunities for their own business.

Ideas, knowledge and experiences are shared among Hubbers and hence also contribute to the concept of COP. The interaction in forms of informal conversations, feedback dialogs and sharing knowledge contributes to the transfer of individual tacit knowledge towards a collective tacit knowledge base. It can be seen as a spiral of interaction and knowledge creation, where one member pass on the knowledge that is gained to other members, and this in turn is transferred onwards and onwards. This is illustrated, for instance, by Bertram who says:

"Of course, it is not possible not to get into contact with others. There are so many people that serve as a source of inspiration, where you gain inputs but also help others. It is a dynamic process, like a real-life essence, where you give and take your knowledge and experiences on a continuous basis."

Bertram experience that it is some times not possible not to get into contact with others can be seen as a strength in which interaction among Hubbers is self-evident. This implies, however, that everyone at the Hub is open and apparently instinctively strives for interaction. Marco adds also that:

"Everyone is really open. And this openness creates a dynamic where people share and help. It is like a free knowledge-market."

Marco's experience confirms Bertram's argument in the way that you can share your knowledge really openly. It is, however, uncertain if the Hub encourages their members to be open or if they are by nature.

The above observations show that the socialization mode is omnipresent at the Hub and contributes to the knowledge sharing and generation process (Nonaka & Takeuchi, 1995).

Externalization Mode: The conversion of tacit into explicit knowledge is not that demonstrable visible as the socialization mode. There is indeed a technological medium at the Hub Zurich called "The Hubingoint" which works as an intranet however it is rarely updated and used (Sascha; Stella; Simone). Using a network device, such as an intranet, is an important point in translating tacit into explicit knowledge (Nonaka & Takeuchi, 1995). There are several efforts in building a global social network called Hubbing Point where they expect to gain further knowledge exchange (Bertram). However, others claim that more and more of these social networks will contribute and enhance any future exchanges, instead of becoming too time consuming and inefficient (Sascha).

One important way how tacit knowledge is nevertheless converted into explicit knowledge appears in the feedback and evaluation meetings that constitute to a crucial element of the work in the Hub community. Events, such as the peer-to-peer lab, pitching sessions, or Grill-and-chill, provide Hubbers the opportunity to share thoughts and ideas about their business plans. During these events, Hubbers get the chance to acquire knowledge from other Hubbers or selected professionals by elaborating on their business ideas (Stella; Hagen) as well as the opportunity to apply their own experiences to a real, and perhaps different situation, as Marco explains:

"Those events helped me to apply my knowledge and experiences in a real and practical way where I can see how my ideas were able to develop. This in turn helped me when I had to present my business concept as I often reflected on these evaluations."

In that sense, a process of idea creation is developed through collective reflection by dialogue and discussions in during these events, which is also a mode of knowledge conversion. We also had the chance to visit one of the open events at the Hub where several outsiders were present. It was clear how Hubbers and external persons shared their experiences. First, whilst working in small groups they made notes and afterwards explained their findings to the entire audience. These events give the Huber a sense of understanding and acknowledgement, something where they realise a gainful impact for their business. Roman reflects:

"People want these events when they have a new idea, they say: Okay, there are valuable persons from whom I can gain speaking to because they contribute something that is concrete and value adding to a deep discourse."

An important aspect in Roman's experience is that he assumes that these people are "valuable". He believes and trusts in these people. This goes in line with the argumentation of Adler and Heckscher (2006) that you need to trust people's expertise because you cannot compare or evaluate it.

Combination mode: The process of combining explicit knowledge is rather rarely formalized at the Hub and between Hubbers. Most of the combination of explicit knowledge occurs while collecting knowledge from external resources.

Internalization mode: Internalization of explicit knowledge into tacit knowledge occurs mainly through reflection by storytelling and learning-by-doing. Due to the fact that the infrastructure of the Hub is intended to be an open working space where everyone can work from everywhere also enables Hubbers to gain from knowledge that is continuously around them, like as it is a knowledge culture where you are continuously confronted to internalize and reflect on the things around you (Marcus). Everyone participate in this culture, ask questions, and share their knowledge whenever they can. Markus exemplifies this saying that:

"Due to the lack of extended workplace where people with different backgrounds work in a shared workspace they are automatically engaged to share their ideas. Once, I recognized how someone who was totally unrelated to this topic heard about a problem of another Huber and responded; "Hey, why don't you do it like this, I heard that that works well" and suddenly they could have solved the problem."

This exemplifies that Markus does not experienced the knowledge sharing culture only from himself but also recognizes that others do so as well. It also shows that he is interested in the discourse of others and that he likewise reflects on these interactions, and thus he can conclude that while something maybe have been unrelated it could have still helped to solve the problem. It is not just that the others internalized the knowledge but also Markus did by listening and experiencing this interaction. Thus, the story telling of lived experiences helps them to internalize what they gained and thus extend their tacit knowledge (Nonaka, 1991).

Another important source of knowledge is provided by a help desk that is organized once a month (Simone). Here, Hubbers get the chance to request a formal meeting with a professional such as a lawyer or accountant where they can ask for particular help. For Simone, for instance, this knowledge sharing is absolutely value:

"PWC, for example, provide a help desk, a consultant service for start-up firms once a month, which is very useful for me. This goes almost in the direction of coaching which I really appreciate. It goes into the direction of sponsoring by providing their know-how."

This also implies that entrepreneurs are going beyond the general, more traditional, advantages a business incubator provides (Peters et. al. 2004; Bergek & Dielts, 2005) by offering services that are more in the direction of coaching but also as cooperatives. Moreover, by reflecting and learning by doing, through feedback exercises or peer-to-peer labs Hubbers can internalize the knowledge gained that is embodied in the knowledge of many other Hubbers. For instance, Marco, as he externalized his knowledge about how to present his business concept also internalized it again when he actually had to present the concept and gain knowledge from others (Marco).

The concept of Nonaka (1991) represents a framework how emphasizing the four conversion modes can effectively create knowledge but also how individual knowledge can be embedded into group knowledge (Baumard, 1999). Within these stages, the mobilization and conversion of tacit knowledge is the key to knowledge creation at the Hub (Interview: Tim; Stella; Robert; Markus; Marco).

Both, the SECI model and the concept of communities of practice stress the importance of interaction among people to share and transfer tacit knowledge into explicit and collective knowledge (Wenger et. al. 2002; Nonaka & Takeuchi, 1995). Knowledge stages such as the SECI model describe can also be found in COP. According to Wenger et al. (2002), members of the community learn from more experienced members and by informal discussions at lunch or events, members of the COP can enhance the tacit knowledge sharing. Therefore, it is important to investigate COP as a concept to further explain the knowledge sharing process at the Hub.

5.2.3   The Hub as a Community of Practice[5]

5.2.3.1   The Hub community and the cooperativeness among Hubbers

There is no competition among Hubbers, which contributes to an open atmosphere, as it can be found in COP (Wenger, 1998), where experiences, problems and question are shared constantly (Tim; Peter). The Hubbers rather combine their project in order to achieve an even

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[5] To analyse the effects of COP it is beneficial to use the key principles provided in chapter 2 (table 3) as guidance.

bigger impact instead of opposing each other (Bertram; Marco; Markus). Simone, for instance, asserts the fact of the open and respectful community aspect at the Hub, saying:

"The atmosphere at the Hub helps me a lot to share and gain new knowledge. The openness and cooperativeness helps me to unfold and I feel comfortable and right at home."

This experience implies that people are looking to find something where they feel familiar. Openness and cooperativeness in this sense is a crucial contribution to it. The Hubbers believe that the value of knowledge grows when it is shared. Instead of keeping it to themselves, they see the value in sharing it. Simone interprets it in this way:

"Today, the society is really keen to share knowledge and one can attain easier know-how because others are willing to give. One gets something back: it is a win-win culture."

Simone's interpretation attests to Adler and Heckscher's (2006) argument that the society shifts towards a more collaborative environment. But it can also be an indication of how she generalizes the willingness to share knowledge as a social change based on the experiences she made at the Hub. It signifies that all Hubbers share their knowledge freely in any case, but because every Hubber is doing it she might draws inference that it is a shift in the society.

Hubbers do not work together all day, but they like to meet and share their problems and ideas and know that they can get help when it is needed (Marco). They form the community of practice themselves by interacting and cooperating because they all commit to a certain purpose and open environment for collaboration (Bertram), however they still have heterogeneous backgrounds and problems (Sascha). This enriches the knowledge generation process because there is a broad spectrum of knowledge available and with the backing-driver of a community they can gather more potential for the knowledge generation process (Wenger, 1998; Wenger et al. 2002).

All Hubbers have different backgrounds and therefore different expertise (Sascha). Combined, in form of a community of practice, they all can profit from each other's knowledge and experience. Since they share similar values, a common goal and the willingness to work collaboratively together, the requirements, that start-ups learn from each other and bring the business forward, according to Wenger (1998) are given. Since the three essential characteristics – domain, community and practice – for communities of practice (Wenger, 1998) are present, the Hub uses the concept of communities of practice unknowingly as a tool to increase the knowledge sharing process. Our empirical material indicates the impression that Hubbers are very sociable and open-minded people with a strong social character. They are environ-

mental friendly and like to help people. Thereby, they share an urge for a sustainable society and environment that shapes their identity. Sascha confirmed our impression and emphasised that:

"Everyone who is sitting here tries to improve the world somehow."

Of course, the aim is to financially break even, but it is not just about money it is rather to have a sustainable impact (Sascha). These can be seen as the common goal, which holds the community together.

The Hub manages to have a strong community. They work at the same space together and develop therefore a mutual relationship (Hagen). Additionally, the Hubbers shape the community among themselves by participating in activities. The contact at the Hub is casual and informal (Tim). People like it to be a part of this community also because it has a trendy aspect (Thomas). Another important aspect describing the strong community among Hubbers and the extraordinary work atmosphere is that the Hubbers do not want to leave (Marco). If they have to, since their start-ups expanded, the will try to stay in contact with the Hub, since they feel connected to it (Peter; Roman). This contributes to prior findings that Hubbers identify themselves with the community; that the name itself, Hubbers, provides additional evidence for the affiliation.

This attitude, which is omnipresent at the Hub, is prerequisite for the concept of a COP, as well as the fact that people joining the community out of free will (Wenger, 1998). The free will, however, is restricted in that sense that they do have a perspective interview where potential members are pre-selected. The Hub tries to build up a community to promote the sharing culture (Hagen). Hagen explains, it is important that a person fits into the community since;

"We have had the experience that if one or two negative energies are in a room, that exudes so blatant on the total energy that people are not that open anymore."

This does not mean that the Hub categorically sort out people they do not want to have as members but rather ensure they are willing to contribute to the community, as Bertram explains;

"Well, you have to look if the person fits into the Hub. I do not feel like working with people who just take and never give back, this open attitude towards cooperativeness and to become part of the community must be a prerequisite. And if she or he only acts alone, that person has no desire to work with us either."

This mirrors very well the significance of cooperativeness perceived by Hubbers. This, again, presume that people who join the Hub are naturally open. It is questionable what happens with people that never acted in any other way than alone and do not have prior experience or are very much introverted. They would maybe have the desire to work at the Hub but apparently would not fit into the community. Hence it can be argued that the Hub 'management' decide on their community and domain themselves, whereas communities of practice are formed by people engaged in the processes (Wenger et al. 2002; Wenger & Snyder, 2006). The management therefore have a large impact on the community, the domain, and the practices and can influence them in a direct or indirect way, which is not in the interest of the COP (Wenger, 1998). However, as Adler and Heckscher (2006) point out, they can take on a supportive role in strengthening the community and its values and also help members in their practices. Thus, they do not have to be regarded as an influencing factor, but more as a supportive assistance.

5.2.3.2   The importance of the Hosts

The empirical findings have shown that management of the Hub play a vital role in supporting the start-up firms. They act as an intermediary and provider, as Rice (2002) describe it. Although they are employed by the Hub and receive a salary, they are working there because they also feel part of the community (Bertram, Isabelle, personal communication). For instance, Bertram, as one of the Hosts, says:

"Everything here is so exciting. I do not do all this because of the money, but because of the good contacts."

This shows that he really appreciates to make contact to the people he gets to know and that those are value adding for him as well. It is not that they dictate Hubbers into a certain direction. They act as a contact person that help and connect them with others (Bertram). Wenger (1998) claims that COP are not embedded into a formal structure and are self-organizing. Our empirical material however shows that the community can extremely benefit from the help of a formal management while staying independent. They always know whom they can go when they need help and gain from the provided activities, which are built up by the Hosts. This finding is in line with Rice (2002) and Hackett and Dielts (2004) who argue that business incubator can support start-up firms best when they directly interact with the incubator management. Peter, for instance, exemplifies the key role of the Hosts as:

"The Hosts are a central element at the Hub. It would not be how it is, if the Hosts would not do what they do."

Peter's impression demonstrates how important the management is in order to enhance the processes at the Hub and hence also the knowledge sharing process. If the Hosts would be absent probably less activities, and thus active networking would be abandoned. It is therefore not only about providing the infrastructure so that the right people get together (Wenger & Snyder, 2006) but also to actively participate in the whole process and to help the start-up firms directly or indirectly. There are, nonetheless, also pitfalls when the management is integrated in the community that can lead it to falling into oblivion. The Host could for instance promote a certain culture or identity that is difficult to achieve for the members of the community (Hartley, 2010). Or members could disagree on new practices or activities that are not in their interest (ibid.). Bertram for instance is to be in favour of making both arches as talking areas, whereas others such as Robert query that sometimes people use the more focused and silent workspace as a meeting room. This might result in a potential conflict and could imply that one lose commitment or trust in the community (ibid.).

5.2.3.3   The Hub does not stick to routines

The Hub provides an interaction space and activities that lead to practices among Hubbers. Practices emerge automatically when people work together in a community (Wenger, 1998). They occur in forms such as the use of language, rituals, activities, exercises, techniques and processes (ibid.). The common practices at the Hub are the daily routines that occur by working together, the activities that the Hubbers participate in and the methods they use to solve certain problems. Some of them need previous knowledge, a workshop about a specific topic for instance, whereas others, like the Sexy Salad, can be attended without any knowledge barriers. In our opinion one of the key practices of the Hub is the active networking. If the right people find each other, the chances that they can solve a problem increase. The common practices help the Hubbers to feel more confident in order to approach certain problems, since they feel safe and assisted by others. Important to say is that the Hub is in constant exchange with its members in order to get their feedback in relation to infrastructure, services and events (Hagen). This becomes even more significant, since according to Wenger and Snyder (2006) COP are fundamentally informal and self-organizing and cannot easily be managed. The Hub includes the Hubbers in developing practices, and therefore it is not managed but accompanied. The practices are not carved in stone and are adjusted by and to the community's needs. It is an organic process, where boundaries of the Hub are repressed. Members

fluctuate and also non-members interact with the community (Hagen). All these interactions will bring new knowledge into the existing COP. It is not that practices stick to routines; they constantly re-emerge. Therefore, the requirement for creating new knowledge, according to Nonaka (1994), is given.

5.2.3.4 The importance of face-to-face interaction

The environment at the Hub is supportive, honest and the Hubbers respect each other. These conditions enable, according to Ahmed et al. (2002) the knowledge sharing process. According to the key characteristics by Wenger (1998), the Hub can be seen as a COP. But still, there are some significant variations. In contrast to Wenger (1998) who says that communities of practice usually exist on the Internet, it is important for the Hubbers that they can meet physically. Hagen especially emphasizes that:

"It is important to meet people physically, to be able to look into each others' eyes, in order to make the step to do something together or to share details of a business. That happens only if you trust the other."

According to him, the people need a foundation of trust in order to share their knowledge. That you need to "look into each others eyes" in order to trust someone entails that you not only trust in the competences of the people you want to share your knowledge but that you go a step further and look for honesty and collegiality. This is very much in line with the arguments by Adler and Heckscher (2006) that trust is based on exactly those aspects. It is therefore not sufficient enough to have shared concerns and identity towards a common domain (Wenger et al., 2000) in order to freely share things. The trust relationship starts with a face-to-face interaction. If you would like to explain something to someone else it is always easier doing it face-to-face than over the Internet (Markus), as he says:

"It always works better when you get together."

Markus seemingly experienced that the physical interaction helps in the knowledge sharing process. We also experienced, during our observations that as soon as somebody appears friendly, the Hubbers are willing to help. Another important aspect of a physical place for the COP is that random encounters happen. Simply by the fact that the people are present, they start to interact with each other. In our observations we have seen that people join each other and start talking. The conversation starts very generally but then continues in detail when they began to exchange their experiences. It is moreover the atmosphere at the Hub that appeals on

people that in turn enhances the openness and willingness to interact. A participant of an event at the Hub said:

"As soon as you enter the Hub you start to share." (Unknown)

It is interesting how people from outside the Hub perceive the atmosphere. She indicates that a certain sharing culture is omnipresent at the Hub and that this is different to the outside. It appears that you enter a room from an outside-insulated environment into an extroverted open-minded culture. We believe that this mutual interaction cannot be achieved in the same sense using an online medium. The fact that internal online platforms such as the Hubingpoint are not being used by Hubbers reinforces our assumption. Accordingly, since members of COP interact mostly online (Wenger et al., 2000) it may limit the knowledge sharing between them. Face-to-face interaction would thus enhance the exchange to a much greater extend.

5.3   The downside of a community

The term community often entails a positive undertone and so far has been proclaimed to provide an adequate medium to enhance start-up firms and the knowledge sharing process among them. However, if the relationship among members becomes too strong or when small groups inside the community convert into a clique they might become exclusive or delimiting (Wenger et al. 2002). Hagen recognized such a phenomena at the Hub in Berlin:

"The reason, in my opinion, why the Hub Berlin failed was because, the community there was quite clannish. This had nothing to do with entrepreneurship anymore."

As Hagen's experience shows you need to be cautious about the strong ties among the members of the community. In his explanation he distinguished entrepreneurship from cliques and asserts that they cannot be combined. From Wenger et al. (2002) we know when those cliques get stronger it might also discourage members to critique certain aspects and knowledge sharing would be restricted. Additionally, communities can also segregate people by solely being receptive to predefined target groups (ibid.). The pre-selection procedures used to accept Hubbers are one way to segregate potential members (Hagen). The fact that the Homepage is only in English already isolates people from the very beginning.

Another, important handicap that might have the potential to constrain the impact of business incubator as a community is that actually too much exchange of knowledge can lead to distraction and embarrassment. As Marco indicates:

"Especially at the events, there is enormous knowledge exchange. However, it bears the danger that too much exchange occurs and you do not focus any longer on your actual business responsibilities."

Therefore, the right mixture of interaction and task work must be found so that knowledge sharing and the community do not become a burden and the start-up firms result in failure.

5.4   Empirical findings in relation to the research proposition

Our empirical findings have shown that cooperation among Hubbers provide start-up firms with an enormous potential to share and generate knowledge. Although the concept of COP is invisible at the Hub and proposes certain additional alignments, it plays an important role in enabling the tacit-explicit knowledge interactions within the SECI processes that qualify in sharing and generation of knowledge. The experiences of the Hubbers have shown that collaboration, trust, and commitment embodied in the community of the Hub make the knowledge conversion happen. A cooperative atmosphere, the assistance of the Hosts and the enormous opportunities to interact with others are perceived as crucial enablers of the knowledge sharing process. Nonetheless, there are also limitations that might hinder the knowledge sharing process. The analysis of our empirical findings have shown that Hubbers experienced that too much interaction can result in declining task orientation where the literal purpose to build up a new business is neglected. Furthermore, to be too involved with the others in the community could also harm the knowledge sharing process by being critique averse and possibly segregate others.

5.5   Contribution to the theory

Nonaka et al. (2000) have argued that communities of practice generate knowledge that is bound by the community in which they are acting. Our empirical findings however have shown that the Hub as the flagship for knowledge and idea generation can be seen as a COP. Thus, the concept of COP can be extended, perceiving an incubator as a diversified set of communities that very well contribute to the knowledge generation process and coincide with the concept of knowledge conversion. Both tacit and explicit knowledge interact at the Hub by formal and informal approaches and thus work in a spiral loop encompassed by the concept of COP. The informal interactions between Hubbers have shown that tacit knowledge can indeed be expressed and communicated which is contrary to a number of researchers (e.g. Baumard, 1999; T. Huzzard, personal communication, April 2012). Nonetheless, the empiri-

cal findings also show that an element of cooperativeness must predominate where people represent a common identity and mind-set (Adler & Heckscher, 2006). When Hubbers enjoyed the collaborative space where they are able to freely express and reflect their thoughts in an honest way, they eventually share their experience and know-how in the community. Through this, tacit knowledge can be transferred through interactions of tacit and explicit knowledge in the SECI process, especially in socialization and externalization, by documenting and reflecting on what they have done. The analysis demonstrates that tacit knowledge is expressed freely when aspects such as trust and commitment are fulfilled and where an environment is created that supports an "ethic of contribution" (Adler & Heckscher, 2006). Additionally, our analysis has shown that entrepreneurs perceive trust and honesty as a fundamental aspect in order to freely share their knowledge and interact with others. Face-to-face interaction plays thereby a crucial element in order to create this trustful environment. Wenger (1998) emphasizes on the importance of common practices among the community, which is also perceived as constituted at the Hub. However, our analysis shows that they do not result in pure routines but rather are re-emerging so that new knowledge can be generated. Moreover, the experiences of the Hubbers expound that the Hosts as an indirect management function of the Hub can help facilitating the knowledge sharing process greatly. We do not want to contradict that COP which is not based upon formal structures (Wenger, 1998; Wenger & Snyder, 2006; Wenger et al., 2002), but we disagree with the fact that they have to be solely informal and self-organizing. Our analysis exemplifies that Hosts can indeed help members to solve problems and facilitate the interaction among them, which is in line with Adler and Heckscher (2006). It also shows that a COP does not have to be self-organized but instead can be created intentionally by a management.

Hence, the lived experiences of the Hubbers indicate that the proposed merged framework of COP (Wenger, 1998) and CC (Adler & Heckscher, 2006) into "collaborative communities of practice" (explained in Chapter 2, illustrated in figure 3) would mirror very well how the Hub is positioned.

Here, the importance of face-to-face interaction and physical help by the management becomes much more important. This builds a significant foundation of trust as if COP act in an impersonal context. Form the empirical material we can assume that a business idea is based on the combination of ideas and thus it is to assert that the development of a start-up firm is to a large extent dependent on cooperation and collaboration with others. The concept of COP alone is not adequate enough to activate the knowledge conversion modes most efficiently; it

needs to take into account the key characteristics of the collaborative community aspect proposed by Adler and Heckscher (2006). Joined together, as the framework of CCOP, they constitute an excellent example for effective knowledge sharing among start-up firms in business incubator.

5.6   Managerial implications

It is noteworthy that the concept of communities of practice seems to be unrecognized by the members of the Hub and apparently many other business incubators. Seeing the Hub as a form of community was to a great extend perceived as a key role in our interviews and observations. Hubbers were always aware of and emphasized the informal interactions and experience sharing with others in their daily work. However, perceiving the Hub as a CCOP rather than a business incubator or a co-working area was not given.

The concept might be invisible to both members and the incubators, respectively. They might have difficulty in seeing the concrete value that this concept brings to them. Our research has shown that an extended version of communities of practice taken into account the importance of a collaborative community can have a valuable impact on the knowledge sharing process among start-up firms. Hence, our findings can contribute as illustrative material for business incubator - *whether they act as non-profit or for-profit incubator*- in how they can make their knowledge sharing processes more efficient and effective. Although the concept of CCOP brings along many advantages, one need to find the right balance between community oriented and task oriented responsibilities in order that the main entrepreneurial tasks do not depreciate.

6 Conclusion

6.1 Conclusion

The purpose of the research was to understand the lived experiences an entrepreneur has in the knowledge sharing process at a business incubator. Our research has presented an empirical understanding of how a business incubator can enable the knowledge sharing process.

The changing society towards socialising and collaboration has made business incubators a perfect institute for start-up firms. Extensive literature has shown that business incubator provide start-up firms with many advantages, outlined largely during our research. We, however, doubt that all business incubators contribute to the success of start-up firms within the same way. Our empirical findings have shown that in order to enhance the knowledge sharing process, and thus to support start-up firms, business incubator need to shape an environment that emphasizes on collaboration and trust. Surely, it is value adding that business incubator provide workspace where several start-up firms are working in a close distance, by which the knowledge sharing process can be encouraged. Nevertheless, our empirical material has shown this does not work as a matter of routine, without establishing a form of community among the start-up firms.

Through the investigation of extensive literature we can conclude that certain aspects of the CCOP framework have elementary similarities to the lived experiences of the participants in our research. The findings demonstrate that the framework is holistically ever present at the Hub. Additionally, we accomplished that the literature on communities of practice is missing some relevant aspects regarding the cooperativeness of the community members. It is repeatedly stated that the objectives of entrepreneurs to join business incubators lie also in the willingness to socialise and interact. Working solely from a single closed room inside an incubator, does not encourage people to collaborate. Albeit, an environment that provides encounter zones in which entrepreneurs can meet consciously as well as randomly face-to-face contributes to the knowledge sharing. Furthermore, it needs a place that creates an atmosphere, where trust, commitment and identity with the community can be obtained. This results in a mutual understanding and cooperativeness. Consequently, people of the community share their knowledge and expertise free and with out any coercion.

Therefore, our empirical analysis made possible to answer our research objectives. Our research draw evidence to suggest that:

- Community creation could expand the possibility of a business incubator to stimulate the exchange of knowledge.

- The concept of communities of practice can indeed play a significant contribution to the knowledge sharing process in a business incubator. However, the concept alone without taking into account the key characteristics of a collaborative community might miss the potential enrichments by taking both together.

- From our empirical material we cannot certainly say that a missing communal aspect in a business incubator constrains the knowledge sharing process in general. Nonetheless, the experiences of the interview participants indicate that when people do not engage within the community they are less open to interact with others. This might lead to the assumption that a missing community might reduce the interaction of people and consequently also limits knowledge sharing. On the other hand, what can be recognized from our research is that an existing community can indeed enhance knowledge sharing.

6.2 Future research

First of all, further research may investigate if indeed a missing communal aspect in a business incubator constrains the knowledge sharing process. Additionally, scholars may continue analysing the impact of business incubator on the knowledge sharing process in a much broader setting. A potential approach would be to investigate other forms of business incubator such as for profit incubator. The method and incentives used by the Hub to share knowledge may be different at other incubators but still contribute to the success of start-up firms. Also interesting to investigate is, if internet start-up firms where intellectual property rights need to be protected more extensively are willing to share their knowledge to a similar extent as is the case at the Hub, or if this might hinder it. Secondly, further investigation could be conducted regarding the impact of collaborative communities and communities of practice and their role at the business incubator. Our research has shown that taken both concepts together strengthen the knowledge sharing process at the Hub. Further research could therefore aim to reinforce and extend the consolidated concept but also to show its limitations. Additionally, by using qualitative methods our research has shown a detailed description of the lived experiences of start-up firms at the Hub. However, a statistical significance of which start-up firms succeed, how much knowledge is intrinsically shared or how many new ideas could be developed would project different approaches to a greater scope. A quan-

titative analysis could therefore be of much value, creating a holistic attempt in how business incubator do or could prospectively enhance the knowledge sharing process. Finally, we also suggest for future research to stress how start-up firms that are not part of a business incubator share their knowledge and how their cooperativeness in the general society might support them.

6.3 Limitation of the research

In spite of the fact that our research provides several insights, there are numerous limitations as well. First, the generalizability is restricted by the selected research design and the methodology. Yet, there was a reason why we choose them. As suggested for future research purposes, quantitative research could provide a greater statistically perspective, still, due to the lack of research regarding several aspects in the knowledge sharing process at business incubator it is important to understand those process in depth. A quantitative analysis cannot provide such detailed insights, as our research makes available.

A limitation of our study is that we had to focus on a single business incubator. This is due to the fact that knowledge sharing in itself is said to be a complex, context dependent process so that we had to constrain our research field to one business incubator. Additionally, the incubator we investigated is a non-profit incubator what distinguish from other concepts (Bonnet, 2011; Peters et al., 2004). However, as Bonnet (2011) mentioned, most successful start-up graduates in the long term are most significant for start-up firms from a non-profit incubator. Thus, it is of most interest for to us emphasize these firms. Even so, its generalizability is limited. We also excluded business incubator from other countries than Switzerland, because of cultural aspects that might be different in other countries. We wanted to focus more on the impact of business incubator in the knowledge sharing process than on country or cultural differences.

Additionally, we need to consider that terms such as knowledge sharing, social entrepreneurship, and communities are subjective. Interviewees and interviewers have different perceptions and might understand and interpret them differently. Thus, a more predefined guidance would have helped to provide a similar level of understanding. Using a phenomenological approach, however, allows us to find out what the lived experiences of entrepreneurs at a business incubator are. To confront them with predefinition would apparently have constrained them in expressing their experiences upfront.

6.4   Biases regarding our research topic

Before, we investigated the Hub Zurich we had several biases that we wanted to address at the end. Regarding our research topic the knowledge sharing process at within an incubator site, we were personally sceptical about the fact that nowadays, sharing knowledge freely is crucial in order to generate new ideas and being successful (Nonaka & Takeuchi, 1995; Davenport & Prusak, 1998). We assumed that people are still securing their ideas and knowledge and are egoistical when it comes to their own business ideas. An incubator would only attract those people who are sharing their knowledge anyway already in some way, or people who wish to solely benefit from the network and hope they can gain. Our observation and interviews at the Hub Zurich however showed us that the community in which they work is so interactive and inspiring that you automatically are inclined to share and help.

Another bias we had to some extent is related to the assumption that as long as companies act within a market economy, their ultimate goal will always be to increase profits (Friedman, 1970). Social entrepreneurship and the resultant intention to create a sustainable social impact in the society can be a means to reach this goal, but it is not a goal in itself. We assume a company will not sustain in the long run without having the permanent drive to be profitable. This is on par with several opinions of the Hubbers but what we can acknowledge after our field study is that the Hubbers are certainly eager to build up a company that provide a sustainable impact which encompasses more factors than solely to make profit.

We were also wondering if the time that firms need to breakthrough into the market, could be also reduced by working in an incubator with a particular focus of social innovation. This could mean that there are not many connections to the 'profit seeking business world', which also entails expertise such as lawyers and auditors for instance. From the experiences of the Hubbers and our observations we have realized that there are indeed immense connections to different entities. The Hosts hereby play a central role in connecting the Hubbers to valuable contacts outside the Hub.

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8   Appendix

Appendix 1:   Interview guide

General Questions:

- What is the core idea of your firm? What is your background?
- What are the main tasks in your job?

The Hub

- How long have you been working at 'The Hub? When did you started working here?
- Which membership do you have? How often are you at the Hub?
- How did you learn about the Hub?
- How do you experience the collaboration of he Hub?
- What were challenges or advantages for you when you joined The Hub?
- What are the biggest challenges and opportunities now? What are future challenges?
- Anything you would like to add? (in the end)
- Anything you would like to do differently? (in the end)
- How does the environment (workspace) enable or constrain your work?
- Does the structure of the hub enable or constrain knowledge sharing?
- Do you think that another structure at the hub would more help to share knowledge (like not only social entrepreneurs)

Question about Knowledge sharing:

- What is knowledge for you? How do you think it is important?
- What kind of knowledge and experience do you usually share? And how?
- With whom do you usually share knowledge?
- What are the incentives to encourage you to share knowledge and what are the barriers for the Hub?
- How do you describe the Hubs formal network structure and how do think does the structure influence knowledge sharing within the network?
- What technologies or tools do you use to share knowledge and how do you use them?
- What is your suggestion for improving knowledge sharing at the Hub?

Appendix 2:   Hubbers

First Name	Name	Position	Company	Interview
Bertram	von Czettritz	Managing Director (Host)	Hub Zurich	Interview: 21.2.2012
Hagen	Krohn	Co-Founder & Association Board	Hub Zurich	Interview: 23.2.2012
Isabelle	Behrens	Managing Director (Host)	Hub Zurich	Personal communication: 19.12.2011
Marco	Rohner	Entrepreneur	www.greenbyte.ch	Interview: 21.2.2012
Markus	Gander	Entrepreneur (Advisor)	www.infoklick.ch	Interview: 24.2.2012
Peter	Schirotzki	Entrepreneur	www.spontacts.ch	Interview: 24.2.2012
Robert	Donau	Entrepreneur	-	Interview: 24.2.2012
Roman	Gaus	Entrepreneur	www.urbanfarmers.ch	Interview: 24.2.2012
Sascha	Nick	Entrepreneur (Hub association)	www.co2-monitor.ch	Interview: 21.2.2012
Simone	Hochstrasser	Entrepreneur	Hand & Fuss Konzepte	Interview: 22.2.2012
Stella	Schieffer	Entrepreneur	www.polyport.ch	Interview: 20.2.2012
Thomas	Patzko	Entrepreneur	www.patzko.com	Interview: 24.2.2012
Tim	Ruffener	Entrepreneur (office neighbour)	www.uniseminar.ch	Interview: 23.2.2012