



Start-ups

Business Incubation and Social Capital

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In this article, the underlying idea is that business incubators can support new potential companies in their development process by giving them credibility, but also by helping them to build promising support and business networks. The main research question is how business incubators can support entrepreneurs, in their efforts to build up networks for the benefit of their own company, by focusing more on social capital. The article evaluates three not-for-profit managed business incubators from different parts of Finland. The empirical material proposes that entrepreneurs who have received substantial support for the creation of business or support networks are more satisfied with the services of the business incubators than those who have not attained such support. Another finding was that support that focuses principally on financial capital is not the key aspect that business incubators should focus on when supporting entrepreneurs who try to develop a viable business.

KEYWORDS: business incubation; entrepreneurship; networks; social capital; start-ups

Introduction

So far, previous researchers have emphasized the role of business incubators as new business creators (e.g. Allen and McCluskey, 1990; British Council, 2001; Culp, 1990; Duff, 1994; United Nations Economic Commission for Europe [UN-ECE], 1999; Rice and Matthews, 1995). However, only a limited amount of research has focused on examining social aspects related to business incubation. Instead research has primarily aimed to evaluate business incubators based on organization, process and financial aspects. More recently, an interest has emerged to establish measures that allow benchmarking between larger numbers of business incubators (e.g. Allen and McCluskey, 1990; Centre for Strategy and Evaluation Services [CSES], 2001; Duff, 1994). However, as pointed out by Sherman and Chappell (1998) and UN-ECE (1999), the categorization of business incubators can be accomplished in multifaceted ways, which makes broad benchmarking challenging. Furthermore, a growing interest is based on the role of business incubators as creators and supporters of functional business

networks (Aernoudt, 2004; Bøllingtoft and Ulhøi, 2005; Hansen et al., 2000). This explains why the discussion also has started to emphasize social capital related to new business ventures and, especially, the significance of business incubators as refiners of such intangible capital (e.g. Coleman, 1990; Lyons, 2002a,b; Sanner, 1997). In addition, there seem to be several fundamental reasons why a social capital approach is suitable for understanding entrepreneurship and new business venturing in a country like Finland. As pointed out by Johannisson and Mønsted (1997) the business and community are closely intertwined in all Scandinavian countries and, therefore, intersectional trust and informal social capital have accumulated in some areas, thereby creating an incubating arena for enterprising activity. In general, research on 'social capital' has a diverse scope, but commonly emphasizes the role of networks for successful social capital development (e.g. Baron and Markman, 2003; Inkpen and Tsang, 2005). Therefore, it is not particularly surprising that previous researchers (e.g. Lyons, 2002a, b; Servon, 1998) highlight the role of business incubators for successful new business venturing and business networking. Consequently, several researchers point out the social aspects of entrepreneurship as central for the sustainable growth and success of an enterprise (e.g. Hoang and Antonic, 2003; Johannisson and Mønsted, 1997; Johannisson et al., 2002; Lyons, 2002a,b; Witt, 2004). On the other hand, some researchers have examined social capital from a more individual perspective, by studying entrepreneurs' attempts to retain various forms of capital (Johannisson, 2000a,b).

In this article, the focus is on social capital and its importance in terms of networks. The underlying idea is that business incubators can support new potential companies in their development process by giving them credibility but also by helping them to build promising support and business networks. Consequently, the main research question is: how can business incubators support entrepreneurs, in their efforts to build up business networks for the benefit of their own company, by focusing more on social capital? The research task is challenging since there are different types of business incubators. This article evaluates three not-for-profit managed business incubators from different parts of Finland. The personnel of each business incubator were interviewed as well as entrepreneurs who still have their companies at the premises of the business incubators. Finally, interviews were also conducted among entrepreneurs who have had their companies at the business incubator, but who are now operating on their own outside the business incubator. The purpose and aim are accomplished through the following steps. First, present earlier theoretical findings related to business incubators, networking and social capital. Second, use a multi-method approach in order to obtain a three-dimensional perspective of the work these incubators do. Third, present and analyse in depth three business incubators, three new business ventures located at each incubator's premises and further, three companies that have left the incubator. Finally, managerial implications and suggestions for further research are presented.

Business Incubators, Networks and Social Capital

It is important to comprehend an entrepreneur's needs, to make sure that an incubator links an entrepreneur to the most appropriate networks (Lyons, 2002a). These networks will assist an entrepreneur to overcome obstacles she faces and help to build new networks if that is required (Lee and Osteryoung, 2004). According to Rice and Matthews (1995) an incubator's network in general offers access to resources and know-how that entrepreneurs often do not have, but definitely need. However, without the assistance of incubator personnel, an entrepreneur might experience a hard time in locating the right individuals from the often-complex network. Therefore, the incubator personnel have an important task in assisting and supporting the creation and development of value-adding network relations (Rice, 2002). Moreover, Duff (1994) suggests that an incubator's network can enable the incubator to serve an expanded number of client tenants with a given number of employed personnel. Similarly, a networked incubator can provide tremendous value to a start-up team through network connections that help to create partnerships, recruit talented people, and obtain advice from outside experts (Bøllingtoft and Ulhøi, 2005; Hansen et al., 2000). Consequently, it seems that a business incubator possesses various sorts of mechanisms and tools that might turn out to be effective in enhancing an entrepreneur's progress of network creation and hence success of the emerging business (Hansen et al., 2000). Lyons (2002a) has divided networks that encompass an incubator into two different categories, these are *internal* and *external*. These two categories are equally important, because both help an entrepreneur in finding access to appropriate networks (Lyons, 2002a). An incubator and its internal networks are particularly useful to social capital building because they enable resource pooling, which eliminates availability and affordability obstacles by permitting multiple enterprises to share resources (Lyons, 2002a,b). Moreover, Lyons (2002a) stresses that the most important service offered by an incubator is the opportunity for (internal) networking among tenant companies. Therefore, it is not particularly surprising that Sherman and Chappell (1998) suggest that tenants tend to use incubators to facilitate relationships with other incubator residents. In practice, these relationships may involve formal or informal partnerships, joint ventures, buy from/sell to relationships, bartering, or basic information exchanges (Lyons, 2002a). Finally, Lyons points out that: 'the fact that the tenants' companies all operate under the same roof makes collaboration much more likely' (Lyons, 2002a: 5). Similarly, Duff (1994) suggests that co-located entrepreneurial firms provide the possibility to generate a symbiotic environment where entrepreneurs share resources and experiences, learn from one another, exchange business contacts and establish collaborative business relationships.

An incubator and its external networks are useful to social capital building because they link client tenants with service providers and with other local businesses for partnership purposes (Lyons, 2002a,b). More particularly, Duff (1994) describes an incubator's external networks as consisting of individuals drawn from the ranks of professional business service providers as well as experienced

business people and educators who are willing to provide advice and assistance to entrepreneurial enterprises. Therefore, as pointed out by Duff (1994), an incubator adds value by bringing together a comprehensive array of skills and by selecting individuals who can most successfully tailor their services to the needs of small growing firms. The process assembles a rich business development resource for the region. Thus, an incubator enables a tight network consisting of an otherwise dispersed set of individuals (Duff, 1994). Similarly, Lyons (2002a) notes that an incubator's social capital building involves linking of client tenants with service providers and other local businesses for partnership purposes. Finally, Duff (1994) mentions that participants in an incubator's network gain from devoting their time, by having what could be a rich source of growing clients made aware of their skills and expertise.

Social Capital

It is evident that social capital has many dimensions, which also puts pressure on researchers with an interest in the subject. However, one way of approaching social capital is by relying on Nahapiet and Goshals' (1998) model that explains the three dimensions of social capital. This model is also commonly used by other researchers (Inkpen and Tsang, 2005; Puhakka, 2002; Yli-Renko, 1999).

The 'structural' dimension of social capital, presented in Figure 1, refers to the patterns of connections between actors, that is, the presence or absence of social interaction ties (Puhakka, 2001; Yli-Renko, 1999). In fact, Nahapiet and Goshal (1998) declare, as the fundamental proposition of social capital theory, that network ties provide access to resources. Hence, with limited network relations individuals are forced to rely on third party interaction to acquire necessary resources. Similarly, Johannisson et al. (2002) stress that personal ties combine economic and social concerns that provide the enterprise with a wide range of opportunities and also constraints. Moreover, Coleman (1990) states that existing network relations (social capital) will support creation of new ties later on. Ideally, an entrepreneur is structurally in the position where she can exploit and connect information from surrounding networks, without the possibility that someone else is doing so. In reality, the appearance of such a position is less frequent, but structurally loose networks may include information that is not commonly shared by all the members of a network (Lechner and Dowling, 2003).

STRUCTURAL	COGNITIVE	RELATIONAL
Network ties Network configuration Appropriable organization (devoted to its purpose)	Shared language and codes Shared narratives	Trust Norms Obligations and expectations Identification

Figure 1. The Three Dimensions of Social Capital (Nahapiet and Goshal, 1998)

Furthermore, social relations are important information channels that reduce the amount of time and investment required for collecting necessary information (e.g. Cohen and Prusak, 2001; Davidsson and Honig, 2003; Nahapiet and Goshal, 1998). Moreover, Coleman (1990: 304) states that: 'networks encompass individual ties as well as formal and informal relationships, strategic and spontaneous action, and moreover, rationalities and irrationalities'. Finally, Greve and Salaff (2003) argue that entrepreneurs build networks that systematically vary by the phase of entrepreneurship, whereas networks are particularly important for the planning and start-up.

On the other hand, the personal network of the entrepreneur not only embeds individual ventures but also integrates them into an entrepreneurial career (Johannisson and Mønsted, 1997). Further, social capital developed in one context can sometimes, but not always, be transferred from one social setting to another and thus influence the pattern of social exchange (Nahapiet and Goshal, 1998). For example, a company may appear trustworthy due to its relation to some external actor that possesses the right kind of social capital (Anderson and Jack, 2002). In this sense, a relation may reduce the barrier to accessing a network (Hoang and Antonic, 2003; Sanner, 1997). For example, Saporito et al. (2004) studied how trust influences the relation between small firm owners and bank managers. Besides trustworthiness, network ties and norms influence an entrepreneur's access to social capital that would otherwise be out of his/her reach (Nahapiet and Goshal, 1998).

The 'cognitive' dimension of social capital in Figure 1 refers to those resources that represent shared understanding of common goals and the proper ways of acting – for example, shared language and codes (Yli-Renko, 1999: 59). Puhakka (2001) explains the cognitive dimension as an entrepreneur's commitment to relationships. According to Nahapiet and Goshal (1998), the shared language influences the condition of resource combination and exchange among members of a certain network. Similarly, Cohen and Prusak (2001) underline the importance of understanding other network members' expectations and the need to act accordingly. Moreover, Cohen and Prusak (2001) claim that conversation binds communities and builds social capital. In this sense, conversation consists of gossip, stories, mutual discovery of meanings, negotiation of norms and aims and expressions of sympathy, disapproval, bewilderment and understanding. Therefore, conversation includes the tone of voice as well as selected words, and non-verbal expressions when conversation occurs face-to-face. Similarly, Cohen and Prusak (2001) observe that conversations are commonly rich in tacit and explicit content. The tacit content implies that the immediate response to conversation can be speechless and the individual reacts by using body language. The unspoken signals an individual is sending could possibly say more than a thousand expressed words. The explicit content consists of meaning that is clear-cut and hard to misunderstand. Finally, conversation does not necessarily have to indicate that the individuals would feel particularly attracted to their counterpart (Cohen and Prusak, 2001).

Yli-Renko (1999: 57) defines the 'relational' dimension of social capital (in Figure 1) as the behavioural assets rooted in a relationship such as trust and

trustworthiness. In fact, trust is often seen as fundamental to the existence and growth of social capital. Furthermore, Yli-Renko (1999) points out that there is a close relation between the relational and cognitive dimensions of social capital. Coleman (1990) points out that norms constitute a powerful but sometimes fragile form of social capital. However, norms are equally important enablers of trust in a community. According to Prusak (2001) no one can manufacture trust or mandate it into existence and, moreover, leaders should refuse to reward successes that are built on untrusting behaviour. Therefore, it seems evident that norms applied in an organization should primarily focus on generating trust and not competition between parties.

Furthermore, when relationships are high in trust, people are more willing to engage in social exchange in general and cooperative interaction in particular (Cohen and Prusak, 2001; Nahapiet and Ghoshal, 1998). Therefore, trust can be seen as a precondition of healthy social capital. However, as Sanner (1997) points out, it is important to remember that trust is not forever, and therefore it has to be earned on a constant basis. Another interesting aspect of trust between actors is the association between the importance of the relation and the increasing level of risk for the parties involved (Sanner, 1997). Something that Coleman (1990) has confirmed by presenting an arithmetic relation between the level of risk and the level of trust in a relationship. Thus, individuals incorporate risk in their decision-making and the outcome indicates the level of trust they have in the counterpart. Moreover, Sanner (1997) stresses that new business ventures involve more risk than established partners in network relations. This seems particularly true, because new business ventures usually possess limited amounts of resources and capital, which could be important in creating relationships rich in trust. Many entrepreneurs are theoretically competent, but lack managerial experience and capacity (Sanner, 1997).

Finally, social capital and its different dimensions are a real challenge for potential entrepreneurs and business incubator personnel. From a theoretical point of view, it is evident that business incubator personnel need to help tenants in terms of internal and external networking, but this can happen in different ways. First, tenants can receive help with getting central positions in networks. In such development processes, the focus is on the structural dimension of social capital. Second, business incubator personnel can help tenants with their business development processes by trying to transform the business incubator into a strong community. This can be achieved by focusing on the cognitive dimension of social capital. Third, business incubator personnel should work hard with trust building between the tenants, because that will also facilitate the development of the tenant's businesses. In other words, business incubator personnel need to focus on the relational dimension of social capital. However, all this is just how it should or could work in theory. The next challenge is to see how it works in practice in some Finnish business incubators.

Methods

The existing structure of the Finnish incubation industry has a number of implications for how research related to social capital can be performed. Thus, the study applies an exploratory approach and aims to describe the role of business incubators in supporting entrepreneurs. More accurately, the study relies on a combination of two traditional research strategies: *survey* and *case* studies. The multi-method approach enables the use of survey questionnaires for collecting background information regarding the case companies. Furthermore, the background information is used as a platform for the in-depth interviews conducted with the selected case incubators' staff and tenant entrepreneurs. The interviews with staff give an overview of the given incubator's services, while interviews with the tenants give their views of the offered services.

An exploratory approach is applied, in order to meet the aim and purpose of the study. The selected approach implies that secondary sources, expert interviews and previous experiences of the researcher are used (Arbnor and Bjerke, 1994: 306). The distinguishing feature of the study design is qualitative. This implies that collected data cannot be statistically analysed, but provides a deep analysis of case studies related to each business incubator. The choice of research design is justified on the basis of the limited and fragmented notion of business incubators and incubator tenants. In addition, the choice is justified because business incubation is still a relatively new phenomenon and existing incubators are still very young. Therefore, it is believed that a quantitative study would not enable differentiation between the various types of incubator programmes and the outcome would not give trustworthy results (Saunders et al., 1997). Similarly, Gartner and Birley (2002) suggest that many substantive issues in entrepreneurship are rarely addressed, and that many of the important questions in entrepreneurship can only be asked through qualitative methods and approaches.

Data Collection and Case Characteristics

The research was conducted in January–March 2002, among three business incubators that were believed to demonstrate that there are several different ways of incubating new business ventures. The selection of case business incubators was based on several criteria. First, to find incubators that were all not-for-profit managed (government funded). This criterion is a natural choice in a country like Finland, where it applies to the large majority of incubators; employing it thus, makes cases more truly comparable. Second, to find incubators located outside the economic growth regions of Finland. Most incubator studies in Finland have focused on growth regions, and thus the criterion was selected to contribute with results also from the more rural parts. Third, to find incubators that provide their tenants with at least some of the following: space, office routines, managerial assistance and access to networks. This criterion was chosen, because the aim and scope requires that incubators are really involved with their tenants. In addition, business incubators were assumed to be located in different parts of Finland, to ensure a regional disparity. Following these boundaries the study was

limited to cover three business incubators: Design Park, Yrityshautomo Innova, and Länsi-Uudenmaan yrityshautomo. First, Design Park is a branch of the University of Lapland and employs three people. Its industry focus is design, media and textile clothing, with 15 tenants and 9 post-incubates. Second, Innova is a part of Kajaani Polytechnic, which is a multidisciplinary centre of higher education. Innova employs two full-time employees. The incubator focuses on technology-oriented companies, with 10 tenants and 4 post-incubates. Finally, Länsi-Uudenmaan yrityshautomo is owned by three municipalities and employs three people. Most of the 13 tenants and 27 post-incubates work within manufacturing, carpentering, media, IT or handicrafts. In general, the examined business incubators have slightly different industry focuses, but otherwise they have several common characteristics. First, they are all fairly young. None of them is older than six years. Second, each of them relies heavily on governmental financing. Third, none of the incubators is located in an economic growth area. Thus, they all primarily focus on regional development. Consequently, this implies that potential entrepreneurs are forced to select between the alternatives: this incubator or no incubator. Fourth, no incubator has more than three persons on their staff: one incubator manager, one secretary and in some cases one development/education manager. This indicates that incubator managers included in this study can have as many as 15 tenants in the incubator programme. This is a totally different approach than venture capitalists seem to follow, whereas their guideline is to manage no more than 4–5 companies at once in their portfolio. Furthermore, one additional business incubator was utilized in a pilot study performed before the empirical study took place; this was Innosampo. The incubator is governed by the Espoo Chambers of Commerce, employs one person and incubates manufacturing companies (23 tenants and 41 post-incubates). The pilot study was carried out to make sure that the questionnaires and interview guides answered the set research questions. Based on the pilot study, only minor changes were made and thus in general the original questionnaires and guides fulfilled their purpose. The pilot study involved one business incubator and one tenant, who were chosen according to the same selection criteria as used in the empirical study. As a conclusion, the chosen case incubators were supposed to be not-for-profit incubators that offered comparable services in similar kinds of regional environments. Eventually, three incubators that fulfilled the set criteria were identified from publicly available directories on Finnish business incubators. It is important to understand the wide variety and scope of business incubators in Finland. Thus, the study applied an exploratory approach and aimed to create a first impression of social capital within the incubation industry. Overall, the study relies most heavily on 21 in-depth interviews made with 3 incubator managers, 9 tenants and 9 post-incubated entrepreneurs (excluding 2 pilot study interviews). Originally four incubators were to be included, but the number was cut due to time constraints and non-existence of suitable incubators. At first, incubators that otherwise filled the set criterion, but were physically located in some technology or science park, were excluded from the sample. However, the demand for a nationwide population obliged some relief of this specific criterion in order to find suitable incubators. More particularly, the participating

incubator-tenants and post-incubated companies were selected for the study by using non-probability sampling. Thus, company selection was based upon several criteria from company lists provided by each incubator manager. Tenant companies were required to have stayed for at least one year at the incubator, and post-incubated to have left the incubator at least six months prior to the study. From each chosen company, the lead entrepreneur was interviewed either at the business incubator, or in some cases at the specific company's premises. The performance of a single business incubator was measured based on answers from three incubator tenants, three post-incubated companies and the incubator manager. The in-depth interviews were semi-structured and based on an interview guide specially designed for each of the three participant clusters. Moreover, the interview was preceded by a tailor-made survey questionnaire prepared separately for each cluster, which was mailed to individual participants and returned by them, before the actual in-depth interview took place. The information collected via the survey study concerned basic issues regarding experiences and expectations related to entrepreneurship in general and incubation in particular. Apart from the interviews, incubator and company-specific information was gathered from company brochures and internet pages.

Determining the density of incubator networks

Incubator networks were evaluated based on networking activity within the incubator community and on service provider availability in the incubator context. First, 'networking activity' within the incubator community (see Table 1) was evaluated based on the number of times tenants participated in incubator activities during the year, and on their evaluation of the current performance of these activities. More precisely, current performance was evaluated based on the tenant mix,

Table 1. Networking Activity within the Incubators

Measures	Participation			Current Performance		
	Mean	Median	Mode	Mean	Median	Mode
1. Tenant specific meetings	3.333	2	2	8.182	8.0	8.0
2. Official meetings with other tenants	2.462	2	0	8.429	8.0	8.0
3. Unofficial happenings with other tenants	2.286	2	1	7.818	8.0	8.0
4. Tailor-made education occasions for tenants	1.625	2	1	8.000	8.0	8.0
5. Meetings between tenants and companies belonging to incubator network	1.000	0	0	7.667	7.5	7.0
6. Meetings between tenants and external companies	0.867	1	0	8.000	8.0	8.0
7. Meetings between tenants and other incubators' tenants	0.357	0	0	7.333	7.0	7.0

Notes: Participation number of times (times per year)/current performance level (schoolgrade 4–10).

potential synergies among tenant companies (industry or company specific) and the intensity of information sharing and collegial assistance. In addition, tenant cooperation was estimated based on the following activities: formal/informal conversation and relationships among tenants and between tenants and personnel. Finally, incubator involvement was estimated based on their activity in organizing joint purchases among tenants and various forms of cooperation: subcontracting, joint exhibitions and other forms of standard customer relationships among tenants. Linkage of post-incubated tenants with tenants was also seen as important. In addition, various occasions and more formal education sessions arranged by the incubator were seen as important in measuring internal networking activity.

Second, ‘service-provider availability’ in the incubator context (see Table 2) was evaluated based on tenants’ usage of service providers, and how crucial they found the received assistance for their business. More precisely, the importance of support was measured based on the network structure, relevance of members and the role of incubator personnel. Thus, incubator involvement was estimated based on personnel activity in suggesting suitable business relations and more specifically, the assistance provided in tenants’ negotiations with for example financiers, potential clients, or suppliers. In addition, contact maintenance and tenant linkage with post-incubates, external companies and the regional business life was seen as central when evaluating external networks. The external networks were supposed to contain governmental organizations (i.e. expert organizations and universities) and private organizations (i.e. mentors, financiers, accountants, customers and suppliers).

Determining Social Capital in the Incubator Context

According to Nahapiet and Goshal (1998), the independent variables of social capital are: structural dimension (amount of social interaction), relational

Table 2. Service Provider Availability

<i>Measures</i>	<i>Usage</i>			<i>Importance</i>		
	<i>Mean</i>	<i>Median</i>	<i>Mode</i>	<i>Mean</i>	<i>Median</i>	<i>Mode</i>
Potential suppliers	0,389	0	0	7,167	7	7
Consultants	0,611	1	1	7,111	8	8
Mentors	0,444	0	0	7,333	8	8
Financiers	0,500	1	1	7,708	9	10
Governmental expert organizations	0,833	1	1	7,778	8	8
Insurance companies	0,000	0	0	5,000	5	6
Patent offices	0,111	0	0	6,000	6	8
Recruiting companies	0,111	0	0	6,375	7	8
Laywers*	0,333	0	0	5,500	8	8
Bookkeepers/Accountants*	0,444	0	0	8,125	9	10
Former incubator tenants	0,556	1	1	6,944	7	7
Other entrepreneurs	0,611	1	1	7,750	9	9

Notes: Usage in the incubator network (1 = yes/0 = no)/importance of actors (schoolgrade 4–10); *sometimes accessed within incubator.

dimension (closeness relationships) and cognitive dimension (commitment to relationships). In Table 3, the 'structural dimension' was evaluated using four criteria. First, how well the examined business incubators were able to assist tenants to find appropriate resources generally needed in early stage business venturing. Second, the incubators' capabilities to provide tenants with scarce

Table 3. Social Capital

<i>Dimension</i>	<i>Measures</i>	<i>Description</i>
Structural	1. Provided assistance to find appropriate resources for tenants 2. Incubator's capability to provide scarce resources 3. Tenant interaction and usage of others' network relations 4. Tenants' possibilities to benefit from other tenants or some incubator network actor's existing network relations 5. Relevance of incubator space for stimulating the level of social interaction	Incubator networks rarely provide tenants with scarce resources, but tenants have benefited to some extent from existing network relations. Some tenants believe that incubator networks contain social capital, but the tenant mix and space affect its essence.
Cognitive	6. Tenant interaction and loyalty to the incubator community 7. Tenant mix and its effects on conversation, resource combination and exchange amongst members 8. Tenant suitability to incubator community and associated restrictions for social association	Incubators assist to build successful enterprises and cognitively connected relationships. Shared space helps tenants to overcome loneliness. A diverse mix of tenants restricts conversation and thus reduces the conditions for resource combination and exchange amongst members of the incubator. Thus, the structure of an incubator should be designed to contain companies that at least in theory have something in common.
Relational	9. Level of trust and credibility within the incubator 10. Effects of competing tenants on trust within incubator community 11. Incubator personnel's role in supporting trust, networking and social interaction 12. Level of commitment amongst tenants in their collaborative actions	Physical and mental distance decreases the level of existing trust and credibility amongst tenants. Incubators succeed satisfactorily to establish relationships high in trust among tenants and actors within the incubator network. However, especially post-incubates' social association seems to fade out after leaving the incubator. Incubators assist tenants to gain resources from governmental institutions, but find it harder to connect privately maintained resources to tenants.

resources that were otherwise unreachable for tenants. Third, tenants' possibilities to benefit from other tenants or some incubator network actor's existing network relations. Finally, the incubator space was seen as relevant for stimulating the level of social capital. The 'cognitive dimension' was evaluated based on the three criteria. First, tenant interaction and loyalty to the incubator community. Second, tenant mix and its effects on conversation, resource combination and exchange among members. Third, tenant suitability to the incubator community and associated restrictions for social association. The 'relational dimension' was evaluated based on the following criteria. First, the level of trust and credibility within the incubator. Second, the effects of competing tenants on trust within incubator community. Third, the incubator personnel's role as supporters of networking and social interaction among incubator network members. Finally, the level of commitment among tenants in their collaborative actions is a relevant object in evaluating the relational dimension.

Results

From a practical point of view, the densities of incubator networks are based on networking activities and the service provider availability in the incubator context. Various occasions organized by the incubators and informal assemblies are commonly seen as important when determining the level of 'networking activity within the incubator communities'. 'Tenant-specific meetings' with the staff are considered important for business development and for tenant-specific matters within each of the three business incubators. These meetings are commonly organized whenever required by tenants, or as follow-up meetings requested by the incubator staff. Similarly, 'official meetings' with other tenants are considered by tenants as important for creating networks and perhaps even collaboration. Typically, such occasions start with a formal part (presentation or lecture, etc.), which becomes less formal as time evolves (sauna, skiing or dinner, etc.). Unlike the other two incubators, Innova organizes only infrequently formal and/or informal occasions. In fact, none of Innova's interviewed tenants had experienced participation in such occasions. In general, results indicate that tenants enjoy more 'unofficial happenings', where they learn to know each other better. Some tenants have established wide cooperation as a result of participating in these less formal occasions, whereas others wonder what possible synergy could occur among tenants from such diverse lines of business. At Design Park occasions where tenants present their businesses for each other are popular. All incubators offer more or less *tailor-made* education seminars to their tenants. Many tenants value these occasions as important and rewarding, but admit that they can be very time-consuming. Some tenants experience that the lectured themes are rarely what they desire and the occasions leave too little room for networking with other participants. Furthermore, Design Park and Länsi-Uudenmaan yrityshautomo arrange meetings between tenants and external companies outside the incubator. Tenants experience these meetings as fairly important and stimulating, especially if a successful local entrepreneur operates the visited company. Finally, business meetings between tenants and other incubators'

tenants have so far only been organized a few times by Länsi-Uudenmaan yrityshautomo. However, the other two incubators have made field trips to other incubators, and as a result some of their tenants have collaborated with those incubators' tenants. Commonly, among tenants there seems to be a strong interest and expectation related to such trips in the future.

When considering service-provider availability, it is interesting to observe that all incubator managers involve themselves in tenants' stakeholder negotiations. The managers are most likely to join negotiations with financiers and governmental institutions, but not so eagerly tenants' customer negotiations. Interestingly, the results indicate that tenants in general do not need assistance in finding *potential suppliers* to their companies. Despite that, at Länsi-Uudenmaan yrityshautomo and Innova, the incubator or other tenants have provided contacts to more reliable and qualitatively better suppliers for some products or services. More commonly, the incubators provide their tenants with a wide range of contacts to consultants and advisers. Similarly, all incubators unsystematically assist their tenants in finding suitable *mentors* for their businesses. However, tenants generally seemed to desire more practical business advice; each incubator could improve its own service and provision of suitable mentors. This insufficiency is only partly covered by the three incubator managers' established relations to 'governmental expert and financing organizations'. Regarding *financing*, all incubators are partnering with certain local banks. In addition, Länsi-Uudenmaan yrityshautomo has contacts with a venture capitalist. Still, it is evident that all three incubators primarily assist tenants to reach governmental financing and expertise. Therefore, it is somewhat alarming that numerous tenants complain that these governmental organizations are too rigid and bureaucratic for small, starting businesses. For example, the general opinion is that financing of incubator tenants should be more flexible and made more concretely a part of the incubator service palette. Hence, overall, tenants are happy to receive any kind of financing (public or private), but find the current practice inflexible.

None of the interviewed tenants expect the incubator to assist in contacting and making contracts with insurance companies. In the same way, few tenants need the services of *patent authorities*, but all incubator managers seem to know appropriate persons who are able to assist in patent-specific matters. As one might expect, tenants need only limited assistance related to recruitment of staff, because few companies aim to grow staff-wise during the incubation period. On the other hand, tenants frequently employ students and part-time assistants via the incubator network, from various education institutions and schools. It is interesting to notice that apart from Innova, the two other incubators host, or have hosted, a lawyer and/or an accountancy practice, which tenants widely utilize and seem generally pleased with. On the other hand, all incubators' networks commonly incorporate several lawyers and accountants. Some of these lawyers have lectured and assisted tenants in some specific matters or established customer relationships with the tenants. Furthermore, at least in theory, all incubator networks include post-incubated companies that tenants should be able to approach fairly easily. However, tenants often experience these companies'

entrepreneurs as strangers, especially in the case of post-incubates that had exited the incubator before the tenant entered it. At Design Park and Länsi-Uudenmaan yrityshautomo, a few tenants engage in extensive business relationships with post-incubates. Finally, the incubator networks contain relations to some external companies that are somehow related to the community, but are not located in the incubator itself. However, tenants have commonly experienced limited contacts with other incubators' tenants and wish that such possibilities would emerge, in order to find potential customers or business contacts.

When trying to 'determine Social Capital in the incubator context' it is evident that functional incubator space and existence of synergy among tenants are central assets for constructive networking. Thus, one could assume that the level of 'structural social capital' is higher when tenants with similar needs are located under the same roof. At Design Park, the space is considered to stimulate networking and conversation among tenants. Entrepreneurs seem to be generally pleased with the space and they appreciate the small coffee room as a place to meet other people. However, the space in general could be designed to stimulate perhaps even more positive bumping into each other. On the other hand, some entrepreneurs feel no need for conversation during the day, as they would rather concentrate on their work. Overall, it is worth pointing out that all interviewed tenants and the incubator staff seemed to be happy with the current space. At Innova tenants are not located under the same roof. Thus, networking among tenants is highly limited to the rare occasions arranged by the incubator. All except one of the interviewed entrepreneurs mentioned that shared space is essential for constructive networking. Others agree that companies should not be separated, whereas meeting other entrepreneurs on a daily basis increases the feeling of solidarity. So far, general entrepreneurial matters have brought tenant entrepreneurs closer to each other. On the other hand, at Länsi-Uudenmaan yrityshautomo staff and tenants both experience the space as functional and stimulating for discussion and networking among companies. Tenants highlight the role of common space for lonely entrepreneurs, because it enables them to meet other like-minded people during the day. Moreover, the coffee area is a good place to catch up with other tenants and discuss relevant matters on a daily basis.

The level of 'cognitive social capital' depends upon, among other things, the industry focus and selection of tenants. For example, at Design Park, tenants can be categorized into certain industry fields, which enable potential synergies among similar companies. Simultaneously, the incubator does not encourage competition within the community and, thus, refuses to accept potential competitors. Apart from field-specific synergies, the incubator offers another kind of synergic richness, because it also hosts diversified industries and various types of entrepreneurs. Some entrepreneurs are happy with the current mix of companies, whereas others feel that there are not currently enough synergies available. For example, some companies are interested to combine forces with other similar tenants to make participation in larger customer projects possible. At Innova it appears that companies have limited collaboration with each other and deeper relations exist rather with other industry-specific companies. Some entrepreneurs

believe that the limited amount of time spent with other tenants is a clear constraint for experiencing synergy. Other tenants wonder how synergies could ever arise between such diverse mixes of tenant companies. Therefore, it seems evident that those strong relations should be built on genuine benefit for all participants. Tenants are generally not involved in joint purchases or joint ventures and therefore the incubator strives to bring tenants together to form joint ventures. There exist already a few cases where tenants have combined fields of expertise to develop a customer relationship otherwise unreachable. Currently, the incubator does not systematically link post-incubates with tenants. However, the incubator manager agrees that especially more experienced companies that operate within the same field as a fresh tenant could be a valuable source for mentoring and general advice. At Länsi-Uudenmaan yrityshautomo, tenants represent a wide variety of business lines. Even so, several entrepreneurs seem to have found a certain kind of communal belonging. Otherwise, larger joint purchases within the community are rare, but smaller scale cooperation appears frequently between tenants. There exists some level of synergy among tenants, but many entrepreneurs desire more companies that would boost the possibilities for collaboration. On the other hand, none of the entrepreneurs is particularly keen to accept competitors to the community because it might restrict the informal atmosphere. Currently, during coffee breaks, most tenants talk with each other and are able to share others' visions and thoughts. More experienced, especially successful, entrepreneurs in the incubator community have influenced the tenants and partly worked as their role models. However, some tenants experience that older tenant companies with several employees become too large and, thus, dominate the incubator community.

Finally, the level of 'relational social capital' correlates with the experienced level of trustworthiness within the incubator community. At Design Park, it seems like parties in general trust each other. Thus, tenants are willing to share company-related information with the incubator staff and, to some extent, with other tenants. Equally, the incubator staff trust that tenants generally act and behave according to common expectations and set norms of the incubator. All interviewed entrepreneurs feel confident that the incubator staff are trustworthy. Hence, most entrepreneurs share financial information with the staff and feel that they are able to assist in developing their business. Interestingly, some tenants have experienced committed relationships with other tenants in the form of joint projects or widened networks – the latter especially when a tenant was recommended to a third party (customers, suppliers, etc.) by another tenant. In addition, many tenants feel that more experienced colleagues have assisted them in business-related matters, almost operating as mentors. Thus, it is not particularly surprising that the incubator seems to form a community where tenants prefer to discuss issues with other tenants, rather than contacting someone outside its walls. Even so, some tenants feel that the incubator is not able to provide enough synergy; their relations to company-specific stakeholders are often found to be stronger. Hence, joint purchases among tenants are quite limited, but some companies have purchased cheaper special raw materials together with other companies. Finally, cooperation is more active and has

emerged as subcontracting, joint exhibitions and other forms of standard customer relationships among tenants.

On the other hand, at Innova several tenants experience lack of synergies among tenants, due to the diverse company mix within the incubator. Some tenants feel that communication with the incubator staff has suffered from them being located in separate spaces. However, most tenants are willing to share financial figures, especially with the incubator manager. The assistance received from the staff is focused on business-related matters, though industry-specific issues must be solved elsewhere. The incubator manager admits that to assist tenants in selecting trustworthy business associates is an important task of the incubator, but in practice it is difficult to foster such collaboration between post-incubates and tenants or external companies and tenants. Similarly, the incubator has not, in practice, supported networking among tenants and other incubators' tenants. Finally, at Länsi Uudenmaan yrityshautomo, trust seems to be fairly high within the incubator community. However, some entrepreneurs are not particularly willing to share company-specific information with the incubator staff, or with other tenants. These restricted entrepreneurs feel it unnecessary to share company secrets or financial figures within the incubator community. However, most entrepreneurs find the staff to be a neutral conversation partner that is able to function well as a test ground for their own ideas. Commonly, entrepreneurs agree that relations between incubator tenants are on average more committed than relations with external companies, mainly due to the physical closeness where people meet each other on a daily basis. In general, the staff assume that post-incubates leave the incubator because they are able to take care of themselves. However, the incubator anticipates that post-incubates assist the incubator and the current tenants in various forms. Supporting this, three entrepreneurs mentioned that they have become suppliers to post-incubated companies and that these kinds of relations do not emerge without the presence of the incubator. However, some entrepreneurs believe that networking emerges if there are conditions for that, and being located under the same roof is only one such condition.

Discussion

The study suggests that networks encompassing an incubator are divided into two categories, those taking place within the incubator and those taking place in the surrounding environment. Interestingly, tenants generally experienced that the incubator can, at least to some extent, help them find access to appropriate business networks. Perhaps somewhat surprisingly, the results indicated that relationships among incubator tenants are not as sophisticated as previous research indicates (e.g. Sherman and Chappell, 1998). In practice, the existing relationships are mainly basic information exchange, often related to daily issues. Elsewhere, results indicate that when tenants all operate under the same roof, collaboration is much more likely (e.g. Duff, 1994; Lyons, 2002a). The study involved one multi-located incubator (Innova), where the interaction among tenants was clearly more limited than in the other two incubators.

In reality, the examined business incubators are able to assist most tenants in finding appropriate resources generally needed in early stage business venturing. However, each tenant is an individual, and incubators seem to find it hard to systematically tailor-make their services to serve effectively each individual tenant. Especially, networks related to specific industries appear to be less frequent, except in Design Park, which is more industry focused than the two other incubators. Even though previous researchers (e.g. Nahapiet and Goshal, 1998) declare that network ties provide access to resources, it seems to be relatively rare that an incubator network is able to systematically provide tenants with resources that would otherwise be unreachable for them. Some tenants are confident that belonging to the incubator network has enabled them to receive critical information much earlier than external individuals are able to receive it. However, it is understandable that the examined business incubators are facing a hard time in meeting desires and needs of individual tenants. How can incubator staff, with general business know-how, assist entrepreneurs who face some product- or industry-specific issue that their own expertise is not capable to solve? They are pretty well able to meet entrepreneurial needs on a more general level. In addition, the study suggests that the tenant mix was only one factor affecting the existence of social capital; equally important was the existing incubator space. Especially, if the space was poorly designed to support rendezvous, or the tenants were located in separate buildings, the level of social capital was considered as significantly low.

Considering tenant interaction, some tenants show genuine loyalty to the incubator community, whereas other tenants admit to being involved due to the subjective benefit for their private business. In general, tenants agree that they benefit from participating in the incubator community because they are able to share experiences and knowledge concerning their business-specific problems and interests. Therefore, the primary reason for being a part of an incubator is to build successful enterprises and cognitively connected relationships with other tenants and members of the incubator network. These are in turn needed to have access to a wider network of information. Almost all co-located tenants agreed that shared space helps co-located entrepreneurs to overcome the loneliness often related to entrepreneurship (Duff, 1994). However, few tenants were ready to share physical open space, which would stimulate further interaction between tenant companies. In addition, none of the business incubators had organized tenants into workgroups, or split the incubator programme into different levels, according to corporate development phase. Interestingly, some tenants felt that the diverse mix of tenants at the incubator made conversation more difficult, which in turn reduced the conditions for resource combination and exchange among members of the incubator. Contradictory to previous studies (e.g. Cohen and Prusak, 2001; Nahapiet and Goshal, 1998), several tenants mentioned the diverse tenant mix as a strength of the incubator, because it enables them to connect networks from diversified lines of business. Finally, the results gathered in the study indicate that some tenants are better suited than others to become members of an incubator community, no matter what industries they represent. On the other hand, possibilities for social association are restricted if companies are representing too diverse lines of business.

All tenants agree that in general the level of trust within the incubator is relatively higher than outside the incubator community. Therefore, it seems that physical and mental proximity increases the level of existing trust and credibility among tenants. The cases where tenants are fierce competitors, the physical closeness might actually increase the mental distance. Interestingly, only one of the examined incubators refuses to accept competing tenants at the same time to the programme. Simultaneously, almost all interviewed tenants view it as incorrect to accept companies operating strategically too close to other tenants' lines of business.

Commonly, incubator managers were seen as central figures in supporting trust that enables networking and social interaction among members of the incubator network. Normally, incubator managers succeed satisfactorily in establishing relationships high in trust among tenants and actors within the incubator network. For this reason, tenants and members of the network seem to be more willing to be engaged in social exchange with each other, rather than with external actors. However, trust and relationships do not exist forever, and especially post-incubates' social associations seem to fade out after they leave the incubator community.

In general, tenants have experienced some form of collaboration with other tenants. This form of action is commonly found valuable because it enables resource combination and mutual benefit for all involved parties. The level of commitment in collaborative actions differs from case to case. Interestingly, the study indicates that the required level of trust may reduce and a higher level of risk may be accepted, in cases where one or both of the parties are located within an incubator. In addition, the incubators have in several cases operated as intermediaries related to trust. In fact, all incubators have at some stage operated as *advisers*, for example, in a tenant's negotiations with governmental financiers. Occasionally, incubator managers personally *guarantee* that the represented tenant is trustworthy (e.g. financial support), but almost never establish customer relationships. All incubators strive to operate as *entrepreneurs*, secure the trust of several actors, combine these actors' resources, and place them in the hands of tenants (Coleman, 1990). In reality, examined incubators seem to be capable of assisting tenants to gain resources from governmental institutions, but find it harder to connect privately maintained resources to tenants. This is probably due to the fact that they are non-profit incubators, financed by the government.

Finally, the results indicate that tenants desire multifaceted factors from the business incubator and its network, but their desires are often contradictory. For example, in structural terms tenants are sometimes ready to profit at other tenants' expense, in order to get hold of a scarce resource available through the incubator network. On the other hand, in cognitive terms, tenants seek belonging and a spirit of comradeship from other tenants. In relational terms, tenants seek safety, trust and identification from being a member of a community. Additionally, being a member of the incubator community indicates in relational terms that certain norms, obligations and expectations are posed to the tenants. Normally, tenants find the framework provided by an incubator as enhancing safety and trust and surprisingly rarely as restrictive. For example, several tenants

agree that their trust in other tenants is at least partially boosted by the incubators' established tenant acceptance criteria, which could be considered as a measure for prestige and trustworthiness.

Conclusions

Three business incubators were included in the study. The aim was to include different types of business incubators operating in different environments and with different kinds of tenant companies. This was done in order to study how space and company mix influences the existence of social capital and business networks. The empirical material was collected in spring 2002 and proposes that entrepreneurs who have received substantial support for the creation of business networks are more satisfied with the services provided by the business incubators than those who have not attained such support.

Another finding was that support, which focuses more on offering space and facilities, is perhaps not the key aspect that business incubators should focus on when supporting entrepreneurs who try to develop a viable business. Although they are important elements, the focus should possibly be more on the development of business networks. This might benefit the tenant companies more in the long run. Business incubators can be of great help in this process if they themselves have good networks and they know how the entrepreneurs can benefit from these. Furthermore, business incubators should carefully consider what kind of tenant mix and industry focus would most effectively stimulate the existence of synergies and commitment among tenants. However, not all entrepreneurs are able to adjust to an incubator community and, thus, such individuals should not be accepted in the first place. In the future, incubators should more systematically involve stakeholders within the incubator network, which would benefit all involved parties, especially current tenant companies (client companies). In addition, incubator space and provided forms of assistance (arranged occasions and services) should be designed to support informal conversation and networking amongst tenants and, moreover, between these companies and stakeholders within the incubator's network.

In summary, it can be said that space and the company mix of an incubator appear to have a role when considering the density of social capital and tenants' access to various business networks. Tenants are not particularly willing to be located in the same incubator with other companies operating within the same industry, as competition is feared. On the other hand, the results indicate that companies from very diverse fields of business have slightly more in common than merely being incubator tenants. Thus, it seems obvious that a business incubator should select companies that are operating somewhat closely to each other, but without overlapping fields of business.

It might be wise for the personnel at the examined incubators to pay more attention in maintaining a social association with post-incubates and especially tenants that for some reason are less active in the incubator community. In general, incubator personnel assist tenants in a good manner to establish and maintain relations with governmental institutions, accountants, lawyers and

mainly government-supported consultants and educators. On the other hand, several tenants expect assistance in establishing similarly beneficial relationships with other possible actors in the incubator network. Such actors could be potential partners, advisers or even mentors. Incubator personnel could also more actively improve the quality and appropriateness of the incubator network structure. However, at the current stage, incubators seem to lack resources that would enable thorough progress of the network thinking. For example, more personnel are required to assist the current number of tenants in gaining access to appropriate networks. On the other hand, quantity cannot replace quality and, thus, appointed personnel must be qualified for the task.

Another aspect that incubator personnel should pay attention to is the selection of companies to the programme. Hence, companies must not be selected just to fill up empty space. Instead, the focus should be on selecting companies that are particularly well suited to the programme, which means that tenants are able to mutually benefit from other tenants' proximity. In addition, the incubator should carefully consider what range of business types should be accepted. Too wide a range will diminish synergic opportunities among tenants, whereas too industry-specific a range might raise competitive issues. Thus, it seems that the best solution would be to select companies that represent different sections of the value-chain or companies that experience different life-cycle stages. This would foster partnerships among start-up teams and tenant ventures. However, one must not forget that the regional entrepreneurial environment might strongly restrict incubators' possibilities for selectivity when choosing suitable tenants. Hence, rural areas often have only a limited base of potential incubator tenants. Vice versa, the regional supply of incubators and, hence, office space might be restricted to one local business incubator.

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Start-ups

Incubation d'entreprises et capital social

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L'idée de fond de cet article est que les pépinières d'entreprises peuvent aider au démarrage d'éventuelles nouvelles sociétés non seulement en confirmant la crédibilité, mais aussi en les aidant à créer des réseaux commerciaux et de soutien prometteurs. Mais, la principale question à l'étude est de savoir comment les pépinières peuvent soutenir les entrepreneurs dans leurs désirs de mettre sur pied des réseaux qui leur soient avantageux, en se souciant davantage du capital social. L'article évalue trois pépinières d'entreprises à but non lucratif, installées dans différentes régions de la Finlande. L'aspect empirique de l'étude mène à la conclusion que les entrepreneurs qui ont bénéficié d'une aide considérable pour les aider à créer des réseaux commerciaux ou de soutien sont plus satisfaits des services des pépinières que ne le sont les sociétés qui n'ont pas obtenu ce type d'aide. Une autre constatation est que ce support – qui privilège le capital nominal – ne constitue pas l'axe sur lequel les pépinières d'entreprises devraient se fixer lorsqu'elles apportent leur soutien à des entrepreneurs désireux de créer un business viable.

Mots clés: incubation d'entreprises; entrepreneuriat; réseaux; capital social; start-ups

Incubación de empresas y capital social

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En este artículo, la idea fundamental es que las incubadoras de empresas pueden apoyar a las compañías en su proceso de desarrollo no sólo respaldando su credibilidad si no que también ayudándolas a crear redes comerciales y de apoyo. La cuestión batallona es cómo las incubadoras de empresas pueden apoyar a los empresarios en sus esfuerzos para crear redes en beneficio propio, centrando la atención en el capital social. El artículo evalúa tres incubadoras de empresas con fines no lucrativos de distintas partes de Finlandia. La materia empírica expone que los empresarios que han recibido una ayuda considerable para la creación de redes de apoyo o comerciales están más satisfechas con los servicios de las incubadoras de empresas que los que no han logrado tal ayuda. También se sacó en conclusión que el apoyo centrado en el capital financiero no es el aspecto clave que deben enfocar las incubadoras de empresas para apoyar a los empresarios que quieren montar un negocio viable.

Palabras clave: incubación de empresas; iniciativa empresarial; redes; capital social; empresas recién establecidas

Unternehmensgründungen

Unternehmensinkubation und Sozialkapital

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Diesem Beitrag liegt die Idee zugrunde, dass Unternehmensinkubatoren junge vielversprechende Firmen in ihrem Entwicklungsprozess unterstützen können, indem sie ihnen

nicht nur Glaubwürdigkeit verleihen, sondern indem sie ihnen auch dabei helfen, vielversprechende Support- und Geschäftsbeziehungen aufzubauen. Bei der Hauptfragestellung der vorliegenden Untersuchung ging es darum, wie Unternehmensinkubatoren durch verschärfte Konzentration auf Sozialkapital solche Unternehmer in ihren Bemühungen zum Aufbau von geschäftsfördernden Beziehungen unterstützen können. Der Beitrag bewertet drei Unternehmensinkubatoren aus verschiedenen Teilen Finnlands, die in ihrer Leitung keinen Erwerbszweck verfolgen. Das empirische Material lässt den Schluss zu, dass Unternehmer, die bei der Unternehmensgründung bzw. beim Aufbau von Geschäftsbeziehungen bzw. Supportnetzen erhebliche Unterstützung erhalten haben, im Vergleich zu denen, die keinen solchen Support erhalten haben, mit den Diensten der Unternehmensinkubatoren zufriedener sind. Als weiteres Ergebnis wurde festgestellt, dass Support, der sich mehr auf das finanzielle Kapital konzentriert, nicht der entscheidende Aspekt ist, auf den sich Unternehmensinkubatoren bei der Unterstützung von Unternehmern, die versuchen ein existenzfähiges Unternehmen aufzubauen, konzentrieren sollten.

Schlagwörter: Unternehmensinkubation; Unternehmertum; Geschäftsbeziehungen; Sozialkapital; Unternehmensgründungen