Business incubators and new venture creation: an assessment of incubating models

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Abstract

Incubators assist emerging ventures by providing support services and assistance in developing their business. We map business incubators into four categories: Business Innovation Centres (BICs), University Business Incubators (UBIs), Independent Private Incubators (IPIs), and Corporate Private Incubators (CPIs).

We then argue that the variety of incubating organizations is driven by the evolution of companies’ requirements and needs, which encourage incubators to differentiate the range of services that they offer. We believe that differences in the way incubators run their businesses can be described by two main incubating models (Model 1 and Model 2), providing incubators with useful indications on how to position themselves strategically. We identify a list of incubator ‘characterizing’ variables to highlight the main differences between the four types of incubators and to describe the incubating models. Empirical evidence is provided on the two incubating models derived from case studies of eight Italian incubators.

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1. Introduction

The start-up process and early growth of new ventures have been the focus of considerable research effort. Of particular interest has been the identification of the factors, characteristics, and conditions which foster entrepreneurial processes, new venture creation, and that contribute to their success (Roberts, 1991; Roure and Keeley, 1990; Smilor, 1987; MacMillan et al., 1987; Stuart and Abetti, 1987). Incubating organizations are part of a wide range of initiatives aimed at stimulating and supporting entrepreneurship (Cooper, 1985; Autio and Klofsten, 1998; Mian, 1996; Marrifield, 1987).

The incubation concept seeks an effective means to link technology, capital and know-how in order to leverage entrepreneurial talent, accelerate the development of new companies, and thus speed the exploitation of technology. Incubators assist emerging businesses by providing a variety of support services such as assistance in developing business and marketing plans, building management teams, obtaining capital, and access to a range of other more specialized professional services. In addition, incubators provide flexible space, shared equipment, and administrative services. After the incubating period, it is intended that ventures graduate to become independent, self-sustaining businesses. While most incubators have certain common services and activities, however, they also offer distinct services that reflect their own customer-base as well as the specific resources available within their (respective) communities. These differences give rise to different incubating models.

In this paper, we identify four (different) main types of incubators: Business Innovation Centres (BICs), University Business Incubators (UBIs), Independent Private Incubators (IPIs), and Corporate Private Incubators (CPIs). We then describe their main features, similarities and differences on the basis of what we define as the incubators’ ‘characterizing’ variables (institutional mission, industrial sector, location, market, origin of ideas, phase of intervention, incubation period, sources of revenue, services offered, management teams). We argue that the existence of different incubators and the evolution of their business models over time have been driven by the evolution of company requirements and needs, which in turn has prompted incubators to diversify their offer of services.
If we look at the dynamics of the incubator industry, it is possible to identify two main incubating models, Model 1 and Model 2, which in our view may provide incubators with useful strategic indications on how and where to position themselves. To exemplify the framework that we propose, we report empirical evidence from case studies on eight Italian incubators belonging to the four types of incubators identified. Going through the incubators’ ‘characterizing’ variables we have been able to capture the main differences between the four types of incubators and to support our two-incubating-models (view).

In our conclusions, we emphasize the importance of a range of incubators, offering different services to satisfy different needs. Incubators need to pay attention to their strategic positioning and should realize the key importance of specializing in the services that they offer and of matching the variety of demands and expectations coming from new ventures.

2. Mapping different types of incubators

Over the last 20 years, increasing importance has been attached to incubators as mechanisms for enhancing the economic and technological development of countries by promoting the rise of promising entrepreneurial ideas and encouraging the growth of newly established companies. Many local economic development agencies, government and other public institutions have adopted incubators as a tool to reduce the probability of failure and to speed up the process of business creation. The literature initially focused on incubating initiatives, like public/institutional operators with economic development objectives (to boast employment and economic/technological growth), using mainly public resources (Autio and Klofsten, 1998; Cooper, 1985; Mian, 1996; Marrifield, 1987). The main objective of public incubators was to reduce the costs of doing business by offering a set of services ranging from the provision of space, infrastructures and facilities, to more elaborate services, as well as by offering access to technical and managerial expertise, assistance in business plan development, etc. The main source of profit for public incubators is the fees for the services they provide and the public funding from local, national and international schemes.

In Europe, the first and most popular public incubators were the BICs (Business Innovation Centres): their origin dates back to 1984, when the first Business Innovation Centres (BICs) were set up on the initiative of the European Commission.1 The incubating activity of BICs consists in offering a set of basic services to tenant companies, including the provision of space, infrastructure, communication channels, and information about external financing opportunities, visibility, etc.

Another example of public incubators is represented by University Business Incubators (UBIs). Government policy-makers increasingly view science as a vehicle for energizing national and regional economies and with increasing frequency ask universities to lend resources, faculty time and talent to economic development efforts (Stankiewicz, 1994; Roberts, 1991; Mian, 1994, 1996). Although the main goal of universities is education, they can still make substantial contributions to local economies through research leading to patentable inventions and discoveries, faculty spin-off ventures, and technology transfers (Mansfield, 1990; Varga, 1999; Chiesa and Piccaluga, 2000; Schutte, 1999; Rogers, 1986). UBIs are set up by universities willing to adopt a directly entrepreneurial role in generating and spreading scientific and technological knowledge2 (Evans and Klofsten, 1998; Radosevich, 1995). UBIs are institutions that provide support and services to new knowledge-based ventures; they are similar to traditional BICs but they place more emphasis on the transfer of scientific and technological knowledge from universities to companies. Interest in university business incubators stems from the significant potential of the concept, which holds out the possibility of linking technology, capital, and know-how to leverage entrepreneurial talent and speed the commercialization of technology by nurturing new knowledge-based ventures (Heydebreck et al., 2000; Grimaldi and Grandi, 2001). There are two main categories of services offered by UBIs (Mian, 1996): (a) typical incubator services including shared office services, business assistance, access to capital, business networks and rent breaks; and (b) university-related services including faculty consultants, student employees, university image conveyance, library services, labs/workshops and equipment, mainframe computers, related R&D activity, technology transfer programs, employee education and training and other social activities.

After a period of initial euphoria about public incubating mechanisms, doubts were raised about their global

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1 DG XVI, Doc. XVI/37/84—European Commission BIC concept.
2 The most famous examples in Europe include: (1) The University of Twente in Holland, which has enabled, through its TOP (Temporary Entrepreneurial Placements) Programme, the incubation of more than 300 new companies, with a survival rate in their first five years of 80%. (2) The University of Cambridge in the UK. Since 1978, on average 1.5 companies have been set up every month, with a survival rate of 93% over five years. There are now three university incubators around Cambridge. (3) The University of Linkoping and the University of Chalmers in Sweden. The first has contributed to the emergence of 400 high-tech companies since the 1980s (of which 160 are academic spin-offs) through its programmes, TEP/ENP (Entrepreneurship and New Business Development Programme) and SMIL (Small Business Development in Linkoping). The second through the Chalmers Innovation Centre has initiated about 200 academic spin-offs since 1979. (4) The Dundalk Regional Technical College in Ireland, which through the TEP (Technology Enterprise Programme) has promoted the generation of a large number of new companies. This programme is run every 15 months, during which on average 10 new companies are set up. (5) The SPINNO programme in Finland which was launched in 1996 with the aim of fostering economic and technological development through new high-tech spin-off companies. So far, more than 100 new companies have been established. More than 30 UBIs in France, which are attached to different universities and linked through a common network.
effectiveness as an economic development tool (Sherman, 1999; Autio and Klofsten, 1998). Incubators have been around since the 1950s, but the Internet has spawned a new breed focused on on-line technologies and services. The IT revolution of the second half of the 1990s has changed some of the basic rules of the incubation industry. Speed to market, quick access to capital, synergy, network, strategic cohesion-ness are now the basic keys for the success of Internet-related ventures (Chinsonmboon, 2000); moreover, many entrepre-neurial initiatives have proven to lack management rather than technical expertise (Autio and Klofsten, 1998; Grimaldi and Sobrero, 2000). These market changes have revived and reshaped the concept of incubation, leading to the growth of private incubators, e.g. profit-oriented institutions, fee/equity oriented. Interest in private or profit incubators has increased over the last two years and stems from the importance attached to high-tech companies and, more generally, to the new economy. Researchers at Harvard Business School have identified 356 such incubators in the US, 92% of which are focused specifically on the internet. They also found that most incubators (58%) are themselves start-ups facing cash-flow issues similar to those of their offspring (Hansen et al., 2000).

Private incubators can make money in several ways, including charging service fees, as well as taking a percentage of revenues from incubated companies or liquidity events of incubates.\(^3\) The purpose of for-profit incubators is quickly to create new ventures and in return to take a portion of equity in the new venture as fees (Hansen et al., 2000; Chinsonmboon, 2000). They aspire to help entrepreneurs by providing pre-seed, seed and other early investments that have been traditionally offered by angels and early-stage venture capitalists. They offer business guidance, connections to their network of contacts, the ability to take on the tasks of managing an office, hiring and payroll. Finally, they can shorten the time a start-up needs to prepare itself for a trade sale or IPO. The main services offered include the efficient completion of the entrepre-neurs’ business models, validation and vetting, the provision of experienced operation staff, recruiting mechanisms, instant infrastructure, networks of relations with key strategic actors; access to a network of domain experts for all aspects of business, including concept validation and construction; provision of technology to accelerate product development or support, including master relationships with strategic partners, not ordinarily motivated to deal with or adequately service any but large accounts.

Private incubators can be segmented into two main categories: Corporate Business Incubators and Independent Business Incubators. CPIs are incubators owned and set up by large companies with the aim of supporting the emergence of new independent business units (Piccaluga, 2000; Von Zedtwitz, in press). These new business units (corporate spin-offs) usually originate from research project spill-over (carried out within source-organizations) and happen to be the outcomes of diversification strategies. It is quite common for the source-organization company to control all the new ventures by holding equity stake. These incubators, in addition to corporate spin-offs, host more generic start-ups as well. Generally these incubators (like university incubators) intervene during the early stages (business concept definition) of the business development cycle.

IPIs are incubators set up by single individuals or by groups of individuals (companies too may be among their founding partners), who intend to help rising entrepreneurs to create and grow their business (Von Zedtwitz, in press). They invest their own money in the new companies and hold an equity stake. Sometimes they are called accelerators, since they usually do not intervene during the business concept definition phase, but they do intervene when the business has already been launched and needs specific injections of capital or know-how.

3. The evolution of the incubation industry

3.1. The emergence of a new incubating model

We find that the dynamics that have characterized the incubating industry over the last 20 years have been led mainly by incubators’ attempts to satisfy the emerging requirements of new start-ups (most of which have been brought in by the internet revolution). It is reasonable to assume that in the attempt to satisfy the new expectations of companies, a new breed of incubators has emerged and has started providing new services (adding value to their tenants) while paying less attention or disregarding old ones. This shift of attention and the increasing focus on more intangible and high-value services (access to advanced competencies, learning experiences, knowledge, networking, synergies, etc.) have governed the emergence of a new incubating model.

As a matter of fact, the attention of more recent incubators, particularly private ones, is focused on the provision of direct access to capital and of more intangible and high-value services. Initially the objective of incubators was to provide logistical services, so as to reduce the start-up costs for new ventures and, in the majority of cases, to provide local visibility for emerging business. The focus of more recent private incubating experience seems to be on shortening clients’ time-to-market, providing more specialized services, and bringing start-ups, technological and commercial big players into a common network. They also seem to monitor their tenants more carefully, providing day-to-day operational support, and access to advanced sources of technical and management expertise. Moreover, the development of Information Technologies has allowed other actors to step in and to try to increase the returns on their operations by playing a critical role at a very early stage in the development of new ventures.

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\(^3\) A liquidity event occurs when an incubated company either goes public or is bought by another firm, and the incubator has the opportunity to sell its stake.
Drawing on the evolution of the incubators industry that we have described so far and on the list of factors that we have defined as incubators’ ‘characterizing’ variables, we believe it makes sense to think about two main incubating models (Fig. 1). At one end of the spectrum (Model 1), there are public BICs and regional public incubators whose services are more oriented towards the provision of tangible assets and market commodities. Their raison d’être was initially represented by their capacity to provide physical assets (mainly logistical services) at low prices, to help companies to access funding and competencies and expertise not available in-house, to create a supportive atmosphere fostering entrepreneurial initiatives, and to offer visibility with a mid–long term orientation. In addition, some of them (through a network made up mainly of public entities) also provide access to external sources of finance, technical and economic/management competencies, and day-to-day support. Their activities and services fit in quite well with the requirements of companies operating in traditional sectors. These points are supported by our previous studies (Grimaldi and Sobrero, 2000; Grimaldi and Grandi, 2001), which also show that major problems confronting BIC knowledge-based tenant companies at start-up include: access to advanced technological knowledge, access to funding and risk capital, lack of contacts with universities, and shortages of advanced management and economic/financial skills.

At the other end of the spectrum (Model 2) there are private incubators (both CPIs and IPIs), whose services are oriented towards the provision of finance and more intangible and high-value assets, with a short-term time orientation. Following the Internet explosion, there has been a gradual increase in high-tech and knowledge-based companies, characterized by fast and completely different business models. Access to knowledge and intangible assets, to capital, and speed-to-market has become a major requirement for these companies. Incubators have thus adapted their models to companies’ requirements and are now offering more direct access to capital and more intangible assets and high-quality and specialized services. Unlike BICs, private incubators not only offer funding and access to sources of technological and economic/management expertise that they have in-house, but also play a very active role in connecting incubatees with external partners or other sources of required competencies and resources. A distinguishing characteristic of incubators that conform to Model 2 is their networking attitude. Networking attitude refers to the capacity of the incubating institutions to foster partnerships among start-up teams, thus facilitating the flow of knowledge and talent across companies, the forging of marketing and technology relationships, and the learning processes between them (Hansen et al., 2000). Part of the reason why a start-up team chooses to approach a particular incubator is the expected synergy generated from cooperating and learning with complementary start-ups already present in the incubator or from more mature companies that have graduated from the incubator (Ruping and Von Zedtwitz, 2001). Model 2 incubators are also characterized by a strong involvement/commitment on the part of the management team in the entrepreneurial initiatives. In fact, the management team cares in a very sympathetic and attentive way for its new ventures, from the business concept definition phase (in which it actively participates) through to the final one, when new ventures are independent and totally self-sustaining organizations.

We believe that UBIs could be placed somewhere between the two models. Their incubating model is similar to that of BICs, since they rely on incubatees’ fees and on public subsidies. Their main objective is to provide knowledge-based companies with continuous access to advanced technological knowledge, academic infrastructures (laboratories and facilities) and academic networking. On this basis, they differ from Model 1 incubators and are more like Model 2 incubators. These findings are supported by a previous study (Grimaldi and Grandi, 2001), showing that UBIs represent effective mechanisms for overcoming certain weaknesses of more traditional public incubating institutions, with the provision of a series of university-related benefits, e.g., access to laboratories and equipment, as well as to scientific and technological knowledge and to networks of key relations, exploitation of the reputation accruing from university-affiliation. However, they are less ‘time sensitive’ than the new breed of private incubators in terms of reducing their incubatees’ time-to-market and to speeding up liquidity events. Moreover, like Model 1 incubators, UBIs do not actually resolve such problems as the provision of capital and of advanced management and financial competencies.

Before proceeding it is worth bearing in mind that the two-incubating-models view is a simplification of a much more complicated reality. The bottom line here is that each incubator should be able to identify the incubating model that fits it best. In the following section, we therefore identify a list of factors that we define as incubators’ ‘characterizing’ variables. These factors can help to clarify...
which of the two incubating models is being adopted by the
two types of incubators identified.

3.2. Incubators’ ‘characterizing’ variables

In this section, we present a number of factors that help to
bring out the differences among the four incubators
described earlier and the extent to which they adhere to
Model 1 or Model 2. We define these factors as incubators’
‘characterizing’ variables since they can help to explain
differences between different incubating models.

Institutional mission/strategy: On the basis of the
institutional mission, it is possible to distinguish between
non-profit and profit-oriented incubators. BICs and UBIs are
non-profit institutions: they are set up by governmental
authorities with the objective of promoting regional
development; IPIs and CPIs are profit-oriented institutions,
set up by private individuals/organizations with the goal of
generating a profit.

Industrial sector: Incubators might focus on a specific
industry and develop a capacity to attract start-ups in the
same industrial sector or in different but related industries.
The more clearly an incubator defines the incoming new
venture profile, the better this incubator will be able to
leverage his given competencies as well as create potential
synergy effects among already resident start-ups (Von
Zedtwitz, in press). These competencies may be technical
(e.g. focus on a particular technology), industry-related (e.g.
focus on a particular competitive environment).

Location: The physical location of the incubator tells us
something about their objectives and mission. As far as
location is concerned, for the four types of incubators
identified, it is possible to distinguish between areas in the
process of revitalization, industrialized areas and areas close
to a university. The physical location of an incubator has an
important bearing on the types and nature of companies that
the incubator manages to attract.

Market: Depending on their strategy, incubators might
target companies operating locally (and therefore physically
available in its proximity), or companies operating nation-
ally or internationally (not necessarily established in close
proximity to the incubator). The choice of which companies
to target has important implications for the incubating
models, as companies operating at a local level have
different needs from those operating at a national and/or
international one.

Origin of ideas: In terms of origin of incubated ideas, it is
possible to distinguish between ideas coming from an
already existing organization to which the incubator is
affiliated (internal) and those coming from all other
individuals/organizations (external). UBIs and CPIs,
because of their institutional mission, will be oriented
mainly towards the valorization and exploitation of the
(patrimony of) competencies and knowledge of the
organizations to which they are affiliated. This means that
they are more inward-oriented and give priority to business
ideas coming from their ‘parent organizations’, thus
spawning academic spin-offs and corporate spin-offs
(respectively for UBIs and CPIs).5 BICs and IPIs, which
are not affiliated to a specific university or company, are
likely to be more outward-oriented in their search for new
entrepreneurial ideas to incubate.

Phase of intervention: Depending on the requirements of
the hosted companies, the incubator might provide assist-
ance from the first phase of business concept definition
through to the independence of its ventures. Some incubators
might develop specific skills at a given phase of the
business development life cycle (concept definition,
early growth, acceleration, etc.).

Incubation period: This refers to the average incubating
period (period of time that the incubator is willing to host its
companies). This factor depends on several other variables,
which in turn depend on the business models of different
companies (the period of time that a company needs to
spend in an incubator depends on its strategy, its life cycle,
the markets targeted, etc.).

Sources of revenue: Public incubators are non-profit,
thereby they cover their expenses through regional/nationa-
linternational funding, and partly through the fees paid by
companies for the services they get. Some services are based
on a pay-per-use model (likewise rents and telephone lines).
Private incubators do not benefit from public funding. In
addition to fees for the services they offer, they buy equity in
their companies, which may go up to the total control of the
company. The mixed model (fees + equity) is the most
common and used by private incubators.

Services offered: Different incubators provide companies
with different services, depending both on the requirements
of the companies that they are willing to incubate and, more
importantly, on the competencies and on the knowledge
base of the people who manage them. In general, BICs are
more oriented towards the provision of tangible services
(like spaces, offices, etc.), IPIs and CPIs are more oriented
towards the provision of intangible ones (transfer of
competencies and knowledge-based services), whereas
UBIs generally combine both tangible and intangible
services.

Management teams: The main differences between
private and public management teams can be explained by
differences in their incentive structures. In the case of
private incubators, management teams invest their own
money in the new ventures and are deeply involved in the
management and day-by-day operational aspects. In the
case of public incubators management teams act as
‘intermediaries’ between new ventures and different
external entities that are supposed to provide companies
with the resources and competencies that they do not have
in-house.

It is important to bear in mind that the framework that we
have proposed here (two incubating models plus incubators’
‘characterizing’ variables) is based on observation of
incubators’ dynamics over the last 20 years. We use this
framework as a working hypothesis, which we investigate in detail through case studies of eight Italian incubators belonging to the four categories identified. We do not aim to generalize for our theoretical framework, but rather look for empirical support, so as to provide incubators with useful indications on how to strategically position themselves.

4. Empirical evidence from cases of Italian incubators

This section discusses the main results of cases of eight Italian incubators. A description of the incubators is provided in Appendix A. We are mainly interested in the extent to which incubators fit in the two-incubators-model view. We do that by describing their ‘characterizing’ variables. The results are summarized in Table 1.

4.1. Non-profit incubators

Both BicFVG and BicLiguria are examples of incubators that adhere to a more traditional model of incubation (Model 1). Both of them restrict their activities to specific sectors, provide mainly logistic and tangible services, and have a rather long time of incubation (two and a half years on average). Their institutional mission is to promote the economic and technological development of the areas in which they operate.

During our interviews, we found that both BICs have informal relations with several local public entities. Yet the lack of formal relations might be a problem for new ventures wanting to set up steady and continuous relations with external sources of competencies and knowledge. Neither incubator provides new ventures with finance. Their management teams often do not possess in first person the management and financial skills required to run a new business. Yet this is a characteristic of UBIs too and, more generally, of public incubating mechanisms (Auto and Klofsten, 1998).

In relation to UBIs, the cases of the incubator of the Polytechnic of Turin and of the University of Bologna show their efficacy in transferring knowledge and in creating formal and successful relations with universities. Their added value relies on their operating as interfaces between new ventures and sources of scientific and technological knowledge. Both UBI cases show that they do not adhere completely to Model 1, though they display many similarities with it. The cases show that UBIs can add value to new ventures in terms of: (a) the network of relations accessible to new ventures through the incubator; (b) the visibility and reputation gained by affiliation to an advanced research institution; (c) access to academic laboratories and facilities; (d) access to academic specialized knowledge.

Accessing R&D laboratories and academic facilities/equipment is particularly important for academic spin-offs operating in more traditional (e.g., electronic, mechanic, chemical, etc.) sectors, which are normally characterized by high entry barriers in terms of capital equipment. For these companies, the possibility of using academic laboratories and facilities is a fundamental condition—without their availability it would have been impossible for some new ventures to take off. The formalization of relations with the university of affiliation is even more important for non-academic spin-offs, which can benefit from a preferential channel enabling them to set up relations with individuals they were not in touch with before (with whom it would probably be very difficult to establish a relation without the intervention of the incubator). Both incubators stated that their companies are benefiting from affiliation-externalities, in that in the eyes of external investors and/or potential customers, the affiliation of the incubator to a respectable source of knowledge does guarantee the quality of its incubates. These affiliation externalities increase with the reputation of the university to which the incubator is affiliated.

We found out that, though neither incubator was decisive for the creation of the new ventures (all of them had been established before the incubators’ creation), they have none the less contributed to the diffusion of entrepreneurial culture within the university to which they are affiliated and have been largely successful in getting academics to accept the ‘commercialization of research results through new ventures’ as part of the university institutional mission.

We mentioned earlier that one of the main shortcomings of UBIs is their inability to provide funding and management/economic competencies and day-to-day operational support. In fact, the services that UBIs provide to their tenants depend mainly on the incubating management team, on its competencies and on the network of relationships that it brings to the incubating organization. In the specific case of AlmaCube (the incubator of the University of Bologna) the management team is also involved in other initiatives supporting entrepreneurship, meaning that there exists a good and quite well consolidated network of relations with industrial partners, business angels and bank foundations. This means more chances of obtaining finance and of accessing business management skills. Moreover, the incubator was conceived as a natural outlet for business ideas selected through the University of Bologna business plan competition. This means that there is an efficient upstream selection of ideas (selected ideas are also supported financially). AlmaCube is thus a good example of a UBI that, though mainly sticking to Model 1, also has similarities with Model 2.

4.2. For-profit incubators

Private incubators (cases) adhere to an incubating model different from the one adopted by BICs and UBIs. The four cases, though characterized by their own peculiarities, show many similarities that make it reasonable to think of the four
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<td><strong>Services</strong></td>
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<td>Non-profit</td>
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<td><strong>Management team</strong></td>
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private incubators as adhering to the same incubating model, which our evidence suggests to be Model 2.

The first characteristic to which we would like to draw attention is their network of relations with strategic partners. All of them have declared that their companies have greatly benefited from the possibility of creating long-lasting and sound relations with the incubators’ partners. Through their external partners, their incubatees can easily and quickly access competencies that are not available in-house and that are important for their business. These relations have enabled them to speed up their business development cycles. External technological partners, on the other hand, have incentives to share their knowledge with incubatees, because in some cases (depending on the nature of their intervention) they can get an equity stake, or they can start a partnership with newly established companies or can negotiate joint follow-up activities.

The average time of incubation for private incubators seems to be shorter than for other incubators. Both BainLab and E-nutrix declared that their objective was to speed up the process of promising entrepreneurial initiatives. Most of the entrepreneurial initiatives addressing these incubators, in fact, have already gone beyond the concept definition phase. They are quite well consolidated and look for acceleration in terms of capital and highly specialized competencies. According to private incubators, they alone can satisfy their demand.

The four cases show that private incubators, as compared to public ones, experience fewer problems in terms of the provision of finance and of specialized management and financial competencies to their new ventures.

Private incubator management teams have significant differences as compared to public ones. They are involved at first hand and are highly motivated. In the case of BainLab and Speed Egg and E-nutrix, specific teams are set up to follow specific entrepreneurial projects (the composition of each project). Private incubator management teams (this is the case of BainLab, Speed Egg and E-nutrix) are made up of experienced individuals who bring to the new ventures the knowledge and competencies that they acquired through their previous experiences. In the cases of Speed Egg and E-nutrix, management team members have also invested their own money in some ventures and are thus highly motivated to get their capital gains back as soon as possible. All cases display the importance of the incubator management team in developing community contacts and support, on spending time consulting, mentoring and networking with their tenant companies.

5. Conclusions

Empirical evidence through case studies support our initial working hypothesis of two main models of incubations. We believe that the rationale behind different incubating initiatives (and hence the positive aspects justifying a variety of incubators) lies in their ability to target different types of client companies, having different objectives and requirements. Business ideas do not all have the same potential. Potential depends on ‘structural’ characteristics, the size of the market they are targeting, the industrial sectors involved, business innovativeness, its degree of technological obsolescence and hence on speed-to-market, on the specific phase of the business development cycle, etc.

The rationale behind the Model 1 incubators lies in the capacity to reduce start-up costs for small entrepreneurial initiatives, targeting local markets, more anchored to the old economy, looking for local visibility and local contacts with public and private institutions, requiring small amounts of capital to start up and valuing the provision of logistical assets. It is worth mentioning that many traditional incubators are also trying to revamp themselves (like the BIC FVG, for example) and are increasing the number and the quality of services required by their potential incubatees although at a slower pace than the other actors.

The rationale behind Model 2 incubators lies in their ability to accelerate the start-up process of highly promising entrepreneurial initiatives, attractive in terms of size of investments, fast and aggressive, looking for high-value services (access to advanced technology, market, managerial knowledge and competencies and day-to-day operational support). Model 2 incubators also provide their tenants with synergies created through supporting strategic technological and commercial partnerships between new ventures and incubators’ networks of partners. Incubators adhering to this model can help aspiring entrepreneurs develop their ideas and flesh out their opportunities. Not least, they can provide an injection of capital for new ventures that have gone beyond the early business development phase (recently established companies) and need to be accelerated to further exploit their potentials.

The rationale behind university business incubators, located between Model 1 and Model 2, lies in their capacity to reduce start-up costs for promising knowledge-based and high-tech entrepreneurial initiatives, generally small initiatives, targeting national or local niche markets, with a mid-term orientation, still requiring time, technological transfer and resources (access to technological knowledge, university laboratories and infrastructure) to develop their potentialities fully. The challenge for them is to offer would-be entrepreneurs (particularly academics) the possibility of proving their abilities and skills outside academia and to eventually found companies, through which they can further develop their entrepreneurial potentials.

Model 2 of incubation does not represent the output of a linear evolving process, nor an improvement of Model 1. The efficacy of the two main incubating models should be viewed as related to the degree of process integration between the tenants’ requirements and the incubators’ incentives, nature and objectives, rather than from
the individual perspectives of the tenants or the operators. For these reasons, it is important for us to stress the usefulness of a variety of different incubators adhering to different incubating models, whose rationale lies behind the existence of companies with different business models and with different requirements. We believe that it is important for these incubators to specialize in the services that they provide rather than trying to diversify their offers with the aim of attracting different types of companies (which might be costly in terms of acquisition of different competencies and knowledge bases required to satisfy different companies’ needs).

The differences in terms of services provided by incubators are justified by the variety of companies’ demands. As long as the demand for services on the part of companies is varied, there is space for all four types of incubators and for a better specialization of their incubating models. Those should not be seen as competitors, though they have some way to go to improve their own incubating models and to overcome some of the shortcomings that we pointed out in our study.

6. Acknowledgment

The effort and time taken by incubator management teams to answer questions related to the research are gratefully acknowledged.

Appendix A

Case studies

**BIC Friuli Venezia Giulia (BIC FVG)**

BIC Friuli Venezia Giulia was founded in 1986 by local public-sector institutions with the aim of sustaining regional economic development through the creation of new ventures. BIC FVG is supported financially by the EU and the Italian government. Its other partners are public bodies. One of its main objectives is the provision of spaces and services at competitive prices, so as to reduce the start-up costs for new ventures. BIC FVG also offers regular and daily support, tutorship accelerating development time and some more (optional) services, likewise advice on business management, marketing, sources of finance, business plan development, strategy, etc. It also provides its incubatees with assistance after the incubation period (on average for 3–5 years). So far, BIC FVG has hosted 58 companies; of these 24 have already graduated. It is one of the most notable national and international experiences. BIC FVG has three main locations in Italy: Trieste, Gorizia and Splimbergo. The incubators also rely on a network of external partners (small companies, some of which are start-ups of the incubator itself), in which BIC FVG has a stake.

BIC FVG also has relations with prestigious local research and industrial centers.

**BIC Liguria**

Bic Liguria was set up in 1987. It was one of the first incubators of the BIC/CISI network. The main objective is local development. It was created to provide support to manufacturing companies or providing services to the manufacturing sector. It was meant to support companies operating in traditional sectors. Nowadays a program is available supporting high-tech companies. Given that tourism is among the main economic activities of the Liguria region, the incubator was meant to leverage local demand as a source of competitive advantage.

There are no specific investment sectors and no restrictions with regard to entrepreneurial initiatives to incubate. The incubator follows its new venture from the initial phases until their independence. The average period of incubation is three years. BIC Liguria is currently investing in the creation of a seed capital fund to be devoted to high-tech companies. It is connected to other Italian and European BICs through the EBN network. Despite its close proximity to the University of Genova, BIC Liguria has no specific relations with higher education institutions.

**AlmaCube**

AlmaCube is the University of Bologna incubator, founded in May 2001 to promote and sustain entrepreneurship within the local university system. AlmaCube is closely connected with the business plan competition organized by the University of Bologna, Start-Cup. AlmaCube offers young start-ups space and logistic services (i.e. internet connections, data communication infrastructures, general services, etc.) as well as relational capital through direct links with local economic and political institutions and individual actors. AlmaCube does not participate financially in the start-ups hosted, but actively promotes and facilitates funding contacts and processes involving professional investors. AlmaCube can host up to 16 new technology-based start-ups. At the moment it hosts seven new ventures. Preference is given to University-originated projects (academic spin-offs). Other projects, however, are also considered in order to promote diversity and encourage complementarities among the start-ups incubated. AlmaCube hosts the initial phases of the start-up process, but cannot host any production-related activity or, more generally, the expansion of the business. The presence in the incubator is initially limited to one year, with a possible extension for another year at the discretion of the Steering Committee. AlmaCube does not focus on any specific

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6 Business Plan Competitions are mechanisms providing the opportunity to find, select and stimulate promising ideas from young students or graduates. Two years ago the University of Bologna started its own business plan competition, ‘Start-Cup’, which has been very successful. Some of the Start-Cup entrepreneurial initiatives are now hosted by AlmaCube.
industry or technological field. The aim is to sustain and leverage the multiple disciplines of excellence of the University of Bologna.

**Incubatore Imprese Innovative of the Polytechnic of Turin (I3PT)**

The Polytechnic of Turin incubator was the first university incubator in Italy, set up in 2000. The institutional mission is to leverage entrepreneurial potentials within the Polytechnic, thus favouring the creation of academic spin-offs. Yet, the incubator also is willing to host non-academic spin-offs, provided that they are high tech or knowledge based companies who can benefit from the close proximity to the Polytechnic and from having priority channels to access its knowledge. The incubator provides its services throughout the business development life cycle of new ventures, from business concept definition, to growth and independence. The average time of incubation is three years. The incubator also offers pre-incubating services which are meant to offer would-be entrepreneurs with the skills to evaluate their own capabilities and ideas.

In addition to logistic services, the incubators formalize relations with the Polytechnic, thus enabling entrepreneurs to use university facilities and to access university departments and professors to get technical advice for their business. The incubator also exploits the network of relations of the Polytechnic itself, thus offering to its companies access to other prestigious research institutions and other local key players in the region.

**Speed@Egg**

This is an E-Business incubator set up in February 2000. It was set up by a team of professionals combining wide expertise across different business disciplines to plan and manage internet start-ups and companies focused on enabling technologies and services from conception through to full operation. In addition to its founding team competencies, it provides its company with a global network of relationships with academic and financial institutions, important ICT companies and international incubators that keep the firms abreast of the latest market trends and investment opportunities. Its main technology partners include: I.net, Sun Microsystem, Icon MediaLab, E-Tree, IBM, Microsoft, Compaq, Oracle and Bea System. This broad network of relations is brought in by the management team, whose members have important previous job experiences in leading Italian consultancy and manufacturing companies. Speed@Egg provides advanced services in the following areas: venture strategy and management, marketing and communications, technology, financing, legal and administration, human resources. Selection processes are based on the capacities of incubatees to create sustainable value in future and to grow. Each project incubated has its own Speed@Egg team following it from the first to the last phase. Four new ventures are now hosted in the incubator.

**E-nutrix**

E-nutrix was set up in Milan in February 2000 by two ex-McKinsey consultants. The founders’ team was formed with the intention of combining proven investor track record (attracting deal flow) with ruthless execution skills (critical for the development of early-stage initiatives). E-nutrix’s founding partners believe that the combination of their skills is instrumental in selecting, launching, and nurturing valuable and lasting businesses. E-Nutrix supports its portfolio companies and selected third parties with hands-on operational support resulting in stronger and faster skills development.

Preference goes to already established companies, looking for acceleration in terms of capital or advanced technical and management skills. New ventures starting from scratch, however, are welcome. E-nutrix has an investment fund to which, in addition to its own contribution, several institutional investors contribute. E-nutrix can rely on a network of excellent partners, like IBM, Microsoft and EximSoft.

**BainLab**

BainLab is the incubator of Bain Cuneo and Associates, a leading Italian strategic consultancy company. The incubator stems from Bain Cuneo partners’ intention to fully exploit internal ideas (projects spill-over originated within Bain Cuneo and Associates), competencies and know-how acquired, and to nurture promising external ideas with high potential. There is no specific sector for investments and this is due to the availability of more than 300 consultants specialized in different fields, on which the incubator may draw at any time. Incentives to assist incubatees come from stock option mechanisms. The incubator also relies on an extended network of relations brought in by Bain Cuneo clients and partners. This network provides access to both technical and management skills, as well as to potential clients. BainLab does not consider itself a traditional incubator or a closed investment fund, but rather an evolution of strategic business consulting activities. During last year about 800 business plans were assessed by BainLab. Only 20 companies are now in the BainLab portfolio. Each project has a mentor (a Bain Cuneo partner) with specific competencies in the specific project area, who is responsible for following the new venture from its entry into the incubator until its exit.

**TelecomItalia Center for Technology Innovation (CTI)**

In June 2001, Telecom Italia launched the ‘Center for Technology Innovation’ in the trading center of Naples. The idea is to make the knowledge base, competencies, laboratories and related infrastructure of TelecomItalia R&D department available to promising would-be entrepreneurial projects. Target entrepreneurial initiatives are those in high-tech sectors (particularly ICT) both at a national and international level. The first company to be incubated was a corporate spin-off, created to exploit
knowledge generated within TelecomItalia R&D laboratories. The incubator has set up, together with the University of Naples, a business plan competition to leverage entrepreneurial potential within universities. This is in line with a strategic expansion of its initial mission (hosting companies different than corporate spin-offs). The center offers on its site advanced facilities, infrastructures and laboratories, together with the technical expertise of the management team (all of its members come from TelecomItalia R&D laboratories).

References


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