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Renata Valentina Adlešič

Alenka Slavec

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SOCIAL CAPITAL AND BUSINESS INCUBATORS PERFORMANCE: TESTING THE STRUCTURAL MODEL

RENATA VALENTINA ADLEŠIČ¹
ALENKA SLAVEC²

ABSTRACT: *Social capital is considered as an important factor of innovativeness, organizational advantage and value creation. Although social capital has been widely studied in general, there is a lack of research investigating the role of social capital in relation to business incubators. Additionally, the literature still misses an alternative intangible view of incubators' performance viewed from the perspective of the incubatees. Thus, this study contributes an insight into the social capital and networking exploitation of firms in incubators and evaluates the performance of incubators from the perspective of their incubatees. In specific, we investigate how do social network size, role models, individual experiences, and establishment of a firm as a result of incubator activities influence on proactive exploitation of social networks within incubators. The paper also shows how proactive exploitation of social networks influences on satisfaction with the incubator, and how satisfaction in turn influences on commitment to the incubator and trust in incubator. Data for testing the structural equation model were collected with a structured questionnaire. For the analysis, 125 usable responses were obtained from small firms from Slovenian incubators.*

Keywords: *Social networks, Role models, Satisfaction, Commitment, Trust, Incubator*

JEL Classification: L26; O31

1. INTRODUCTION

The concept of social capital has a long history in social science (Sabatini, 2006) and a wide range of research about social capital has been conducted in different social science disciplines (e.g. sociology, political science, economics) (Adler & Kwon, 2002). The awareness of the importance of social capital in the business context has lead researches into the exploration of the characteristics of social capital. Thus, many studies argue that social capital is a value delivery concept (Adler & Kwon, 2002; Tsai &

¹ University of Ljubljana, Faculty of Economics, Ljubljana, Slovenia, ph. d. student, e-mail: renata.adlesic@gmail.com

² University of Ljubljana, Faculty of Economics, Ljubljana, Slovenia, e-mail: alenka.slavec@ef.uni-lj.si

Ghoshal, 1998). Furthermore, social capital facilitates entrepreneurship (Chung & Gibbons, 1997), start-ups formation, network formation (Gordon, Kogut, & Shan, 1997), entrepreneurial growth aspiration (Liao & Welsch, 2003), innovation (Tsai & Ghoshal, 1998), intellectual capital creation (Nahapiet & Ghoshal, 1998) and firm performance (Batjargal, 2003). It is also important for career success (Burt, 1992) and for financial and human capital exploitation through opportunities received from the social network (Burt, 1992).

Despite the perceived importance of social capital in the economic and business literature, little research has focused on social capital within incubators. This is surprising because business incubators have economic and societal importance and exploring how social capital plays its part will be of use to incubation industry stakeholders. Business incubators are facilities that provide favorable controlled conditions to support the establishment and growth of new ventures and are designed to address innate market failures such as an unequal access to information and capital as well as a lack of focused business advice for new small businesses (Bhabra-Remedios & Cornelius, 2003; Campbell, 1989). They provide their tenants access to administrative support and reduction of early-stage operational costs, such as rent, service fees, etc., which are typical critical barriers which many nascent businesses have difficulty to overcome (Bøllingtoft & Ulhøi, 2005).

But the importance of incubators is not only in their traditionally exposed service-and-space providing role; what even more strengthens their importance are the social capital avenues that can be exploited within an incubator through networking opportunities, getting contacts, advice, and support by other incubates and role models in incubators, the administrative stuff and others who are connected with incubators (Bøllingtoft & Ulhøi, 2005). The latter view of incubators seems essential to overcome the liabilities and difficultness of firm newness since incubatees can assist one another, and sometimes purchase from one another (Hackett & Dilts, 2004). Moreover, incubators provide opportunities for knowledge transfer and experience sharing between incubatees (Bergek & Norrman, 2008). Similarly, Allen and Rahman (1985) proposed that incubators help firms indirectly by placing the entrepreneurial actor in an environment of peers providing social inputs, resources (networks), and psychological support across and between incubatees.

Based on such considerations Bøllingtoft and Ulhøi (2005) proposed the concept of networked business incubators which is a hybrid form of business incubators. Bøllingtoft and Ulhøi (2005) go on and argue that resources and opportunities gained in an incubator can be divided into tangible or intangible. As they put it tangible resources include the physical environment, office and communication services, business services, facilities and equipment, and financing. On the other hand, intangible opportunities or resources include being placed in an environment of peers, the possibility to obtain legitimacy, social inputs, and psychological support. Similarly, Hackett and Dilts (2004) view incubators as a network of individuals and organizations including the incubator manager and staff, incubator advisory board, incubated companies and employees, lo-

cal universities and university community members, industry contacts, and professional services providers such as lawyers, accountants, consultants, marketing specialists, venture capitalists, angel investors, and volunteers.

In line with that, it is important to investigate also the more intangible, social part of incubators and how the exploitation of social networks within incubators takes part, which factors foster it and what are the consequences of such networking exploitation. Thus, this study investigates the influence of social network size, role models, individual experiences, and firm establishment as a result of incubators activities on proactive exploitation of social networks within incubators. We include some variables on the entrepreneur side to investigate how a size of their networks and their experiences influence the exploitation of networks within incubators.

In addition to that, several studies in other related fields have concluded that there exists a positive influence of exploitation of social network's resources on satisfaction (Garbarino & Johnson, 1999; Morgan & Shelby, 1994). Yet, no previous research has investigated this influence in the environment of an incubator although digging in what makes incubatees satisfied with incubators, which eventually makes incubatees to appreciate being in an incubator and to develop an intention to stay, would be of great value for incubators. Therefore, this will be the first research that will investigate the influence of incubatees' exploitation of social network's resources within incubators on incubatees' satisfaction with incubators. Incubators are the right place for newly firms to connect to other firms, to gain knowledge from services provided by incubators or by the interaction with older firms and role models in the incubator. The more beneficial the exploitation is the higher the incubatees' satisfaction is expected to be.

Satisfaction is, too, an intangible construct that we introduce in our research and traditionally the level of satisfaction with a service, product, organization, etc. is proved to impact on the degree of commitment to and trust in such service, product, or organization (Kwon & Suh, 2004). Is this the case also in the incubatees-incubator relationship? We investigate this relationship based on two streams of theories. The first is the organizational citizenship literature by which we can see the incubatees as citizens of the incubator. And the second is the theory of supply chain management from which we can draw parallels in the sense that incubatees can be treated as customers and the incubators as their suppliers. In so doing we open up a new perspective of evaluating incubators' performance – an intangible measuring of incubators' performance viewed from the perspective of incubatees.

Our proposition of such intangible indicators of incubators performance springs from considerations that there is still a lack of a complete evaluation framework of business incubators performance (Bhabra-Remedios & Cornelius, 2003; Hackett & Diltz, 2004; Mian, 1991, cited in Mian, 1997; Phan, Siegel, & Wright, 2005) that would evaluate also more intangible measures of success. Traditionally, the tangible parts of business incubators' resources have been applied as indicators of incubators performance. For example, incubators' performance was measured by leased space and incubatees' ability to meet

monthly expenses, expansion and the ability of tenant companies to eventually stand on their own, number of training programs carried out, number of firms that left the incubator, number of distinct services that are available to clients, and average incubation time (Allen & McCluskey, 1990; Bøllingtoft & Ulhøi, 2005; Chan & Lau, 2005; Fry, 1987; Smilor & Gill, 1986). It is obvious that the emphasis was on the directly measurable aspects; but there has been less focus on the indirect and social aspects (Bøllingtoft & Ulhøi, 2005). Chan and Lau (2005) came pretty close and proposed nine sets of criteria for the incubator assessment framework: advantages from pooling resources, sharing resources, consulting services, positive effect from higher public image, networking advantages, clustering effect, geographic proximity, cost subsidies and funding support, thus including also a minor intangible part. However, investigating and understanding how well incubators are doing is of interest to different incubation stakeholders (e.g. researchers, practitioners, incubatees, potential incubatees, incubators and money-resources providers) due to their importance in promoting the development of new firms, innovativeness and economic development (Bergek & Norrman, 2008).

Only recently, some alternative views on incubators performance have been proposed. For example, Bergek and Norrman (2008) suggested a framework that can serve as a basis for identifying best practice incubator models where incubators goals are taken into consideration. But what still is missing is the evaluation of business incubators performance viewed from the perspective of those who are the users of their services, i.e. the incubatees. Therefore, while acknowledging the predicative value of previous tangible measures of incubators performance, in this paper we propose a more intangible view for the evaluation of incubators performance using incubatees' satisfaction with, commitment to and trust in incubators as indicators. Commitment is an essential part of successful long-term relationships (Gundlach, Achrol, & Mentzer, 1995). Commitment has been identified as being associated with positive effect and loyalty (Kanter, 1972), involvement and motivation (Mowday, Porter, & Steers, 1982), and performance and obedience to organizational policies (Angle & Perry, 1984). Similarly, the customer relationship literature suggests that trust is gained through satisfaction with a relationship (e.g. Batt, 2003; Garbarino & Johnson, 1999; Kwon & Suh, 2004; MacKenzie & Hardy, 1996). However, no previous research has investigated such relationships in a business incubation environment, but both, commitment to and trust in incubators, are important in the incubatees-incubator relationship because they are indicators of a good conduit of the incubation process.

To sum up, with this study we try to answer the following research question: What are the antecedents and consequences of proactive exploitation of social networks within an incubator and what is the business incubators' performance viewed from the perspective of incubatees. The aim of this paper is to develop and test a model of social capital within incubators and investigate three streams of relationships that have not been analysed before. First, we fill the existing gaps in the literature in regard to social capital in incubators by analysing how social network size, role models, individual experiences, and firm establishment as a result of incubators activities impact on proactive exploitation of social networks within incubators. Secondly, we advance the understanding of the

influence of proactive exploitation of social networks within incubators on incubatees' satisfaction with incubators. And lastly, we uncover the impact of incubatees' satisfaction on incubatees' commitment to and trust in incubators.

For the purpose of this paper we use Boxman's et al. (1991) definition of social capital by which "social capital is a combination of the number of people who can be expected to provide support, and the resource those people have at their disposal; it is a means of production that produces better conditions of life." We define incubators based on the view of The American National Business Incubation Association (www.nbia.org) as "an economic development tool designed to accelerate the growth and success of entrepreneurial companies through an array of business support resources and services". We set our model of social capital and business incubators' performance from the perspective of incubatees'. However, this model can help understanding social capital exploitation within incubators and incubators' performance a wide range of incubation stakeholders - not only incubators, incubates, nascent and established entrepreneurs but also policy-makers and resource allocators.

This paper is structured as follows. In the next section, we present the literature review that will facilitate us in postulating our research hypotheses. In what follows, the methodology and results of the study are presented. Finally, in the conclusion we discuss the results, give suggestions and propose some implications.

2. HYPOTHESES DEVELOPMENT

There is an increasing research interest in incubators since incubators represent a supportive business networks for nascent and new firms (Aernoudt, 2004). Overall, research on social capital is diverse; however, it also emphasizes the role of networking for the successful development of social capital (Baron & Markman, 2003). Researchers also emphasize the social aspect of the entrepreneur as the main factor of development and business success (Hoang & Antonic, 2003). At the same time, incubators can provide entrepreneurs appropriate networking avenues when business needs are considered (Lyons, 2002). Furthermore, networking will help entrepreneurs overcome obstacles on their entrepreneurial endeavour (Lee & Osteryoung, 2004). Rice and Matthews (1995) state that incubators' networks provide access to resources and knowledge that entrepreneurs often lack; and having a vast network seems necessary. Networking in the incubator provides great value in starting a business because it helps establish a relationship, increase the number of educated people and obtain advice from external experts (Bøllingtoft & Uihøi, 2005). Hansen et al. (2000) add that business incubators possess various mechanisms and tools that contribute to effective business networking progress.

Based on these considerations, in this section we develop the conceptual model of the determinants that influence on proactive exploitation of social networks within incubators, satisfaction with incubator, and trust and commitment to incubators.

2.1 Experience and proactive exploitation of social networks

Previous research investigated the relationship between business ownership experience and business outcomes (Baron & Ensley, 2006; Ucbasaran, Westhead, & Wright, 2009; Westhead & Wright, 1998), but there is a lack in the literature regarding the investigation of the influence of the amount of experience an entrepreneur has gained on the proactive exploitation of social networks within an incubator. Furthermore, new firms often lack the necessary management skills and experience to cope with sudden environmental shifts and rapidly changing environment (Bruneel, Ratinho, Clarysse, & Groen, 2012). The process of learning helps incubates to change their behaviour. In addition, the accumulation of knowledge and experience facilitates firm growth and development (Penrose, 1959). While young firms are usually resource constrained (Phillips McDougall, Shane, & Oviatt, 1994), in their beginnings they usually rely on experience of their partner firms (Yli-Renko, Autio, & Sapienza, 2001) or others who support the firm with advice, support, services, space, management or funds (e.g. social networks within incubators) (Aaboen, 2009; Löfsten & Lindelöf, 2005; McAdam & McAdam, 2008). Baron (2009) explained that as a function of starting and running many new ventures, highly experienced entrepreneurs shift toward the use of effectual logic in their decision-making activities. Therefore, we argue that more experience and knowledge gained through years of employment would decrease the proactive exploitation of social networks within incubators, because through several years of employment entrepreneurs accumulate sufficient resources and knowledge and they also widen their social network which results in a less dependent and less relievable relationship. Accordingly, more experienced entrepreneurs exploit social ties within incubators less proactively. From these considerations, we postulate our first hypothesis:

Hypothesis H1: Experiences have a negative influence on the proactive exploitation of social networks within incubators.

2.2 Role models and proactive exploitation of social networks

Many entrepreneurs claim that their business start-up decision and the development of their business have been influenced by others (Bosma, Hessels, Schutjens, Praag, & Verheul, 2012). As Gibson & Barron (2003) pointed out, role models refer to “cognitive construction based on the attributes of people in social roles that an individual perceives to be similar to in terms of attitudes, behaviours, goals, or status position to him or herself to some extent and desires to increase perceived similarity by emulating those attributes”. In addition, role models provide living evidence that certain goals are achievable (Bosma et al., 2012). Based on these considerations, we argue that also newly incubated firms may acquire some role models in older incubated firms. They may even have role models in successful firms or individual entrepreneurs that have left incubators. This new firms wish to emulate characteristics of role model firms and they want to resemble them. Therefore, young firms will eventually try to establish social ties with their role models to acquire knowledge, contacts, advice, support and

other resources. Tötterman and Sten (2005) state that the value of using service providers in the incubator depends on the utilization of these services. As a consequence, role models in incubators stimulate the proactive exploitation of social ties within incubators. Additionally, research in other fields suggests that role models contribute to the development of an individual by serving as a source of learning, motivation, self-definition and career guidance (Gibson, 2004; Lockwood & Kunda, 1999; Murrell & Zagenczyk, 2006). In fact, many entrepreneurs find information on markets, industries, administrative regulations and potential pitfalls through their social network (Ozgen & Baron, 2007; Schutjens & Stam, 2003). Therefore learning from and being motivated by role models also in incubators will extend the proactive exploitation of social ties within incubators. To summarize this discussion, we propose our next research hypothesis:

Hypothesis H2: The greater the number of role models within incubators, the greater will be the proactive exploitation of social networks within incubators.

2.3 Social network size and proactive exploitation of social networks

Fukuyama (1995) argues that high levels of social capital lead to more social relationships and help adapting organizational structure to technology and market needs. Cross and Prusak (2002) pointed out that social capital is the manager's competitive advantage since it represents an invaluable source of useful information that is crucial for the success of a business. Entrepreneurs are much more successful when they have business connections with other entrepreneurs and various institutions (e.g. banks, consultants, information's centres) (Smilor, 1986). Particularly in knowledge-intensive companies (e.g. incubator companies) creating an informational environment that helps employees solve increasingly complex and often ambiguous problems significantly contributes to performance (Kase & Zupan, 2007). Likewise, entrepreneurs' social competences and their social capital often enables access to important individuals or groups who may have a key role in defining the outcomes they experience (Baron & Markman, 2000).

Social capital is a valuable source of information benefits which represent the relation of information channels to ensure the collection of information (Nahapiet & Ghosal, 2000). Yli-Renko et al. (2001) investigated the influence of social interaction and network ties dimension on knowledge acquisition and knowledge exploitation of entrepreneurial high-tech firms. They found a positive interaction between social interaction and network ties dimension and knowledge acquisition. Additionally, they propose a positive influence of knowledge acquisition on knowledge exploitation. Therefore, wider social network will result in greater exploitation of knowledge from social networks. This discussion is summarized in the next research hypothesis:

Hypothesis H3: The wider the social network, the greater will be proactive exploitation of social networks within incubators.

2.4 Firm establishment as a result of incubator activities and proactive exploitation of social networks

Firm establishment refers to the decision to start a new business. Entrepreneurial process unfolds over time and moves through a number of different phases: (1) the idea for new product or service and/or opportunity recognition, (2) initial decision to proceed, (3) assembling the required resources, (4) actual launch of the new venture, (5) building a successful business and harvesting the rewards (Baron & Markman, 2003; Peters, Rice, & Sundararajan, 2004). Furthermore, the entrepreneurial literature agrees that access to networks is important for small companies and new ventures (Birley, 2000; Bøllingtoft, 2012; Johannisson, 2000). Based on this consideration, we investigated whether firm establishment as a result of incubator activities fosters a proactive exploitation of social networks. Incubators can directly provide some of the resources based on firm needs as well as indirectly by providing access to resources via formal and informal networking (Peters et al., 2004). Incubators typically seek to provide a nurturing business environment by actively ensuring that start-up firms get the sources, services and assistance they need (Bøllingtoft & Ulhøi, 2005). One of the typical services is access to professional services through a network of contact (Bøllingtoft & Ulhøi, 2005; Chan & Lau, 2005; Hackett & Dilts, 2004; McAdam & McAdam, 2008; Nowak & Grantham, 2000; Ratinho & Henriques, 2010), which can help tenants in the entrepreneurial process. According to Leana (1999) organizational social capital allows more flexible organization, acts as a mechanism for collective action and also influence on the development of intellectual capital in the company. If a firm is established based on some incubator activities, an entrepreneur can see the benefits of the incubator network more clearly, therefore, he/she will proactively exploit social networks within incubators. Based on these considerations, we postulate the following hypothesis:

Hypothesis H4: Firm establishment as a result of incubator activities has a positive influence on proactive exploitation of social networks.

2.5 Proactive exploitation of social networks and satisfaction with incubator

In the incubator environment, incubatees are given a wide access to networks in terms of common meeting rooms, regular events inside and outside of an incubator, meetings with advisors, etc. These environments enable entrepreneurs to communicate, share experiences, learn and find new ideas or opportunities. In turn, a proactive exploitation of social network in incubators fosters incubatees' satisfaction with service provided by their incubators (Abduh, D'Souza, Quazi, & Burley, 2007).

However, also the social network literature suggests that exploitation of social networks brings satisfaction to social network members. For example, in their study Baldwin et al. (1997) analysed network effects on student satisfaction with master of business administration (MBA) program and found that individual communication centrality measured as the degree to which an individual is close to all other actors in a network has a

positive influence on program satisfaction. Baldwin et al. (1997) explain that centrality exists when an individual who is maximally close would have direct, unmediated relationships with all other members of the network. Specifically, the authors found that individual centrality in the communication friendship networks had a positive influence on perceptions of learning and enjoyment of the program. Thus, network centrality avails students with resources and support to a greater degree than their less central colleagues. From these considerations we propose that centrality stimulates students for a more proactive exploitation of social networks since central students may feel more important and involved in these networks. Exchange of views and knowledge between entrepreneurs enables greater confidence and provides certainty in the actions of other individuals. When an entrepreneur trusts the other side, he/she acts in a better way and avoids problems in the relationship (Aldrich, 1999, cited in Lechner, Dowling, & Welp, 2006). Similarly, collaborating relationship and information flows create satisfaction between incubatees. Since also incubators are environments where nascent entrepreneurs learn new things and skills, it is important for these entrepreneurs to be actively involved in proactive exploitation of social networks within incubators. Analogue to students' centrality and satisfaction with MBA program we argue that also more central entrepreneurs will proactively exploit social networks within incubators and this will result in greater satisfaction with incubator. All things concerned, the following hypothesis summarizes our considerations:

Hypothesis H5: Proactive exploitation of social networks within incubators has a positive influence on satisfaction with incubator.

2.6 Satisfaction with incubator and commitment to incubator

One of the purposes of business incubators is to provide satisfaction with the supporting services for their clients, i.e. incubatees. Satisfied incubatees are likely to see the benefits of incubators' programs positively and so they will eventually provide positive word-of-mouth to potential clients and in this sense incubatees will be committed to their incubators. Thus, it seems important to uncover the relationships between the perceived expectations of clients and the performance of services provided by incubators (Abduh et al., 2007). However, the proposed relationship between incubatees' satisfaction with incubators and their commitment to their incubators has not been tested yet.

Commitment has been widely explored in the organizational and customer-relationship literature. Organizational commitment is represented as a "psychological bond" to the organization that tries to bias individuals to function in ways that are consistent with the interests of the organization (Mowday & McDade, 1979; Porter, Steers, Mowday, & Boulian, 1974). Furthermore, researchers explained that commitment is one of the main ingredients of a successful long-term relationships (Andaleeb, 1996; Gundlach, Achrol, & Mentzer, 1995).

So, we drew parallels from the organizational citizen behaviour research, which investigates the relationships between organizational commitment and satisfaction among

employees (Mamman, Kamoche, & Bakuwa, 2012). Like the individuals, companies have also the need for commitment, that's why researchers and practitioners are interested in the relationship between satisfaction and commitment. They both believe that employees with strong affective commitment to the organization perform better than those with lower levels of affective commitment (Aghdasi, Kiamanesh, & Ebrahim, 2011). Furthermore, recent studies proved positive correlations for the relationship between satisfaction and commitment (Ramaseshan, Yip, & Pae, 2006). We argue that incubated firms can be viewed as citizens of their incubators; therefore commitment to incubator can be achieved from a satisfactory relationship between incubated firms and incubators. If services that are offered by incubators are satisfactory, incubated firms will be committed to their incubators. Nevertheless, Garbarino and Johnson (1999) propose that satisfaction has a mediating role on customer trust and commitment.

Additionally, in proposing our hypothesis on the influence of incubatees' satisfaction on their commitment to incubators we take into consideration the customer-relationship literature which states that satisfaction with a relationship between business partners has a positive influence on commitment (e.g. Wetzels, Ruyter, & Birgelen, 1998). Based on this argument, incubatees can be viewed as customers of their incubators and being satisfied with services and support provided by their incubators fosters incubatees' commitment to their incubators.

From these considerations, we propose the next hypothesis.

Hypothesis H6: Satisfaction of incubated firms with incubator lead to incubated firms commitment to incubator.

2.7 Satisfaction with incubator and trust in incubator

There is a gap in the literature regarding the influence of satisfaction of incubated firms with incubator on their trust with incubator. Therefore, theory from other research fields will help us in developing the related hypothesis on incubatees' satisfactions and incubatees' trust in incubators.

A key factor in the company to function successfully and achieve business success is trust. Companies try to achieve the stage when trust becomes a habit between employees. Trust helps develop stability between employees (Cohen & Prusak, 2001). Furthermore, in the scientific literature about customer relationship the correlation between satisfaction and trust has been widely inspected (e.g. Batt, 2003; Garbarino & Johnson, 1999; Kwon & Suh, 2004; MacKenzie & Hardy, 1996). Additionally, Kwon and Suh (2004) found a positive and significant influence of perceived satisfaction on trust. The authors argue that business relationship that results in a sustained degree of satisfaction usually contributes to a more powerful trust-building process. Similarly, MacKenzie and Hardy (1996) suggest that trust increases as satisfaction increase. Furthermore, Batt (2003) suggests that satisfaction with transactions between partners has a positive impact on trust.

These findings lead us into the consideration that also satisfied incubated firms with their incubators will perceive incubators as more trustworthy, since incubated firms can be seen as customers of incubators.

Similar relationships exist in the field of organizational citizenship behaviour. Organizational-politics-researchers have argued that an act of organizational citizenship behaviour can be interpreted by leaders and coworkers either as a positive other-serving act driven by a sincere desire to contribute or as a negative self-serving attempt at ingratiation (Ferris, Bhawuk, Fedor, & Judge, 1995, cited in Bowler, Halbesleben, & Paul, 2010). Based on the organizational citizenship theory we derive the analogy for the incubatees-incubator context and propose incubatees as citizens of incubators. Incubatees that are more satisfied will trust their incubators more and will eventually become their citizens in a sense that they will have the desire to develop, contribute to the performance of the incubator, and diffuse positive word of mouth.

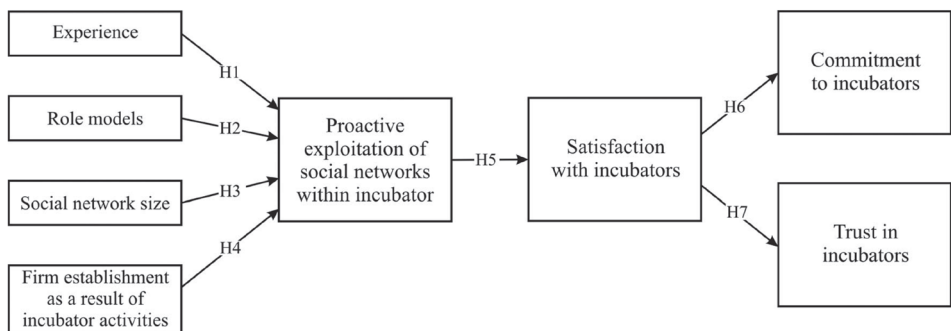
On the basis of this discussion we postulate our last research hypothesis.

Hypothesis H7: Higher satisfaction of incubated firms with their incubators leads to a more trustworthy relationship.

2.8 The proposed model

The proposed model with corresponding research hypotheses is presented in Figure 1.

Figure 1: *The proposed model*



3. METHODOLOGY

3.1 Sample and data analysis

A survey instrument was developed based on an in depth literature review. The survey was mailed to the representative random sample of 290 entrepreneurs, which have their

firms in Slovenian business incubators. A representative random sample with 125 usable responses was obtained. The tailored design method (Dillman, Smyth, & Christian, 2009), which was used to guide and support the survey process, thus resulted in a valid response rate of 43%.

The sample consisted of 24% female entrepreneurs and 74% male entrepreneurs. The structure of the educational level was the following: 1 respondent finished a vocational school (1%), 18 respondents (14%) finished high school, 12 respondents (9%) had an associate's degree, 56 (45%) a bachelor's degree, 22 (18%) a master's degree, and 16 (13%) a doctorate degree. On average, the respondents have worked for 13,8 years from their first employment until the year 2009. On average, the incubated firm was 1,8 years old.

The missing data were considered to be missing completely at random and not to be influential because of the low percentage of missing data and no pattern in the missing data spread across variables (Hair, Black, Babin, & Anderson, 2010; Rubin, 1976). Constructs' convergent validity and discriminant validity was assessed using exploratory and confirmatory factor analyses (Floyd & Widaman, 1995). The EQS Multivariate Software version 6.1 was used for structural equation modelling. Since a small amount of non-normality was present in the data, the structural relationships were estimated using the ERLS method. ERLS method minimizes the problems deriving from data skeweness and kurtosis and is otherwise comparable with the maximum likelihood method (Sharma, Durvasula, & Dillon, 1989). As recommended by several scholars (e.g. Shook, Ketchen, Hult, & Kacmar, 2004), the fit of the model was assessed with multiple indices: NFI (normed fit index) and NNFI (non-normed fit index) (Bentler & Bonett, 1980), CFI (comparative fit index) and SRMR (standardized root mean square residual) (Bentler, 1990), GFI (goodness of fit index) (Jöreskog & Sörbom, 1984), and RMSEA (root mean square error of approximation) (Bentler, 2006).

3.2 Measures

Experience was measured with the entrepreneur's total years of employment in any field (Davidsson & Honig, 2003). Role models were measured with one item on a five-point scale ranging from 1 ("not important at all") to 5 ("very important"). Respondents were asked to indicate the degree of importance of other older incubated firms for their incubated firm (Totterman & Sten, 2005). Social network size was measured with the number of friends, co-workers, business partners, classmates, and others with whom the respondents talked about important matters for the firm in the last three months (Burt, 1984). Firm establishment as a result of incubator activities was measured with a dichotomous variable (1-firm was established as a result of incubator activities; 0-firm was not established based on incubator activities). We derive this item based on the purpose for creating incubators – the development and growth of new businesses (Bhabra-Remedios & Cornelius, 2003; Campbell, 1989).

Proactive exploitation of social networks within incubator was measured with two items. Respondents were asked to indicate (on a 5-point Likert scale ranging from “strongly disagree” to “strongly agree”) how strongly they agree or disagree with the following two statements which were adapted from (Hughes, Ireland, & Morgan, 2007) study: (1) “We regularly attempt to obtain assistance from network businesses available through the incubator”, and (2) “We regularly participate in networks available through the incubator”. Cronbach’s alphas of 0.89 was above the threshold of 0.70 (Hair et al., 2010), indicating strong internal consistency of items operationalized to measure the construct.

Satisfaction with the incubator was measured with 12 items presented in Table 1. Respondents were asked to indicate (on a 5-point Likert scale ranging from “strongly disagree” to “strongly agree”) how strongly they agree or disagree with the 12 items, whereat the first 9 items were adopted from Totterman and Sten (2005) and the last three items were adopted from Chow and Chan (2008). An exploratory factor analysis was conducted to confirm that all 12 items measure the same factor. Cronbach’s alphas of 0.92 were above the threshold of 0.70 (Hair et al., 2010).

Table 1: *Satisfaction with the incubator: items and factor loadings*

Item	Factor loadings
1. Incubator provides assistance to find appropriate resources for tenants.	0.75
2. Incubator is capable to provide scarce resources	0.69
3. Tenants' can benefit from other tenants in incubator	0.63
4. Incubator offers relevant space for stimulating the level of social interaction	0.59
5. Incubator personnel support trust, networking and social interaction among tenants	0.75
6. Level of commitment amongst tenants in their collaborative actions is high	0.67
7. I am satisfied with official meeting with other tenants	0.58
8. I am satisfied with unofficial meetings with other tenants	0.75
9. I am satisfied with tailor-made education occasions for tenants.	0.58
10. Incubator personnel will always try and help me out if I get into difficulties	0.77
11. I can always rely on incubator personnel to lend me a hand if I need it	0.83
12. I can always rely on other tenants to lend me a hand if I need it	0.75

Extraction method: maximum likelihood. Rotation method: Oblimin with Kaiser Normalization. N = 125. Bartlett's test of sphericity: approx. chi-square of 817.71; 66 df; sig. 0.000. Kaiser-Meyer-Olkin measure of sampling adequacy: 0.92. Variance explained: 48.7%.

Commitment to incubator and trust in incubators were both measured with one item adapted from Totterman and Sten (2005). Respondents were asked to indicate (on a 5-point Likert scale ranging from “strongly disagree” to “strongly agree”) how strongly they agree or disagree with the following statement related to commitment to incubator: “Tenants in incubator interact and are loyal to the incubator”, and with the following statement related to trust in incubator: “Level of trust and credibility within the incubator is high”.

4. FINDINGS

The resulting model's goodness-of-fit indices indicated good model fit (chi-square = 303.722, 248 df, probability 0.00901; NFI = 0.92; NNFI = 0.98; CFI = 0.94; GFI = 0.82; SRMR = 0.07; RMSEA = 0.04). The EQS encountered no special problems during optimization. Examination of the hypotheses is presented in the following paragraphs. Structural equations with standardized coefficients are shown in Table 2. All hypotheses were supported at the significance level of 0.05.

Table 2: *Structural equations with standardized coefficients*

<i>Independent variables</i>	<i>Dependent variables</i>			
	Proactive exploitation of social networks within incubator	Satisfaction with incubator	Commitment to incubator	Trust in incubator
Experience	-0.22*			
Role models	0.35*			
Social network size	0.22*			
Firm establishment as a result of incubator activities	0.21*			
Proactive exploitation of social networks within incubator		0.65*		
Satisfaction with incubator			0.77*	0.72*
R-squared	0.261	0.419	0.591	0.524

*Legend: * Sig. < 0.05*

First four hypotheses were related to different predictors of proactive exploitation of social networks within incubator. The variance explained for the proactive exploitation of social networks within incubator was 26.1%. Hypothesis H1, which predicted that the experience is negatively related to proactive exploitation of social networks within incubator, was supported (significant standardized coefficient of -0.22). The results also support hypothesis H2, which examined the impact of role models on proactive exploitation of social networks (significant standardized coefficient of +0.35). Role models were found the most important predictor of proactive exploitation of social networks within incubator. Hypothesis H3 proposed that social network size would have a positive influence on proactive exploitation of social networks within incubator. The results presented in Table 2 indicate that social network size has a significant positive influence on the dependent variable (significant path coefficients of +0.22). Hypothesis H4 predicted the positive influence of firm establishment as a result of incubator activities on proactive exploitation of social networks within incubator. Empirical results were found in support of hypothesis H4 (significant standardized coefficient of +0.21).

Hypothesis H5 examined the impact of proactive exploitation of social networks within incubator on satisfaction with incubator. The results presented in Table 2 indicate that proactive exploitation of social networks within incubator statistically significantly pre-

dicts satisfaction with incubator (standardized coefficient of +0.65). The variance explained for the satisfaction with incubator was 41.9%. Hypothesis H6 and hypothesis H7 examined the influence of satisfaction with incubator on commitment to incubator (H6) and trust in incubator (H7). Hypotheses H6 and H7 were supported, since the results indicate the significant positive relationship between the satisfaction with incubator and commitment to incubator and trust in incubator (positive and significant standardized coefficients of +0.77 and +0.72, respectively). The variance explained for the commitment to incubator was 59.1% and for the trust in incubator was 52.4%.

5. DISCUSSION

With this study we contributed to the literature in two ways. First, we uncovered the antecedents of social capital exploitation within incubators by investigating the influence of individual experiences, role models, social network size, and firm establishment as a result of incubators activities on proactive exploitation of social networks within incubators. All the proposed relationships were proved to be significant. These results confirm our proposition that incubators are important not only for their traditional service-and-space providing role activities but also for the networking and social capital avenues that are at the disposal of the incubatees.

And second, we investigated the antecedents and consequences of incubatees' satisfaction with incubators. In specific, we contributed to the understanding of the influence of proactive exploitation of social networks within incubators on incubatees' satisfaction with incubators. Having the opportunity to network in an incubator environment and gain something out of it makes incubatees satisfied with their incubator. And in addition to that we took an alternative view of measuring incubators performance and proposed commitment to and trust in incubators as indicators of incubators performance viewed from the perspective of incubatees. Commitment to and trust in incubators are the outcomes of incubatees satisfaction with incubators. So, it is also important to view incubators performance from the perspective of those who make use of their services and resources. The results of the study showed that incubatees' proactive exploitation of social networks within the environment of an incubator has a significant positive influence on incubatees' satisfaction. In turn, satisfaction with incubators significantly and positively impacts on incubatees' commitment to and trust in incubators.

These results have implications for different incubation industry stakeholders. In the first line, the incubators and their management are given a clear message that social capital and networking avenues matter. Even more, incubators have to make this soft and intangible element at the disposal of their incubatees. In addition, it seems obvious that it is important to have some incubatees that serve as examples of best practice, smooth conduit or role models from whom newly incubatees can learn, take advice, identify themselves or try to apply the good practices also in their new businesses. Incubators should strive to make success stories out of every incubatee by offering professional assistance, seminars, training programs, workshops, formal and informal meetings, and

invite speakers to have lectures and for networking. In this manner incubatees will have the opportunity to exploit the networking avenues in incubators. In turn, more networking exploitation will resemble in increased incubatees' satisfaction with incubators.

However, the exploitation part is also in the domain of the incubatees. The results of our research show that exploitation is fostered by a larger network of contacts. It can be implied that those incubatees, nascent entrepreneurs or entrepreneurial teams who have larger and diversified networking area (e.g. friends, family, peers, advisors, and coworkers) are more prone or more confident to exploit networking opportunities within incubators. Networks can provide the entrepreneur seed capital, equipment, money, information, contacts, advice, and moral support (Birley, 1985; Hutchinson, 1995; Waldinger, Aldrich, & Ward, 1990). So, widening their social network out of the incubators environment will have positive influences on incubatees' exploitation of network resources and in turn on their satisfaction. As in many cases, the more the experience one has the more will benefit from different situations because they will know how to act and what is to be exploited.

Nevertheless, it is the duty of both, incubatees and incubators, to make their best to establish a firm, possible fast growing, out of a great business idea. So, incubators should give at the disposal of the incubatees everything that is needed to develop and elaborate a business idea into a new venture, but incubatees have to be prone to take advice and suggestions to make this idea work. It is to say that an entrepreneur will get his/her credibility by establishing a firm and this will make him/her more confident to exploit networks within an incubator.

Our results also imply that satisfied incubatees will be more committed to their incubator and will have trust in their incubator which is in line with theories on organizational citizenship and customer relationship. Such incubatees will presumably work better and will share positive word of mouth about their incubator. This may attract potential incubatees and nascent entrepreneurs and such firms may become their role models.

Finally, well performing incubators and incubatees represent the future development of the economy and innovation of a country. So, realizing which are the best practices, how well are incubators performing and which intangible elements matter for an incubatee to be satisfied is of interest to those who invest in incubators.

Based on the results of the study we propose that incubators measure their incubatees' satisfaction and take suggestions for a better conduit in order to gain insights on what should be improved. In such manner incubators would better meet the needs of their incubatees in terms of support activities, networking activities, seminars and training programs.

Although all proposed research hypotheses have been accepted we suggest further research on this topic since this is the first study that investigated the determinants of proactive exploitation of social networks within incubators, satisfaction of incubated

firms with incubator, and incubated firms commitment to and trust in incubator. Some of these concepts have been widely inspected in the consumer-relationship scientific literature, but no such research has been found in entrepreneurship literature. To enhance the model's robustness, it would be interesting to compare the findings of this research to findings based on samples from other countries.

There are two main limitations of this study. First, we were able to use only single item measures for some constructs. So, we propose that further evaluations are carried out with multiple-item measures and the model tested with improved measures. Second, the model was tested only on Slovenian incubatees and incubators, so future research should test the proposed model also on other samples.

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