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The Concept of Engineered Serendipity: How Business Networks Develop Around the University Business Incubator

Cravero Irene

Ph. D. Candidate University of Turin

Abstract: **This paper aims to broaden understanding how strategic opportunities for small business to enhance their competitiveness and improve their performance are multiplied when they are located in a trusted safe environment, such as the university business incubator. Evidence from the study of the evolution of a portfolio of high technology firms, with different market maturity and size, supported by a University Business Incubator in the United Kingdom, shows that the incubator environment can enhance the development of social networks that act to create the circumstances and the prolific environment to "make things happening". A networked incubator can provide tremendous value to a small firm through connections that might help develop crucial strategic partnerships, recruit key people, and obtain visibility. This paper seeks to add to the university business incubator literature by exploring how such an environment enhances the development of internal networks among small firms, supporting the new entrepreneurs during the vital stages of firm foundation, and then facilitating progress towards growth strategies. The empirical material for this study was gathered from a tenant survey carried out at the University of Southampton Science Park.**

Keywords: **Networks, business incubators, inter-organisational relationships, networked incubator, university incubators, cooperation.**

1. INTRODUCTION

1.1 Research Background:

Companies' relationships are becoming a crucial strategy in today's business, especially for Small and Medium sized enterprises (SMEs) whose competitiveness has been undermined by several multi-sector crises and lack of proper resources. SMEs are recognizing the importance of inter-organizational relationships and of the development of close connections with other businesses despite having been usually described as individualistic (Capelli, 2012). Actually, SMEs are trying to find effective solutions of inter-organizational cooperation in order to improve production processes and to increase competitiveness by leveraging common practices, knowledge and innovation.

It has been recognised that networking is crucial for companies' competitiveness, especially for SMEs suffering the lack of financial resources and governmental austerity policies, therefore, networking practices become fundamental to gain market share, extend and integrate the supply chain, decrease costs, deploy new offerings, integrate and leverage innovation strategies and other competitive factors (Barringer and Harrison, 2000, Shaw, 2006, Coltorti, 2009). Due to the global economic downfall, companies' ability to innovate and remain competitive on the market is a factor of essential importance in current economic policy, thus the presence of technology-based firms in a region is important and need to be sustained (Acs and Audretsch 1992; OECD 2001; Wright et al. 2004). This need to innovate and develop new processes and systems, is pushing companies to rely also on knowledge sourced from external sources such as universities, rather than just the knowledge internally possessed or generated by individual firms (Nelson and Rosenberg 1993; Freeman 1995; Freeman 1987; Chesbrough 2003; Cooke, Heidenreich, and Braczyk 2004; Lawton Smith and Bagchi- Sen 2006). Therefore, universities are increasingly playing the role of knowledge-producing entities, leading

actors in driving innovation and growth as knowledge providers for business and industry (Foray and Lundvall 1996; Garlick 1998; Kitagawa 2004; Huggins, Johnston, and Steffenson 2008). The current model thus emphasises the need for multidisciplinary and interactive knowledge production among different actors, such as governments, universities and research institutions, and firms, according to the "Triple Helix" for innovation presented by Leydesdorff and Etzkowitz (1998). As a consequence, increasingly over the past decade cooperative and collaborative research and development arrangements, based on the formation of inter-organisational networks, have emerged as key strategies for meeting the challenge of fostering both the development and uptake of the innovative techniques and practices necessary to raise performance across a range of sectors (Powell, Koput, and Smith-Doer 1996; Swan, Scarbrough, and Robertson 2003).

Universities may also be able to assist in through stimulating, managing, and dispersing innovation to SMEs relying on other support structures, such as the business incubator, that is also defined by authors as a modern enterprise development tool employed by some entrepreneurial universities to provide support for nurturing new technology based firms (Mian, 1994a, 1996). The incubator is a connector between know-how, technology and capital, acting to develop entrepreneurial talent, to accelerate new companies' growth, and thus speed the commercialization of technology (Smilor and Gill, 1986). New venture firms are vulnerable and likely to face problems associated with being new and the lack of technical capabilities and social connections (Miller and Marcel, 1987). The University business incubator aim is to help on these weaknesses, providing these elements in the form of a variety of incubator services and other inputs from the surrounding university environment that would stimulate technological entrepreneurship (Bullock, 1985; Mian, 1994b). To accomplish these firm survival and growth objectives a typical business incubator program provides shared office services and business assistance including affordable rent but beyond these, it could effectively foster the development of connections with firms inside the incubator and in the local economy. In addition to these primary resources, in fact, firms located in the university business incubator could further profit from other tangible and intangible resources, such as university image, student employees, faculty consultants, and the institutional support provided by the R&D community in and around the university.

There is thus a clear research issue regarding the roles and interactions of external actors, government policy, and SMEs and the creation and dissemination of innovation. This study, in particular, will focus on the development of business networks and further explore the value-added contributions of university business incubators to technology-based start-ups in the development of intercompany relationship.

2. LITERATURE REVIEW

Within the current literature it is generally agreed that university incubators are able to offer considerable advantages to new high-growth firms in the provision of shared facilities and access to university research and grant support. Moreover, in recent years the networked incubator has emerged as an effective mechanism that fosters partnerships between high-technology based firms and other external parties such as government support agencies and funders, thus facilitating technology transfer from universities to the economy.

It is generally recognized that incubators offer a protected environment where new and small firms can pool resources, share knowledge and create a network of alliances with other entrepreneurs (Smilor and Gill, 1986; Barrow, 2001). Initially incubators emerged in proximity to universities with the aim of promoting technology transfers and the commercialization of innovative and novel research (Shane, 2002; Albert and Gaynor, 2003). The range of objectives normally pursued by university-based incubators mainly focuses on technology transfer, promotion of entrepreneurship and the commercialization of leading-edge research (Zucker et al, 2002). But the relationship can go further beyond this, including the development of entrepreneurial spirit, civic responsibility, image and new sources of finance. A number of initial services such as concept testing, technical advice, intellectual property advice, seed capital and management guidance are provided, usually through experts on-site, but university incubators also attract the attention of business angels and venture capitalists, whilst facilitating industrial networks, strategic advice and mentoring (Albert and Gaynor, 2003). It is evident that new firms need support especially in soft skill areas such as understanding market conditions and managerial end entrepreneurial skills (Hindle and Yencken 2004; Colombo and Grilli 2005). This awareness changed the type of support, placing greater emphasis on developing access to networks and networking capabilities (Patton et al. 2009). In particular the incubator body is capable of promoting mechanisms that foster partnerships between the university, the incubator firms and other external parties, thus facilitating the transfer of knowledge and expertise from universities to the business economy (Zucker et al, 2002). As a consequence of this evolution, a new type of business incubator concept is becoming increasingly popular, known as the networked incubator (Hansen et al. 2000; Bøllingtoft

and Ulhøi 2005). This incubator helps firms develop networks for growth by focusing on networking activities among tenants based at the incubator and other external related organizations (McAdam and McAdam 2006; 2008). Business incubators of this type are perceived more as intermediary organizations that support firms by helping them establish and develop networks with a broad range of economic actors (Lofsten and Lindelof 2005; Peters et al. 2004; Bergek and Norrman 2008).

In order to position the university incubator in relation to other types of incubators, Table 1 identifies five different types of business incubators, by type and value-adding capacity.

	For-profit property development incubators	Non-profit development corporation incubators	University incubators	For-profit investment incubators	Corporate venture incubators
Main goals	Property appreciation	Job creation	Faculty–industry collaboration	Make substantial capital gain quickly	Get into related markets quickly and inexpensively
	Maximize occupancy	Encourage entrepreneurship	Commercialize university research		Have a window on related technologies
	Sell services to tenants	Diversify economic base			
Subsidiary goals	Create investment opportunities for more property	Generate sustainable income to break-even point	Exploit investment opportunities	Develop synergies in investment portfolio	Provide entrepreneurial opportunities for staff
		Use vacant premises	Create goodwill in local community		Make money

Source: Barrow, 2001, p 31.

Fig.1: Business Incubators, by type and value adding capacity

Through an analysis of the literature (Hansen et al. 2000; Lindelof and Lofsten 2003; McAdam and McAdam 2006), it is possible to distinguish two fundamentally different mechanisms in which firms develop their networks: self-organised networks or through directions and suggestions of business incubator staff.

In the first case, the firm is able of naturally developing direct relations with their selected partners (McAdam and McAdam 2006) and/or organisations located within the proximity of the incubator (Lindelof and Lofsten 2003). Working together in the same physical space with other incubator firms can create synergies, embedded relations and social capital, that represents key elements able to enhance a firm's innovative capabilities and increase the potential for commercial collaboration. Such interactions may also promote the flow and exchange of resources, knowledge and information and in this way it can offer support to incubator firms to overcome limits related to their newness and lack of experience. Under the second hypothesis, firms are instead guided by incubator support personnel in the development of cooperative collaborations (Hansen et al. 2000). Such facilitation might take the form of networking events organized by the business incubator where firms have the opportunity to meet people from business and financial institutions such as investors, bankers and consultants or can take the form of personal advices. In some cases, the incubator can also offer preferential access to advanced research institutes or academic staff at universities. By providing the connection, business incubators can act as the hub of the network with the hope of creating a flexible environment for growth (McAdam and McAdam 2006). This model of network support requires thus greater efforts from the incubator structure, as it should always be aware of individual firm needs nor the different types of networking activities incubator firms engage in. In response of this pressure, networking support is too often driven by the capability of incubator staffs in gathering their contacts rather than the actual needs of tenant firms.

Hence many small businesses are trying to set in motion the opposite mechanism and become part of the incubator ecosystem, because of the potential to yield substantial intangible benefits for the entrepreneurial firm. For example, a critical issue for new firms is the lack of credibility with a range of stakeholders including investors, suppliers, customers and employees (McKee, 1992; Smilor, 1997). Acceptance into the incubator unit enhances credibility regarding the firm's potential for sustainability, as gaining entry to the unit signals that external, informed scrutiny has been applied to the firm.

Business incubators are providing the facilities where managers and the personnel of incubated firms can come together, interact and mobilise resources (Grimaldi and Grandi 2005). However, it seems that there is still a lot of ambiguity in the definition of the kind of networking activities more suitable to develop effective networks within business incubators (Totterman and Sten 2005).

3. RESEARCH QUESTION

3.1 Research goals:

This paper seeks to add to the university business incubator and network literature by witnessing how the incubator environment could be able to enhances the development of internal relationships among small firms, supporting the new entrepreneurs during the vital stages of firm foundation, and then facilitating progress towards growth strategies.

The importance of networking, is often under estimated, especially by micro and small companies, who sometimes are not able of taking advantage from these activities or more often cannot afford to get distracted from running their business. Due to the large amount of information to which small companies are subjected, people have less time to consider and evaluate all of it. Here the role of the university business incubator come into place, as a preferred channel for the information flow, a trusted source capable of acting as a connector between the different information, thus engineering strategic meetings and conversations to facilitate cooperation between parts.

Furthermore, over the last few decades a divorce between research and practice in business management has been consistently observed as generally business research lacks relevance to the world of practice (Baxter, 1988). This gap might be bridged through the translation and diffusion of academic knowledge, making it accessible for practitioners. The separation can be overcome by stimulating academics to include research questions that relate to the production of practical knowledge, in accordance with the idea of engaged scholarship (Van de Ven and Johnson, 2006). The university business incubator, due to its intermediate position between the two spheres is in a preferred position to help bridging this gap and facilitating this bidirectional information flows.

4. RESEARCH METHODOLOGY

4.1 Data collection:

This research has been conducted within SETsquared Partnership, the enterprise collaboration between the research-intensive universities of Bath, Bristol, Exeter, Southampton and Surrey, located in the South East of United Kingdom.

SETsquared is the common brand for collaborative activities of these five centres, to drive economic growth from the University knowledge base, developing entrepreneurial students and supporting technology start-up. The Partnership is government founded through Higher Education Innovation Fund (HEIF) scheme since 2002. This aspect also represents a key strength of the model as incentive to leave aside the common for-profit model of business incubators and being able to focus on the potential growth of incubated businesses. The Partnership lacks of legal entity, so that each centre is operated by itself and every university group represents the stakeholders involved.

The study was carried in the SETsquared centre located at the University of Southampton Science Park, where I had the chance to apply engaged scholarship in my research. Anyway, I chose not to limit my research to one centre only and therefore case studies form the whole Partnership locations, including 50 companies in my analysis, based in different SETsquared location. In each of these incubation centre, I had the chance to interview both CEOs and incubator staff of Bath, Bristol, Southampton, Exeter and Surrey SETsquared centres, so that enables me to gather a more comprehensive understanding and avoid major bias. The SETsquared incubation programme aims at high technological companies, with different industry focus basing on the different strengths of each centre. Tenants are selected to join the incubator, and are then evaluated on the basis of their business plan and growth potential. Only the 50% of applicants pass this phase but the success rate is then raised to 99% once they are trained and incubated. The supporting structure within every centre is translated in business mentors, experienced manager supporting clients on full-time basis, and panel teams consisting of experienced entrepreneurs and professionals to test the business viability periodically. Synergies are attained among the five centres, which are independent and features different characteristics. Hence if a firm at Southampton needs a technology that is present in another centre, knowledge networks and cooperation among the centres can be acquired through a privileged and easier path.

This paper is exploratory in nature. Data have been gathered on field, through interviews with key people in the organizations involved, CEOs, mentors and incubators personnel. It consists of in-depth, open-ended interviews, direct observation, written documents and any other information I collected by being directly involved in the daily activities of the Partnership. Reasons for choosing an ethnographic form of research include recognizing the need for an empirical approach, and a desire to ground observations “in the field”.

Facts are based on observation of things that may be objective phenomena such as physical things or subjective phenomena that do not exist independently of actors, such as ideas or knowledge (Nørreklit, 2010). This research is an attempt to observe actors' interaction and understand the subjective phenomena that lead to the development of profitable cooperation alliances and business networks among SMEs.

The choice of conducting a qualitative analysis in order to understand and interact with the complexity of real human practice, is grounded on the argument that it provides the research with practical phenomenological grounding, allowing to have more relevance for business (Nørreklit, 2014). Hence, the cases described represent the conceptualizations of a particular scheme that might be helpful in the definition of best practices to enhance cooperation among small companies.

4.2 Procedures for data analysis:

My fieldwork over a period of nine months involved interviews, examination of documents and records, and direct observation of meetings and workshops. Table 1 details what might be thought of as formal data collection. The aim is to delineate the actual benefits that were deriving from the link with the university business incubator and determine which were the best ways and schemes to allow such profitable interaction among small companies, which in most of the cases can be translated in interaction among CEOs, as start ups and the kind of small companies involved in university incubator programmes usually feature a very limited number of employees.

I asked questions that helped to find out which were perceived as the bigger benefits for companies deriving from their relationship with the university business incubator and how (and if) these would impact their business performance. Interviews lasted about thirty minutes on average. Most of them took place through face-to-face meeting, were tape-recorded and subsequently transcribed. Where this was not possible notes I recurred to video or phone interviews.

Table 1: Usage and value added contribution of the incubator services

	Service offered	Average of perceived benefits	Adhesion Technologi	ADRC	Apitope	Arkiris	Attomarker	Azellon	Bac2	Basemap	bih	BluPoint	Brightpearl	3Dsom.com	Cascoda
Facilities	Shared offices	3,2	1	3	3	2	2	2	2	2	5	4	2	4	4
	Cafeteria	2,1	2	1	1	1	1	1	1	1	3	1	1	3	3
	Meeting rooms	3,3	5	1	1	2	3	3	3	2	4	5	3	4	5
	Labs	2,0	4	5	3	4	1	5	2	1	1	2	1	1	5
Business Support	Mentoring	4,7	5	4	3	3	5	4	5	4	5	4	5	5	4
	Panel review and trainings	4,6	5	4	3	3	4	4	5	5	5	5	5	4	4
	Incubator staff	4,6	5	4	4	2	4	3	5	5	5	5	5	4	5
	Networking events	4,5	5	3	1	2	4	3	3	4	5	5	5	4	5
	Professional networks and contacts	4,7	5	5	1	2	5	3	5	5	4	5	5	5	5
	Business planning	4,5	4	3	1	2	4	3	5	4	5	4	5	4	3
	Business connections outside the incubator	4,5	5	1	1	1	4	3	5	5	5	5	5	5	5
	Business connections between tenants	4,1	4	1	5	1	4	2	3	4	5	5	4	4	5
Funding	Information on open grants and calls	4,3	5	1	1	2	3	2	3	5	5	5	4	4	5
	Investor network	4,3	5	1	1	1	1	5	5	5	5	3	5	3	4
	Investor event	4,2	5	1	1	1	1	5	5	5	5	3	5	3	4
	Investment panel	4,1	5	1	1	1	1	4	5	5	4	3	5	3	4
	Networking opportunities with other companies to exchange info	4,4	4	1	5	1	4	3	3	3	5	5	4	3	5
	Grant user groups	3,2	1	1	1	5	2	3	2	3	3	5	3	2	4
	Access to capital	4,2	3	1	5	3	5	5	5	5	4	3	4	4	4
	Govt. grants and loans	4,2	3	1	5	5	5	5	5	5	3	3	4	4	4
University	Professional staff	4,3	3	3	3	5	3	5	4	2	3	5	4	4	4
	University image	3,9	4	2	3	3	2	3	4	2	2	5	4	4	4
	Student Internships	2,5	1	1	1	1	1	1	1	1	1	5	1	1	5
	Fairs and events	2,6	4	1	1	1	1	1	2	2	2	4	2	2	4
	R & D activity	2,6	1	5	1	3	1	5	5	2	2	3	2	2	1

Crowdcube	DocCom	EarSoft	enModus	Eyegaze	Glythera	Gnodal	iGeolise	Ilika	Karus Therapeutics	Lightflows	Lime Microsystems	Mirifice	Mobile life	ModMyPi	Mybuilder.com	Nano-Porous Solution	PowerOasis	PrimerDesign	Prosonix	RedLux	Revolymer	Sidonis	Software Mining	Stratus	Surrey AquaTechnol	Surrey Nanosystems	Symetrica	The Mountain Trike	The retention peopl	Theta Technologies	Thoughtified	Tidal generation	Triopsis	TVS	Ubiquisys	XMOS
5	4	5	2	5	1	1	5	5	5	5	5	1	4	2	2	2	5	5	1	1	1	2	5	2	2	2	5	1	5	2	5	5	2	5	5	5
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4	5	4	4	3	4	5	5	5	5	5	5	5	5	5	5	5	4	4	5	4	5	5	5	5	5	4	3	5	3	4	5	5	5	5	5	4
4	5	4	4	3	3	5	5	5	5	5	5	5	5	5	5	5	4	4	5	4	5	5	4	5	5	4	3	5	3	5	5	4	5	5	4	4
4	5	5	4	3	4	5	5	5	5	5	5	5	5	5	5	5	4	4	5	4	5	5	4	5	5	4	3	5	3	4	5	4	4	4	3	5	4
5	3	4	5	4	5	4	4	4	4	4	4	4	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5
1	3	4	3	2	2	4	2	2	3	3	2	3	2	4	5	4	3	3	3	5	3	3	3	3	3	4	5	5	4	3	5	4	4	4	4	4
5	5	4	5	2	4	4	5	5	4	5	5	4	4	5	5	5	4	5	5	5	5	4	5	5	3	3	5	4	4	2	3	5	3	5	5	2
3	3	3	5	2	4	5	5	5	5	4	4	5	5	5	5	5	4	5	5	5	5	5	5	5	3	4	5	3	3	3	5	5	3	5	5	4
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3	3	4	3	3	5	3	5	5	5	5	3	3	3	3	3	5	4	5	5	5	5	4	5	5	5	5	5	5	5	5	3	5	5	5	2	2
2	1	2	1	1	5	2	4	5	3	1	1	1	1	1	1	5	3	3	2	5	4	1	3	3	5	5	5	3	4	4	2	4	4	4	2	1
3	1	3	2	1	3	1	3	4	3	2	2	2	3	3	4	2	3	3	3	5	3	1	2	2	5	5	5	2	3	2	1	5	5	2	1	1
1	1	2	1	1	5	1	1	5	4	4	3	3	4	2	2	5	2	3	2	5	3	1	2	2	3	5	5	2	2	2	1	5	5	1	1	1

A rating of company evaluation of each advantage derived from being part of the university incubator programme has been obtained on a scale of 1–5. In the table is presented the aggregate value as the simple average of responses over the full range of the scale. A score of 5 was given when the company defined as invaluable the benefit derived from a certain service or affirm that without the incubator support it wouldn't be possible to achieve the same result. The scores of 4 and 3 have been attributed were the importance of the service received was perceived but less significant. Finally, I assigned a score of 2 when the perceived benefit was neutral and 1 where there was no actual use of the service. Of central importance was a range of questions relating to collaboration and networking opportunities that would be unlikely to happen without the incubator support. The research involved 50 companies from across the whole Partnership.

My attempt was to understand whether the belonging to a common programme, working close to each other or having the same reference point in the incubator staff for instance, could produce a relational approach that might end up in the realization of a common strategies or synergies. I tried to understand whether the cognitive dimension, that includes a shared vision, the sense of belonging and identification is translated into concrete actions and then in material forms of proximity, therefore leading to networks creations and physical, technological and organizational common structures.

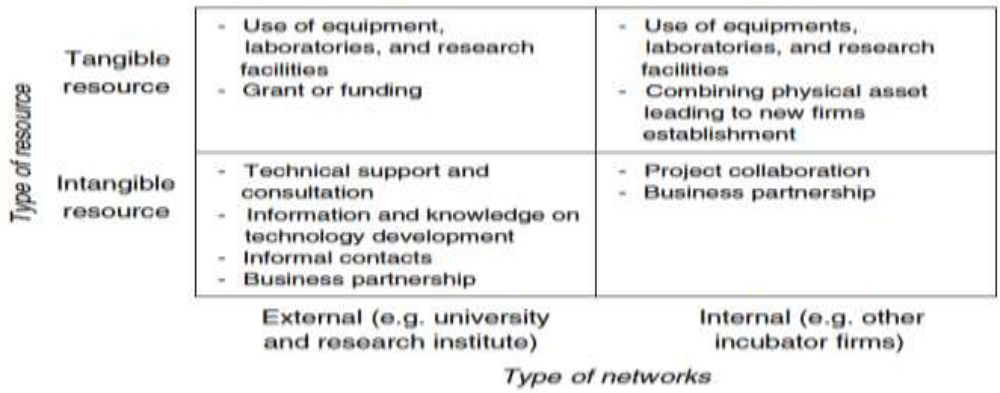

Fig.2:Network classification according to the resources used (Source: Soetanto, Jack, 2013)

I tried to find empirical confirmations to the literature, that identifies networks as a critical mechanism for mobilizing resources that can help overcome obstacles and threats for technology-based, small and newly established firms (Lin et al. 2006). Incubator firms pool their tangible resources and complement each other in order to overcome liabilities of newness and weak competitiveness (Totterman and Sten, 2005). This tangible resource seeking activity shows how sharing and drawing on a collection of resources enables a firm, on their own or in collaboration, to undertake a greater range of activities than they could if they drew only on their own limited resource base. There are a wide range of activities at incubators where incubator firms share the use of equipment, research facilities, and laboratories with their internal and external partners to increase efficiency and reduce production costs. Incubator firms might also combine tangible resources, such as physical and capital assets, with their partners to form a new business opportunity. Incubator firms may also use networks for accessing intangible resources, such as knowledge. This activity requires close, repeated interactions to gather knowledge that can improve the capabilities of the firm (Hughes et al. 2007).

Networks of firm that develop across incubators can be seen as external and internal (Totterman and Sten 2005; Lyons 2000). The internal network refers to the relationship that involves formal or informal collaborations, joint ventures, or basic information exchanges among tenants (Lyons 2000). Even the location in the same hub, helps to create the environment where firms can share experiences, exchange business contacts or ideas, cooperate in projects as well as sharing material resources as expensive equipment and facilities.

Collaborations enable firms to utilise the existing expertise or technology of other firms. Incubator firms may also gain access to resources from their external networks. These might consist of researchers from research institutes or academics from universities, who are willing to provide advice and assistance. Consequently, incubators need to add value by bringing together a comprehensive array of networks with knowledge sources to match the needs of firms. In fact, collaborations with universities, research centres or other knowledge-based institutions enable firms to enjoy economies of specialization, without the prior investments often needed for internal development (Lofsten and Lindelof 2005).

5. DISCUSSION OF THE FINDINGS OF THE RESEARCH

5.1 Results:

The empirical evidence gathered through interview and documents at the University of Southampton Science Park and other business incubation centres in the UK as detailed in the previous paragraph shows that incubator firms develop more networks to access intangible resources, such as contacts and information, rather than tangible resources, such as facilities.

The study of the evolution of this portfolio of high technology firms, with different market maturity and size, shows that the incubator environment enhances the development of social networks that act to create the circumstances and the prolific environment to “make things happening”. Analysing the top valued benefit as marked in Table 1, the best score has been attributed to mentoring, trainings offered and business planning, and support with funding. However, it is noteworthy that besides these typical incubation activities, professional networks and contacts, incubator staff, business connection outside the incubator, networking events, networking opportunities with other companies to exchange information, information on open grants and calls, professional staff… ranked the highest.

More important than the practical support and know-how, the incubator drive is to led discussions and network opportunities, having an external comprehensive vision, thus facilitating this environment of engineered serendipity meetings and discussions that then lead to the creation of profitable network opportunities. Most CEOs of companies interviewed have emphasized right the relationship with people with affirmation such as "There were other start-ups in the Innovation Centre, so it was great to share problems, knowledge and challenges and to help each other out when possible" and "My first business was on a science park where we felt like a tenant, not part of a network. There is a fantastic space at the end of the building with a café and meeting area which is well used, and where we tend to meet people."

Here the incubator role is to facilitate this process, by creating networking opportunities, introductions and events, providing suitable space and facilities for these activities. Therefore, the key to successfully develop networks and alliances is people, especially in a context of scepticism and caution due to their newness and limited dimension witnessed by statements as "The most important benefit of working with SETsquared has been the introductions, they made the connection for us to make things happen. A really useful part of what the incubator does is build networks and put small companies in touch with the right people”. These are the confirmation that the real value lies in the intangible back knowledge and connection that the university business incubator is able to offer. The most benefit is derived from face-to-face interaction among agents. “Running a small company tends to be a lonely task, and there aren't many opportunities to

talk about business and bounce ideas off', thus the incubator has the task to create the environment where small firms could ask questions, meet people to help and network. Social interaction appeared to be critical for the entrepreneurs in terms of knowing who they could trust and share ideas with. It emerged from the data that the entrepreneurs had to be extremely proactive in their networking activities. This can also be facilitated by optional networking such as the participation at seminars of conferences. A leading role is played by personal network and connections of the incubator staff that can act as a preferred channel for the development of profitable relationship as the incubator is a filter and a trusted environment for external agent as well as for incubated companies.

A networked incubator can provide tremendous value to a small firm through connections that might help develop crucial strategic partnerships, recruit key people, and obtain visibility. It can provide with preferential access to potential partners and advisers, creating dedicated investor's communities, sharing university contacts and channels, thus creating and integrating a networking environment. Universities then might help in providing these channels among its various resources and stakeholders, as evidence proved that is then easier to succeed when the university incubator is able to build networks and put small companies in touch with the right people. Patents and new know-how is developed in universities and impact industries, but academic publications alone cannot be the sole channel by which firms gain access to university knowledge.

The incubator plays then a facilitator's role, a connector among the different subject and its role is deeply different from a consultancy relationship as incubator staff don't get involved in the strategic planning process of single firms, but act as an external agent, challenging the businesses in a constructive way and opening new development paths.

When companies start to work in the same physical space, cooperation opportunities begin to exist and even in the case of virtual offices, the belonging to a group of firm relying of the incubator support still set the conditions for collaboration to take place. Examples of internal networks are grant users group, where some companies voluntarily choose to share their personal experience in bidding for grant, to help other firms that are new to these projects and would otherwise waste a huge amount of time just by understanding the call bureaucracy and requirements. Sharing problems, knowledge and challenges to help each other out when possible works in a very effective way to build trust and enhance trust among small firms. Moreover, it appeared that the incubator placed the firm within a professional network, which provided credibility, thus projecting a positive image to a wider network of customers, suppliers and employees. An example of this model is preferred conditions for incubated firms for the use of scientific testing equipment provided by an external company.

Incubated firms should feel part of a network and not just like a tenant. They need to be very much encouraged to share experiences and mix with other businesses. Informal person-to person contact is a key source of information for the entrepreneur as already evidenced by authors. Each person with whom the entrepreneur is connected has his or her own further personal network so for each entrepreneur there is a range of contacts that can provide further opportunities. The networks obviously overlap and interconnect, therefore entrepreneurs, in addition to being in the centre of their own network, are members of their contacts' networks (Birley, 1985; Johannisson, 1986; Sweeney, 1987). Moreover, informal personal contacts are preferred by entrepreneurs, as there is a richness in face-to-face communication that written communication and even telephone communications with known or unknown persons sometimes lack (Sweeney, 1987; Schutjens and Stam, 2000). Access to such networks can aid the small entrepreneurial firm to overcome the liabilities associated with newness and smallness and support the development of cooperative relationships, which can prove critical in the early start-up and development stages of the firm (Lender, 2003).

6. CONCLUSIONS

The networked incubator is therefore able to foster partnerships between incubated firms and other external parties, thus facilitating the transfer of knowledge and expertise between small start-ups and the development of profitable relationships. Such relationships are strategic for firm growth, as can directly affect their probability of success and their survival rate, that is 90% in the case of the University business incubator analysed. The novelty in this vision lies in the perception of the incubator not just as the place to start a business by spinning off from the university, and transfer the knowledge from there; indeed in the case analysed, 80% of companies exploit the profitability of the reversed relationship, by 'spinning into' the safe and dynamic environment of the university business incubator, where the firm, often composed by one sole person, has more chances to interact with other firms and network, in this trusted environment of engineered connections and opportunities.

Although there is acknowledgment of the importance of the business incubator to support small business collaboration, however there still is a lack of evidence relating to how deep the creation of this environment of engineered network opportunities around small companies effectively affect their growth, that could be further investigated through for quantitative data analysis. Another potential limit is identified in the difficult of permanently attract new potential firms, as well as external agents to keep the environment dynamic and prolific, thus overcoming the limit represented by the subjectivity involved in personal networks.

This study is intended to be useful to identify the strategic features necessary to turn collaboration into competitive strengths for small businesses, bringing together and connecting a wide range of stakeholders including industry, government, and research institutions to generate and disseminate knowledge, innovation, skills, and training.

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