Informal networks in business development services: case studies from two Brazilian business incubators[1]

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Introduction

The central idea of this paper is claiming business incubators as brokerage environments where entrepreneurs have access to resourceful actors. Brokerage relates to the development of bridging social capital (Knorringa, Staveren 2006) through which new information, ideas and resources circulate. The locus of these exchanges includes the internal environment of business incubators and external institutional settings, represented, for instance, by the local government and regulatory agencies. The main bridging actor between business start-ups and internal and external environments is the business incubator's manager. These managers can actively foster an environment of exchanges that goes beyond the formalised strategic services of business incubators (i.e, regular consultancies) (Altenburg, Stamm 2004, Tötterman, Sten 2005). Part of these exchanges may become formalised in business partnerships in the medium and long run, building bonding ties between the actors involved. This longer term outcome may impact local development dynamics when businesses establish partnerships that strengthen their individual capabilities, for the deployment of local resources. This process characterizes a scenario of endogenisation, "the progressive development of local capacities and local control over an export base that was previously shaped by external factors and forces" (Helmsing 2010, p. 13).

The role of business incubators suggested here is an active purposeful deployment of its networking potentials to broker complementary business start-ups through targeted selection of incubatees in the programme. This would facilitate exchanges between potential partners and reduce chances of competition inside the business incubator when businesses are dealing with the same product or service. In this regard, the present paper proposes a cluster approach to business incubation programmes, in which business incubators act as hubs for businesses that can make use of the local capacities and increase the chances of bringing added-value into the region.

Parts of this process of endogenous development have been pointed out in the literature, though in branches that developed separately. For instance, reports have pointed out the importance of bonding and bridging ties for social capital (i.e., cooperation and inter-firm relationships) (Knorringa, Staveren 2006); while others have highlighted networks as a way to leverage resources and innovation (Nichter, Goldmark 2005). Furthermore, there is the literature on clusters as production and knowledge systems (Bell, Albu 1999); and the claims that economic development can be triggered endogenously through multi-actor governance mechanisms (Helmsing 2010). Nevertheless, each of these approaches focusses on one part of the picture this paper aims to portray. As a result, there are gaps in relating these bodies of knowledge for a more comprehensive

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approach, which would inform better policies for the development of the private sector. One clear example is the lack of attention to the role of business start-ups in these development processes.

Business start-ups, the most fragile end of the private sector for the high indices of closure (Nichter, Goldmark 2005, e.g., Casson et al. 2006), deserve some specific attention in private sector development studies. Here, we refer to those opportunity-driven businesses, which are oriented to growth and innovation (Tötterman, Sten 2005, Altenburg, Eckhardt 2006). In the literature, their first two years have been labelled the “valley of death” (e.g., Cressy 2008 [2006]), a condition that calls for the intervention of business development services, especially business incubation programmes. However, business incubators are a type of business development service designed for individual enterprises and entrepreneurs (Altenburg, Stamm 2004, DCED,The Donor Committee for Enterprise Development - 2001). This paper proposes a shift in this design, towards a networking-based approach, in which business incubators could improve their performance by adopting a cluster framework for selection and guidance of business start-ups.

This overall scenario raises the question *how can business development services deploy networking strategies for private sector development?* More specifically, the question addressed by this paper is ***what networking services do business incubators provide to business start-ups' development?*** This question is based on the brokerage role of business incubators in bridging small enterprises and resourceful actors for resource acquisition and creation.

The investigation of this question applies concepts from network theory, cluster theory, and entrepreneurship to the study of business start-ups in business incubation settings. It is out of the scope of this paper to summarize these theories and approaches; instead, the theoretical sections will present only those aspects of key concepts that are critical in this study: networking dynamics of brokerage, bonding *versus* bridging ties and embeddedness; the context of business incubators in Brazil, and clusters as knowledge systems.

To substantiate the argument, two case studies are presented. One is a best case example of brokerage for inter-firm partnership and innovation; whilst the other shows how poor management of these networks can be deleterious for incubated start-ups, and, in consequence, to local economic development. The next sections summarize the main concepts used to analyse the cases and to interpret the results.

Social networks

Networks are characterized by the attributes of their nodes (or actors) and by the contents transacted between them (i.e., ties of information, trust). Studies of networks, therefore, combine both characteristics of actors and ties (Scott 2005). These ties can be stronger or weaker, according to certain parameters. Granovetter (1983) defined strong ties as those in which individuals are closely connected to each other. There are relationships of trust, frequent exchange of information and redundancy in the contents transacted between individuals in these dense social structures. Weak ties, in turn, are defined by infrequent exchanges between members of different densely connected social groups, which ultimately connect these individuals to the bigger social structure. These ties are important for innovation because they permit access to information from distant sources, which bring in new ideas and heterogeneous thinking in comparison to in-group exchanges.

A derived terminology for these types of ties in social capital studies is bridging and bonding capital. This is not a mere replacement of terms; instead, it carries with it the assumption that social capital, for being inherently social, can contain positive and negative forces (Knorringa, Staveren 2007). This is a key point for the analysis of the cases that will follow, for each represents one side of these networking dynamics. Bonding capital, in this context, emerges from strong ties, based on the shared identity of the members of the group, such as family, gender, organizations. Bonding capital is important, for instance, in the formation of organizational culture and its impacts on the well-functioning of businesses for the easiness of information exchange. Bridging capital, otherwise, emerges from weak ties, connecting heterogeneous people and institutions that share common general values. For instance, entrepreneurs aim at the growth of their business start-ups often for personal reasons; state governments aim at the growth of business start-ups often for social and developmental reasons. These two socially distant groups join their interests and interact in order to achieve their common goal, for instance, through public calls for applications to R&D grants targeted at small firms.

Bridging capital requires that members of each of these different groups become connected. For business start-ups, this is a daunting task, especially when the other groups are resourceful actors such as investors, regulatory agencies, bigger enterprises etc. Therefore there is a need of a connecting actor that brokerages these relationships. It was found in this study that the business incubators' managers are the ones performing this role in a two-way road. In one direction, they bring into the incubation setting critical and expensive information that is made accessible to entrepreneurs, through the divulgation of public calls for funding, courses and training, amongst others. In the other direction, they make business start-ups known by the organization of business fairs, expositions, business cafes with local support institutions (i.e., banks), newsletters to subscribers, etc. Since these interactions are infrequent, irregular, and may vary a lot in their contents and outcomes, they characterize weak ties, or bridging capital. Hence, this differentiation between types of ties is important to analyse the relationships within business incubators and between incubatees and resourceful actors external to the business incubator.

One important aspect of these dynamics, inside business incubators, is that initially weak ties become gradually strong ties, according to the emergence of bonding capital from more frequent interactions, with the exchange of more critical resources, between incubator's manager and entrepreneurs, and also between entrepreneurs. This observation of the evolution of ties discloses processes of embeddedness, which "stresses the role of concrete personal relations and structure or 'networks') of such relations in generating trust and discouraging malfeasance" (Granovetter 1985, p. 490). Here, personal relations include entrepreneurs and business incubators' managers, and their development into embedded relations indicates that entrepreneurs become part of the business incubation network. UNIDO (2011) summarizes the concepts above in the expression 'optimal networks', which are defined as

> *an embedded network which is sufficiently open to arm-length ties. The aim should therefore be to develop institutionalized and embedded networks that are nevertheless sufficiently fluid and flexible. Within and parallel to institutionalized networks, informal or personal networks can play an important role in this connection.*

Informal networks are characterized by personal contacts and, to a certain extent, invisible networks in the organizational organogram (Cross, Prusak 2002). This paper examines one of the dynamics of these informal networks in business incubation settings: brokerage. Information brokers keep two different subgroups of the same network connected by bridging information from one to the other. Here, the business incubation system is considered the whole network, and actors from different areas are sub-groups within. These sub-groups can be the incubatees, funding institutions, support institutions, research institutions, training organizations, etc. Business incubators act as information brokers, for promoting the communication flow between these groups. Information brokers benefit from indirect relationships rather than direct ones (Cross, Prusak 2002). For instance, business incubators' managers do not connect directly with R&D funding institutions. Nevertheless, there is flow of information from these institutions to business incubators through other actors, such as support institutions (i.e., SEBRAE, ANPROTEC[3]), other managers, and entrepreneurs.

Studies on the dynamics of informal networks have claimed that they are the preferred strategy to acquire knowledge-based information, for the trust relationships between the actors involved. They allow collaborative work for the geographical/physical proximity between these actors, and can be either internal or external to the organizational boundaries (Tötterman, Sten 2005, e.g., Allen, James & Gamlen 2007). These knowledge networks "include the working relationships, collaborations and exchanges of knowledge between individuals which are not found in organizational structures, but are the result of the personal initiative of employees" (Allen, James & Gamlen 2007, p. 181)[4].

Considering that a) business incubation programmes represent a whole knowledge network, b) actors that participate in the programme form distinct sub-groups possessing distinct resources, c) these sub-groups are commonly connected through brokerage actions of business incubators' managers to exchange these resources, d) for being inherently social, these exchanges can either promote cooperation or competition between entrepreneurs, one can realise the importance of investigating these network dynamics.

Business incubators and business development services

A business incubation programme is a business development service for business start-ups, designed for individual businesses or entrepreneurs (Altenburg, Stamm 2004, The Donor Committee for Enterprise Development 2001). They provide operational and strategic services for the development of these businesses. Operational services are those that attend daily needs (Altenburg, Stamm 2004); whereas strategic services aim at enhancing "the long-term capacity of an enterprise to compete", by the provision of services such as training, consultancy, research and development and technology development (Altenburg, Stamm 2004, p. 13). It is noteworthy that literature definitions of business incubation programmes and of business incubators – the deliverers of the programme – overlook the informal networking environments just described (e.g., Tötterman, Sten 2005) and, moreover, the embeddedness processes that take place over time in the programme.

[3] Respectively, the Brazilian Service of Support for Micro and Small Enterprises and the Brazilian Association of Science Parks and Business Incubators.

[4] Note that entrepreneurs, here, correspond to the employees of the cited study.

This definition also reflects the actual perception of business incubators' managers about the services they provide. In a larger set of interviews conducted by the author, this type of activity was rarely reported or was perceived as an occasional assistance to punctual needs of entrepreneurs. Clearly, the importance of these activities and the potentialities they bring into local development processes are almost absent in theory and practice. Consequently, this implies in poor understanding and management of these knowledge networks.

However, one crucial aspect of business development services, including business incubators, that is well-recognised by the literature is the need of a network of resourceful actors, i.e., local and state governments, financial institutions, institutions for business support, research centres, business associations, other local enterprises, etc., and governance structures of this network (Altenburg, Stamm 2004, Tötterman, Sten 2005, UNIDO, Leuven Centre for Global Governance Studies 2011, Scaramuzzi 2002). Altenburg and Stamm (2004, p. 16) list some aspects of these governance structures, under the label of an "integrated proactive approach": "national standards, enforcement of laws and regulations, organization of consumer interests to create pressure to improve performance, training of future private service providers, temporary subsidies for customers who use innovative services." In addition to this broad approach, local governance is also crucial, since the main partners of business incubators, directly involved in the programme, are local governments, local or regional investors, local or regional business support institutions, etc. The cases here illustrate two different dynamics, characterized by different degrees of involvement by business incubation partners.

The literature claims that strategic business services aim at long-term capacity to compete by enriching the knowledge base and the capacity to learn. Thus, business incubators are learning settings (e.g., Abbad, Borges-Andrade 2004) characterized by intense networking exchanges, formal and informal, internal (between incubatees) and external to the programme (between incubatees and the surrounding environment of the business incubator). This overall description applies to Brazilian incubators as well.

The Brazilian case

Despite cross-country evidence that business incubators can help promising entrepreneurial ideas become businesses, business incubation programmes are yet absent in most developing countries (Scaramuzzi 2002). This would be, per se, a good reason to study enduring business incubation programmes in developing countries in general. In the case of Brazil, specifically, this type of study becomes even more interesting for historical and political reasons. First, Brazil pioneered the implementation of business incubation programmes in Latin America in 1984 (Aranha 2008), with the creation of five technological foundations for the transfer of technology from universities to the productive sector. The historical and political context is preceded by a national policy for science and technology concerned with national security and technological autonomy, which was established after the World Wars I and II and maintained by the military government until the 1970's. The failure of this policy led to a bottom up movement that culminated in the creation of the first incubators, starting off at universities. Local initiatives were organized at the national level by associations, which became representative and respected until they gained support from the government and industrial sectors (Almeida 2005).

In addition to this political-historical beginning, the case of business incubators in Brazil is also worth researching for the current development status of the country, being one of the emerging economies in the world and one of the BRIC countries. Despite improvements in the last decades, Brazil yet displays large development gaps between the wealthy and the poor, with increasing investments in R&D coupled with strong social programmes (IBGE, Directory of Research, Coordination of Industry 2010, IBGE 2010). This gap is also reflected in the distribution of business incubators in the country, which are concentrated in the most developed states and resource-rich cities. These are clearly locations more propitious to the development of businesses for the availability of a pool of resources (Walker 2000).

In relation to survival rates of start-ups in Brazil, a recent report by SEBRAE, using a census methodology in partnership with the Brazilian Secretariat of Internal Revenue Service, examined the survival rate at the second year in the period 2005-2009 (SEBRAE 2011)[5]. Results indicated high and ascending percentages of survival, with 72% of the start-ups started in 2005 surviving the second year, against 73% of those started in 2006. These indices are attributed to the more favourable environment for business, associated to the Brazilian economic growth, reduced and controlled inflation, gradual reduction of interest rates, increased personal credit, increased consumption mainly by the lower social strata (SEBRAE 2007), and better legislation for SMEs (SEBRAE 2011).

In addition to that, entrepreneurs are more qualified, with about 79% of them with high education, and 51% with previous work experience in the private sector (SEBRAE 2007). These entrepreneurs are also more concerned with the internal conditions of the business than with the economic situation of the country, with 71% of them focussed on planning (against 24% in 2002), 54% on the enterprise organization (against 17% in 2002), 47% on marketing and sales (7% in 2002), 36% are working on the financial analysis of the business (7% in 2002), and 38% on the human relations in the business (only 3% in 2002). Moreover, the percentage of pull-entrepreneurs, who identified a market opportunity to start a business increased from 15% in 2002 to 43% in 2005 (SEBRAE 2007). In sum, these statistics highlight the existence of a favourable scenario for private sector development that combines entrepreneurial capabilities with economic stability over time. It also suggests that, with better structural conditions, entrepreneurs can focus on building up intra-firm competences, i.e., planning, enterprise organization, marketing and sales, and human relations.

Within the framework of this paper, the current Brazilian scenario for business start-ups generates new networking and learning needs, which demand adjustments in the packages of strategic services provided by business incubators. With economic stability, entrepreneurs have incentives to invest more internally to the firm and to rely on higher chances of success of partnerships. This increases the importance of informal networking to access and create resources endogenously.

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[5] This is a new methodology, comparable to the one used by the OECD (2010), except for the inclusion of zero employee enterprises in the Brazilian statistics. This may lower the Brazilian estimations in relation to international indices, since enterprises with employees tend to be more stable.

Clusters

Clusters, in a broad perspective, are “local concentrations of certain economic activities” (Altenburg, Meyer-Stamer 1999, p. 1694). These are important arrangements of businesses for achieving collective efficiency through a set of external effects and interactions. Altenburg and Meyer-Stamer (1999) highlight, for instance, a local pool of skilled labour, attraction of buyers, linkages between firms, intensive information exchange, joint action, institutional arrangements for specific cluster activities, sociocultural identity and embeddedness of these local actors. This brief description already discloses similarities between dynamics of business incubators and clusters, especially in relation to the externalities of proximity and potentialities of networking with other entrepreneurs for the exchange of information and possible partnerships. One of the key differences between business incubators and clusters, however, lies on the nature of each. Business incubators focus on the development of individual business start-ups. If, for instance, partnerships between incubatees take place, this is just an externality of being in the same place at the same time and conducting businesses that could eventually be combined.

Clusters, otherwise, are essentially collective and located in the regional dimension of local economic development (Helmsing 2010). Their dynamics have two dimensions. The first, passive collective efficiency, focusses on the benefits of agglomeration, such as reduced costs with logistics. The second, active collective efficiency, refers to deploying the benefits of agglomeration for further developments, such as joint action to improve streets or acquire a better truck that facilitates the transportation of produces to buyers outside the cluster.

An important actor in the governance structure of clusters is the local government. Local governments provide resources that start-ups cannot afford, such as transportation and communication infrastructures, tax regime for cluster participation, regulatory frameworks for minimum standards in relation to labour rights and environmental preservation, amongst others. These resources are expected to cover large development costs that exist upfront; thus easing the taking up of opportunities by firms. Nevertheless, firms can also engage in collective action to plea for this support or to develop alternative solutions by themselves (Helmsing 2010).

Other actors, such as donors, investors, financial institutions and others are also part of these endogenous development processes within clusters. These processes, in turn, are central to establish and strengthen local control over the economic activities in face of power asymmetries in the global chain (Helmsing 2010). This study suggests how business incubators can be active actors in these processes of endogenous development.

Method

This qualitative study compares two business incubators in the South-Eastern Brazil. This is the most resource-rich region of the country and, therefore, the most propitious to breed business start-ups. This region counts on buyers, suppliers, support institutions, financial institutions, universities and research centres, and many business incubators. The two business incubators described below were selected out of a larger study as contrasting cases of networking dynamics for and against sustainable development practices at the local level.

These two incubators are located in the same state, although they are geographically distant from each other. Because of this, they are exposed to the same state level policies. So, differences between cases can be more likely to be explained by their internal dynamics and interactions with the local environment. Entrepreneurs and managers of both incubators were interviewed about the evolution of start-ups, with emphasis on the access to resources from multiple actors. Some characteristics of these incubators are presented in Table 1.

Table 1. Characterization of the cases

Characteristics*	**Incubator A**	**Incubator B**
Time in operation	*8 years*	*7 years*
Number of managers in the last 5 years	*2*	*2*
Type of linkage with higher education institution	*Federal public university; cooperation relationship*	*Local private university centre; main financial supporter*
Number of incubatees (at the interview)	*26*	*4*
Number of graduates (at the interview)	*5*	*4*
Number of pre-incubated start-ups (business plan elaboration period)	*30*	*6*
Costs for the incubatees	*Monthly fee for rent and shared facilities. It increases as the start-up progresses, reaching market prices at the end of the programme. This is also a strategy to subsidize the first year entrepreneurs.*	*Monthly fee for rent + small fee per square meter occupied + shared expenses for facilities*
Focus	*High R&D-intensive start-ups*	*Both low and high R&D-intensive start-ups*
Local support institutions	*Federal university installed in the municipality, local government, local foundation for teaching, research and extension, college of applied social sciences, commercial, industrial and entrepreneurial association, local union of the metallurgical, mechanical and electric material industries*	*Local agency for economic development, local government, local university centre, local commercial and industrial association, local chamber of shops' managers*
State support institutions	*SEBRAE, state network of business incubators*	*SEBRAE, state foundation for support to research, state industries association, state network of business incubators*
National support institutions	*ANPROTEC*	*ANPROTEC, National Council for Science and Technology, Financer of Studies and Projects of the Ministry of Science and Technology*

*Time counting stops in 2009, when the interviews were conducted.

The table shows that, despite the time in which these incubators have been operating, they show different scopes and networks. Incubator A is much bigger in terms of number of enterprises, and occupied in its full capacity. Incubator B, however smaller in number of enterprises and physical capacity, had half of its rooms idle. Both incubators work on systems of monthly fees for incubatees and each have its own way of charging according to the strength of the business. This is an important aspect to build up autonomy and sustainability after the programme.

This characterization also shows that both count on a large number of local institutions. As expected, for focussing on high R&D-intensive start-ups, incubator A is more connected to the local higher education institutions and research centres. Both incubators are connected to the local government, and to the local commercial and industrial association. At the state level, it may seem paradoxical that Incubator B reports more connections to R&D foundations than Incubator A. This is explained by a consortium of business incubators in the sub-region of Incubator B, established with the purpose of applying to a public call for grants to business incubators. It is noteworthy that incubatees in Incubator A also had won grants from the same institutions, but these are not reported here, since this does not characterize support to the business incubator. The results section presents the internal networking dynamics of each case and some critical consequences for business start-ups.

Results

Incubator A is located in the downtown of a hilly small city in the South of the state and occupies a building that used to be a residential house. The building was reformed to construct offices, in which start-ups reside. The portfolio of services covers these office spaces with infrastructure of water, electricity and internet; reception with secretary; meeting room; entrepreneurial orientation; specialized consultancies and assistance; managerial follow-up; business consultancy and assistance; technical consultancy and assistance; support for registration of brands and patents; support for marketing and public relations material. Through partnerships, this incubator also offers access to auditorium, library, specialized laboratories, and facilitated access to university academic staff through consultancies.

The administrative team is formed by 12 people: the president of the directorship council, the incubator manager, three technical assistants, one executive secretary, one administrative assessor, one financial assessor, one lawyer, one accountant, one assistant and one public relations specialist. Selection criteria for new incubatees are based on the presentation of the business plan and its examination by a board formed by members from different support institutions. The following criteria are examined:

a) Economic viability of the proposal;

b) Entrepreneurial, managerial, and technical capacity of the proponents;

c) Technical viability, technological content, and degree of innovation of products, processes or services;

d) Potential for interaction of the endeavour with research and development institutions in the municipality;

e) Impacts of the endeavour in socio-economic development.

This is a successful hub for entrepreneurs to access critical resources, especially information and external actors. Starting by the internal networking dynamics, entrepreneurs share a little coffee space in which informal exchanges take place. In addition to this, the manager actively stimulates networking between entrepreneurs. These networks range from informal corridor talks to formal business relations. As reported by Entrepreneur A1,

Here we don't have competition. I think she [the manager] has always treasured this. She has always insisted a lot on this point. So, here we are not competitors. There are no two enterprises acting in the same service, same focus. It is also because of this that the interchange of technology transfer is facilitated. [...] It is an environment of aggregation. We aggregate and try to put this in the market.

This quote points out the following aspects: a) there is some culture of cooperation that is established and kept by the business incubator manager; b) chances of competition are minimized by not having businesses working on the same product or service; c) because start-ups have some complementary competences, they can combine them into new products or services. Indeed, A1 is a start-up that had already established a business partnership with another start-up in the creation of a spin-off in a sector that differs from the sector of each start-up individually. Moreover, one of the products of A1, aimed at facilitating financial management in small enterprises, was acquired by all other incubatees. This product was developed in partnership with a university professor.

Other incubatees and graduates from Incubator A presented reports in the same direction. One of them, for instance, states that he did not apply for that incubator in the first place because of the previous manager. The incubator did not have a good reputation and later on that manager was sued for corruption. Then, this current manager took over the incubator and reorganized it. She was already well-known for her work in the incubator of a neighbour city (this was also reported by more than one entrepreneur). Since this new administration took office, the incubator started working on different terms, implemented this technical body, established partnerships with local institutions and built a new reputation in the city and region – as referred by managers of incubators in surrounding cities.

Based on this environment of informal exchanges, there is also collective learning and mutual cooperation for daily issues, such as advices about minor issues in accountancy or human resources management legislation. From these informal exchanges, entrepreneurs build stronger ties, becoming each other's buyers or suppliers. At advanced levels of networking, as shown by the example, entrepreneurs associate to create new products or services by deploying individual capabilities, with ultimate results conducive to the creation of spin-offs.

In relation to networking activities involving external actors, at least three activities of Incubator A are worth highlighting. First, this incubator counts on the frequent presence of a venture capital specialist. This adviser provides weekly assistance to some of the incubatees, supporting these most promising businesses developing the necessary competences to become attractive to private investors. In addition to this, he provides demand-driven general guidance to other incubatees. Second, all visitors to the incubator are given a tour to all incubated start-ups, in which the manager introduces visitor and entrepreneur and a brief introduction of the start-up is followed.

These visitors can be future incubatees, politicians, media reporters, university professors, and so on. Third, there is periodical entrepreneurial training with an expert of the main governmental agency for financing start-ups projects. At the end of this training, the best performers participate in a seminar to present their businesses to investment fund representatives.

Last, it is important to mention that this incubator is a member of the committee that designs local policies for private sector development. The manager participates, together with a team of local policy makers, in meetings in which the future of the city is planned to include entrepreneurial orientation since primary school, amongst other pro-entrepreneurship projects. Part of this engagement with the design of local policies can be attributed to the performance of graduated start-ups in the market. Therefore, it is not only the reputation of the incubator that transmits reliance to new incubatees to enter the market. The reputation of graduates also counts to building up the reputation of the incubator.

Having presented Incubator A, now we move onto Incubator B. Incubator B is located downtown in a small city in the Northwest of the State, in a commercial building. The incubator occupies half a floor of this building, and the offices are delimited by partitions. This location is relatively new, since in the beginning the incubator was situated inside the university campus. The manager argues that moving to the commercial centre of the city increases the visibility and facilitated access to the incubator. It was observed, however, that there is no common room inside these facilities for informal exchanges between entrepreneurs. In fact, few offices were occupied, since, according to the manager, a selection process for new incubatees was underway. The portfolio of services includes infrastructure (laboratories, auditorium, library and show room located in the university campus), administrative support (internet, stationaries), telephone, receptionist, entrepreneurial assistance and consultancies in strategic areas (i.e., marketing, management, finances, legal issues, accounting, etc.), technical support in design, communication, and marketing management (partnership with the experimental agency of public relations of the university), technological, administrative and operation support, identification of grants opportunities and lines of financing, qualification through training, courses, participation in business fairs and sectorial events, availability of technical magazines and newspapers, liaison with teaching, research and government institutions, and with potential investors, networks through governmental agencies and investors, participation in events of divulgation of start-ups, forums and others. The main target group of this incubator is undergraduate students, although they are the minority among the entrepreneurs.

The administrative team is formed by the incubator manager, the pre-incubation manager (intern), one marketing manager (intern), one intern for the implementation of ISO quality standards, one secretary, one fellowship holder for marketing and social communication (webpage, twitter). The selection occurs in steps. First the entrepreneur submits a summarized business plan, which is evaluated in terms of market viability. The next step is the elaboration of the business plan, for which the incubator offers access to the needed consultancies. This business plan is presented to a board of examiners, when it is discussed in terms of economic, financial and market viability.

The manager of this incubator had taken office one and a half years ago. She is a lawyer specialised in public law and human resources management. In relation to internal networking activities, there is not much, possibly also because of the small number of incubatees. Nevertheless, two of these start-ups established an informal business partnership in which one suggests to its clients the labelling services of the other incubatee. The main externality of this partnership relate to more frequent interactions and closer follow-up on the development of the service. This reduces errors and saves the buyer's time. Yet, this relationship is informal and it is the buyer's decision to take up the services of the other incubatee. This 'culture' of indicating each other's services was disseminating to other start-ups too, also amongst those in the same sector.

The main strategies for external informal networking are based on information and communication technologies, such as virtual networks in the twitter and e-mail marketing. There is also participation in events – entrepreneurial missions – organized by SEBRAE in other cities. These are opportunities of meeting other entrepreneurs that happen few times a year. Furthermore, the manager established contact with the local agency for economic and social development to find out the current projects and link the suitable start-ups to them. This connection with the incubator was welcomed by the agency and start-ups that were yet to become incubatees had access to this network. One of the outcomes of this contact was the participation in one of the biggest events in the city, with stands exposing the products for 10 days at minimum costs.

Again, the reputation of the incubation seems to be influenced by the performance and informal networks of entrepreneurs outside the programme. It was found that new applicants have presented better business plans lately, and they already know what to expect from the incubator's services. This signals a recent turn in the functioning of this incubator, which is confirmed by two graduated start-ups who experienced a different incubator. One of them is Entrepreneur B1, who states that

The business incubator is much orphan from its own partners. It is like this; unfortunately the partners do not embrace the incubator as a viable project. For instance, I was in this meeting of business incubators where rectors of university were present. Everyone who takes decisions was present. And the incubator here was represented by the manager, who had no decision power in relation to the partners. [...] The incubator here is orphan from the administrative centre and the municipal power. So, what happens? The incubator here floats. So, what happens? If I had had closer support, my enterprise would be different. [...] And if you survey how many enterprises passed through this incubator and closed, there will be many.

There are also reports of unfair competition led by an employee of this incubator, to hire a service for the incubator itself. Entrepreneur B1 narrates that the business incubator asked three consecutive quotations, because it was bargaining the price with a competitor whose prices were higher. "*Then I questioned. They did not reply to me, sent it [the service order] to another city, signed the contract with my competitor, who had a sister working inside the incubator, and had never been part of the incubator. [...] When I saw the website, it was there.*"

These narratives report to about two to four years ago, when this entrepreneur was still working closely to the incubator. The change in the incubator's functioning is strongly attributed to the change in the management. As explains Entrepreneur B2, *By the way, since one year, after changing the management, the incubator improved even more. I like using this point because it has not always been what it is today. Today it is more dynamic than it used to be in the past. The past I am talking about is about one year ago; because the incubator, until that time, was stagnated.*

Summarizing the case of Incubator B, it is clear that a) the institutional setting in which the incubator is embedded matters for a good service provision; b) a manager with network vision invests in activities that change completely the internal dynamics of the incubator; c) incubators can be resilient organizations if they are well-managed internally and also in partnerships with external actors.

Discussion

Incubator A offers a best practice case in relation to networking activities, with systematic activities that promote internal and external exchanges for business start-ups. There are many cases of cooperation between start-ups, at different levels. In addition to this, the incubator is actively engaged in designing pro-entrepreneurship policies. Incubator B shows a different trajectory, with poor management of networking activities that impacted negatively on incubatees. However, a new manager has changed these internal and external dynamics and entrepreneurs already started benefitting from cooperative exchanges.

These two examples, for detailing these networking dynamics over time, show that business incubators can be an enabling environment or, on the other end, become a competition nest, depending on the types of exchanges between incubatees and with the external environment. This confirms claims on the positive and negative forces of social capital (Knorringa, Staveren 2007), and on the superior importance of networking activities in comparison to the provision of infrastructure (Tötterman, Sten 2005). Despite the discussion of two distinct cases, it is important to consider that there are nuances between the dichotomy of cooperation and competition and that multiple agencies are at stake. This means that inside the same incubator both forces are operating, especially in big incubators, in which these dynamics are multi-folded. Therefore, the development of trust and embeddedness inside the incubator is critical to increase cooperative interactions (Tötterman, Sten 2005). Moreover, these forces change over time and this can happen quickly, as clearly shown in Incubator B.

For incubators to be an enabling environment, a set of conditions was identified as necessary: a) the attitude of the incubator's manager; b) the diversity of start-ups incubated at the same time; and c) the quality of coordination between business incubator and support institutions. First, the role of managers in pooling local resources was clear in both cases. Managers who act as brokers of information provide better services by exchanges that can happen internally and externally. In incubators where managers change frequently, these embedding relationships were not observed, since trust relationships and bonding capital require time to be built. However, when the incubator is in a status of stagnation, lack of transparency, and even corruption, changing the manager might lead to completely new internal dynamics that will revive the organization.

In relation to diversity of incubatees in terms of their products and services, this study showed that having nothing potentially complementary or working on the same type of business are opposite situations that can both compromise informal exchanges between incubatees. The need of synergies between incubatees was pointed out elsewhere (Tötterman, Sten 2005), but this aspect is rarely found in the literature, except when the subject is competition inside the programme (e.g., Scaramuzzi 2002). Based on this analysis, this paper proposes the adoption of a cluster framework by business incubators when selecting their incubatees. This proposal is presented in the conclusion of the paper.

The third condition for an enabling environment in business incubators is the quality of coordination between business incubator and support institutions. The literature on business incubators in developing countries have emphasized a top-down governance system in which donors and governments have a strong role (Altenburg, Stamm 2004, Scaramuzzi 2002). However, results here indicate that the business incubator manager, through brokerage roles, can assume this central position by pooling together local resources within the business incubation setting. This can be partly attributed to the Brazilian development status, much less dependent on these top-down interventions than other countries. Since cross-country comparisons are beyond the scope of this work, this is an empirical question open to investigation. Here, good network governance at the local level and led by the business incubator was critical to build a cooperative and enabling environment. As the counterexample of Incubator B showed, recent efforts by the manager in coordinating with support institutions have already started to show results in the direction of those found in Incubator A. One of the most remarkable successes is the inclusion of pre-incubatees in local programmes for economic and social development.

Conclusion

This paper claims that informal networking dynamics are critical to entrepreneurs in business incubation settings, for these dynamics can influence either cooperation or competition between incubated start-ups. Cases discussed here showed that poor management of these networking dynamics can compromise the provision of good strategic services. Conversely, a systematic management of these dynamics by business incubators' managers can create a potentially powerful enabling environment.

It was argued that one condition that influences these networks is the type of business start-ups incubated. If business incubators adopt a policy of diversification of businesses to avoid competition, there is the risk of shallowness of services and poor possibilities of informal networks to become relatively embedded and ultimately develop into business networks. On the contrary, if business incubators decide to specialise in one sector, i.e., information and communication, to deepen strategic services in that sector, there is the risk of competition. These findings point to the delicate balance between specialisation *versus* diversification within business incubators and pointed out the need of a middle ground proposal.

The approach suggested here is informed by a cluster framework, in which business incubators would focus on incubating complementary products or services. These businesses, by having some potential mutual interests, would take up on the opportunity of establishing networks and partnerships to create innovation through cooperation. If one considers business incubation programmes as knowledge systems and business incubators as hubs that connect complementary businesses to resourceful actors, some of the known externalities of clusters in local economic development would then apply to business incubation settings.

The implementation of this proposal could be realised through a targeted selection process of new incubatees. This is a relatively simple way of managing who are the start-ups in this 'cluster-oriented incubator'. One way of doing it is by identifying needs of current incubatees to map what complementary businesses could improve their development. Then, calls for applications could tackle these specific areas. Note that this does not imply the creation of sectorial incubators, since this would be too restrictive, given the fact that businesses interact across sectors to access different resources. For example, a start-up that produces industrial panels (electro-electronic engineering) might need software (information and communication sector) to monitor the functioning of the panel. Furthermore, this proposal does not exclude other initiatives, such as entrepreneurs who want to start a type of business that would not fit in the 'cluster'. In sum, this proposal adds on the current routines of business incubators by offering an alternative to foster local economic development with lower risks of internal competition between start-ups and keeping the doors open to innovative ideas that would not fit a cluster framework.

Just as has been pointed out in both business incubation and cluster literatures, this proposal can only come about if there is commitment and governance by the multiple actors involved in business incubation programmes. The proposal here positions business incubators centrally in addition to their brokerage role. Nevertheless, local governments have the important role of designing policies that combine local capabilities and entrepreneurial demand, which should include services that can be provided by incubators. These policies can potentially cross borders through networks at the regional, national or international levels, for the strengthened added value of local products and services.

A challenge that may follow from this approach is the availability of infrastructure to accommodate more start-ups in the case of full occupancy; or, otherwise, the lack of local supply for the needed resources. However, this should not be seen as a major concern, since this proposal does not imply that business incubators should be responsible for the creation of a functional cluster in one or another sector. It neither implies that business incubators should be necessarily linked to any cluster. Instead, the idea is contributing to the efficiency of business incubators' services in supporting business start-ups, through better understanding and management of informal networks of entrepreneurs.

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