This paper reports an exploratory research on business incubators in Ecuador. The stakeholders’ involvement in the start and operations of the incubators is analyzed. The research also analyzes relevant factors related to the incubators’ effectiveness in nurturing nascent companies. Finally, perceptions of entrepreneurs on the effectiveness of services provided by the incubators are evaluated. Two survey instruments were developed and administered to managers of the incubators and entrepreneurs of tenant companies. Results indicate that one of the most critical factors regarding the stakeholders’ involvement relates to provision of funds both at the start and early-stage operation. Discussion and implications are presented.

**Keywords:** Incubators, Stakeholders, Entrepreneurs.
Introduction

Today’s world is highly competitive and moves in an atmosphere of rapid technology changes. In this context, technological innovation and entrepreneurship are seen as the new forces for economic growth worldwide (Lalkaka & Abetti, 1999). An effective environment for harnessing these forces is the private sector (Lalkaka & Abetti, 1999), mainly consisted of small and medium-sized enterprises (SME) (European Commission, 2002; Harper and Finnegan 1998). The report of the European Commission (2002a), for example, indicates that 20 million enterprises were the driving force for the economic wellbeing of Western Europe, and the vast majority of these enterprises were SMEs. Moreover, in Latin America, the contribution of the SMEs to the GDP is considerable and varies depending on the country. Previous research indicate that micro and small enterprises account for 98 percent of the existing companies in Brazil, employ about 60 percent of the active population although 80 percent of such companies tend to stop their operations before the end of their first year (Scaramuzzi, 2002). In Argentina, SMEs contribute to the GDP with 41%, 30% in Brazil, 7% in Colombia, and more than 50% in Ecuador (Prado, 2006). In other regions, however, large corporations, instead of SMEs, drive the economic prosperity of the country, as it is the case of South Korea (Arosemena, 2005).

Over the coming years, one can expect that the SME sector will continue to see a significant increase worldwide. These likely outcomes can be attributed, in great part, to the presence of business incubators and the constant entry of new companies, especially in industrializing and restructuring countries. In general terms, a business incubator is an organization conceived to assist an entrepreneur develops his/her project from the idea inception through to commercialization and the creation of a new enterprise (European Commission, 2002b; OECD, 1999). In other words, an incubator provides a supportive environment where overhead costs are reduced by sharing facilities, improving the survival and growth of start-ups and small firms at an early stage of development (European Commission, 2002b; European Commission, 2002c). By doing so, business incubators nurture nascent companies, helping them to survive and grow during their early stage, which is the period where they are most vulnerable (NBIA, 2005; Bøllingtoft, and Ulhøi, 2005). From the aforementioned, business incubation can be seen as one of the mechanisms to enhance and accelerate the development of the SME sector in the world.

As discussed in the next section, business incubation is becoming increasingly popular although this concept is relatively new. This concept is particularly flourishing in developing countries as the global competitive environment of today’s world is exerting pressure on implementing mechanisms for harnessing technological innovation and entrepreneurship. At the international context, a number of studies have addressed relevant issues regarding the performance and critical success
factors of business incubators. These topics, however, have not been widely investigated in Latin America since the business incubation field in some countries has recently been implemented, as it is the case of Ecuador. Accordingly, it is too early to make an ample analysis of the incubators’ performance and their effectiveness in fostering entrepreneurial activity in the country. Thus, the stakeholders’ involvement on the start and early-stage operation of the incubators became central to the present research. Moreover, it is also worth to explore about the issues related to the kind of services provided by business incubators as perceived by entrepreneurs of tenant companies. This ultimate objective of the study is significantly important due to its implications on future performance of enterprises initiated in these facilities.

Based on the previous discussion, the following questions are posed: How relevant has the stakeholders’ involvement been on the start and early-stage operations of the incubators in Ecuador? What are the perceptions of the entrepreneurs of tenant companies regarding the kind and effectiveness of services provided by the incubators? The present study is a first attempt, as we know of, to explore the reality of the country’s business incubation. Thus, the research represents a first diagnosis for a longitudinal study about the incubators’ effectiveness in helping new companies to survive and grow. The remainder of this paper is organized as follows. Section 1 reviews previous research on business incubators. In section 2, a summary of the science and technology policy in Ecuador is described. Section 3 presents a summary of the entrepreneurial activity in Ecuador. Section 4 gives a brief discussion on critical success factors of business incubators. These elements are then used as the basis for the design of the questionnaires in section 5. Section 6 presents the results of the survey and section 7 concludes the paper by discussing some implications.

**Previous Research on Business Incubators**

Although one of the first incubators started to appear in 1959 in the U.S.A., the concept of providing assistance services to business start ups in shared facilities did not gain popularity in many communities until the end of the 1970s (NBIA, 2006b). Thereafter, the number of business incubators in North America has risen from 12 in 1980, to nearly 1000 in 2005, while the amount of incubators is close to 4000 worldwide today (NBIA, 2006b). In the case of the European Union, a benchmarking study by the European Commission’s Directorate-General for Enterprise identified around 850 business incubators (LDA, 2004). Specifically in the U.K., more than 220 incubation environments were found (UKBI, 2006) in spite of the fact that 30 potential incubator providers were not longer operating in London (LDA, 2004). In a sense, this finding is an indication that the growth of business incubators is slowing down (LDA, 2004; Lalkaka & Abetti, 1999). On the other hand, it is expected that expansion of business incubation facilities will continue at the rate of 10 to 15 percent annually in industrializing and re-structuring countries (Lalkaka & Abetti, 1999).
Business Incubation in Latin America

In Latin American countries, the number of incubators has experienced a remarkable increase in the last two decades. In Brazil, for example, incubators came into place in the mid 1980s, as a response to the need of changes in public policy. By the year 1995, Brazil counted with 42 incubators and, recently, nearly 240 of them were operating (Almeida, 2005). Out of this number, 107 are incubators of technology-based companies; 51 for companies from traditional economic sectors; 40 are mixed that include technology-based and traditional businesses; 29 are cooperative incubators and 5 are private-type incubators (Almeida, 2005). From the aforementioned, we see that various types of incubators can be identified according to their nature and distinctive characteristics. However, it is not the purpose of this paper to discuss about them. In Colombia, incubators started to appear in the mid 1990s (Klok, 2001). By the year 2002, there were around 13 incubation facilities in the country (Skyrme, 2002). Business incubation dates back to 1990 in Mexico, as an initiative to support the creation, development, training and consultancy of small and medium size new companies (ICESI, 2004). There were 10 incubators in operation in Mexico by 1995 (Medeiros, 1998), experiencing a significant increase through 2004 to a number of 47 incubators (ICESI, 2004). In the case of Chile, there were 7 incubators in 2000, just three years later after the start of the first incubators. Since 2002, the Chilean government has launched several initiatives oriented to create more business incubators; however, no information has been provided on the matter. In Ecuador, business incubators are still in their infancy since their operations began in 2002. At the time this study started, there were four business incubators in the country although only two of them were already operating, one in its early-stage, and one was in the last stage of planning before opening its doors.

Science and Technology Policy in Ecuador

In 1979, the Ecuadorian Government enacted the law for the creation of the Science and Technology (S&T) System. However, it was not until the mid 1990s that the first S&T Program started when a loan from the Interamerican Development Bank (IDB) was approved and implemented during 1996 to 2001. Under the frame of this Program, five projects were developed that included the following: 1) Building up of science and technology infrastructure; 2) Support for R&D projects and S&T services; 3) Support for innovative projects within the private sector; 4) Training for Ecuadorians at the master and PhD levels, and 5) Reinforcement of the S&T System (SENACYT, 2005). When the economic resources from the IDB loan came to an end, the scarcity of funds almost led to the abandonment of the S&T policy. From 2001 to 2005, the S&T policy became to a state of fragility, mainly because of the lack of resources to operationalize the S&T policy in the country. This period was marked by significant political, social and economic changes that took place within
the country. With the increase of oil price, the country was experiencing a relatively economic prosperity. On the other hand, a considerable foreign debt and an inflation rate still rising have been barriers not easy to overcome. In spite of these difficulties, in 2005, the Ecuadorian Government passed a law by which some economic resources, coming from the petroleum exploitation, are being devoted to science and technology development (FUNDACYT, 2005).

Although the first S&T Program did not focus on the creation of business incubators, the Component 3 mentioned above was oriented to support technological innovation and entrepreneurial activities by offering funds to partially finance projects. Nevertheless, only few projects were financed. Perhaps, prospective entrepreneurial individuals perceived that the involved risk was too high or the financing conditions were not supportive enough for their projects. Currently, these types of projects are financed on a matching-grant basis, that is, 50% from the Science and Technology Foundation (Fundacyt) funds and 50% from the interested party. Since part of the funds financed by Fundacyt is non-reimbursed, this offer is expected to be more attractive for entrepreneurs than the previous strategy. Moreover, the incubators in the country are to be involved to help entrepreneurs develop their businesses. Also, a mechanism to support the formation of entrepreneurs was launched in Ecuador in 2003, which is called the Ecuadorian Support System for the Development of Entrepreneurs (SEAFE). This mechanism is sponsored by the Andean Development Corporation (CAF) and promoted by “Emprender” Incubator and a consortium of six universities in the country. By this initiative, joint efforts are focused on preparing university students for an entrepreneurial career and wealth creation through entrepreneurship (Ontaneda, 2006). Another initiative is the creation of the Ecuadorian Network of Incubators that is oriented to promote collaborative efforts and partnerships with other related organizations.

**Entrepreneurial Activity in Ecuador**

The importance of the entrepreneurial activity has been acknowledged for its contribution to regional economic development. Research conducted by the Global Entrepreneurship Monitor (GEM), a non-profit research consortium devoted to study the entrepreneurial activity worldwide, has reported a positive correlation between the level of activity of new businesses in a certain country and its level of economic growth (Reynolds & De Bono, 2003). To measure the degree of entrepreneurship, the GEM uses the Early-Stage Entrepreneurial Activity, formerly (TEA) Index, which indicates the percentage of the labour force actively involved in creating a new business, or being the owner/manager of a company more than three months but less than 42 months old (Minniti, Bygrave, Autio, 2005; De Clercq, Manigart, Crijns, Clarysse, Verzele, Zegers, 2003). The most recent GEM study reported a number of important findings, which have been summarized as follows:
“Early-stage entrepreneurs in high-income countries are, on average, more likely to survive in the market and become established business owners than early-stage entrepreneurs in middle-income countries. The ratio of opportunity-driven to necessity-driven business owners is higher in high-income countries than in middle-income countries. Evidence suggests a systematic relationship between the prevailing start-up motive in a country and the chance of new business survival. Countries that primarily exhibit opportunity-driven entrepreneurship seem to show a lower share of early-stage business failures than countries with higher shares of necessity-driven entrepreneurship. Higher growth rates of GDP per capita in middle-income countries are mirrored in the higher innovativeness and growth potential of entrepreneurial activity in these countries” (Minniti, et. al., 2005, p. 10).

According to the GEM study carried out in Ecuador, the TEA index was 27.24, occupying the third place in the world by the year 2004 (Lasio, Caicedo & Arteaga, 2004). This value for the TEA means that 27.24% of the adult population in Ecuador has been involved in an entrepreneurial activity. Complementing this information with what motivates entrepreneurs is crucial to understand why a developing country like Ecuador occupies the third place on the degree of entrepreneurship at the international context. Following the GEM considerations, there are two main motivations for entrepreneurship: opportunity and necessity. The former refers to the creation of a new business to exploit an opportunity, while the latter is associated with being involved in entrepreneurial activity because no better alternatives were identified. Computing the relation between opportunity TEA versus necessity TEA, the GEM study conducted in Ecuador reported that it falls among the group of countries with the lowest opportunity-necessity rate (Lasio et. al., 2004). This finding is not surprising because many Latin American countries and those considered emerging economies have an opportunity-necessity TEA rate lower than the one observed in developed countries.

Regarding the demographics of Ecuadorian entrepreneurs, the majority of them were between 25 and 34 years old, representing 37.5% of the studied population, followed by 23% comprised by younger individuals with ages between 18 and 24. Another important finding of the study carried out by the GEM in Ecuador was that 55% of entrepreneurs were men and 45% women. Finally, the GEM found that only 28% of entrepreneurs had university education, while 48% of them had finished secondary education. The low percentage of entrepreneurs with higher education coincides with that experienced by countries with low incomes worldwide (Lasio et. al., 2004). In summary, Ecuador seems to be a fertile land for entrepreneurial activity. This assertion is based on the following considerations: 1) the TEA index positions Ecuador in the
third place after Peru and Uganda; 2) Ecuadorians believe they have the skills required to create a new business; 3) Ecuadorians foresee business opportunities in the near future; and 4) The existence of a supportive cultural environment for entrepreneurship.

From the above discussion, we can conclude that an incubation system in Ecuador is crucial to better exploit the individuals’ entrepreneurial spirit in the country. It is important, however, to firstly analyse and understand what factors can make an incubator succeed. By doing so, we may anticipate future possible negative or positive outcomes.

**Incubators’ Success: Critical Factors**

Business incubation is a relatively recent phenomenon, still evolving (Lalkaka & Abetti, 1999), particularly in developing countries. Given this premise, it seems too early to measure the performance and economic contributions of incubators in these countries. Some authors have observed that measurements of performance for business incubators still remain unclear (Phan, Siegel & Wright, 2005). In a sense, this problem departs from failure in identifying valid dependent variables for the performance construct (Phan, Siegel & Wright, 2005). Other researchers have contributed to construct theories by analyzing several critical success factors in relation to the effective operation of the incubator system. Lee & Osteryoung (2004), for example, addressed this issue and summarized the factors as follows: goal/operations strategy; physical/human resources; incubator services, and networked program. According to these factors, Lee & Osteryoung reported evidences that business incubators of universities have contributed to the growth and survival of their tenants, which means that they are a viable system for business venturing. Lalkaka & Abetti (1999), based on field experience in establishing new business incubator programs in many restructuring countries, maintain that the determinant factors for the economic, social and political success of incubators evolve along four stages from the initial design to sustained operation. These key success factors include the preparatory process followed by the implementation stage, then the start and the sustainability of incubator operations. The first stage refers to a feasibility study, in which the entrepreneurial pool of potential tenants, linkages to universities, the support services network, the availability of appropriate space, and financing issues are analyzed. The next step addresses the management board, legal aspects, screening of the technical business and market potential of tenants, promotional campaigns, and the search of international technical assistance. The start of initial operations requires access to equity, credit and royalty facilities by tenants, involvement of private sector, links to other SME programs and support systems in the country, and exchanges of information and benchmarking. The last stage is perhaps the most critical one because it deals with the sustainability of incubator operations. This stage involves the proactive pursuit of business opportunities, ways of raising income through corporate memberships, appropriate fees for
securing finance, equity/royalty in tenant companies, an objective evaluation of the incubator experience, political stability, macro-economic policy structure and regulatory framework.

A study conducted by the European Commission Enterprise Directorate-General reported a number of key factors in successfully establishing and operating incubators (European Commission, 2002c). These factors are as follows: 1) the role of stakeholders; 2) location and physical aspects of incubator operations; 3) the definition of the incubator’s objectives; 4) the type of companies they attract as clients; and 5) issues associated to the financing of incubator start up and operating costs. Regarding the factors related to the support of stakeholders, evidences indicate that the broader the partnership of public and private sector, the higher the likelihood to succeed. A particularly important issue of the stakeholders’ contribution is associated to the financing and other types of support such as expertise, access to facilities, and corporate venturing. Another key factor deals with location and physical aspects of the incubator operations. The location of a business incubator is related to the aims it pursues. For example, an appropriate place for an incubator oriented to promote technology-based enterprises may well be a location adjacent to a university. With regards to the incubator role and objectives, the study conducted by the European Commission (2002c) reported that contributing to the competitiveness of local economies and job creation are among the main objectives of most incubators. The number of clients they attract and the performance of these enterprises are other critical factors for successful performance of incubators. In addition, this study argues that beyond the revenues accumulated to cover operating costs, more fundamental to assess the performance of an incubator is the performance of tenant companies. In relation to the initial funding and operating costs, the scheme used to finance the startup of business incubators and the way in which they generate sufficient revenues to cover operating costs are other critical factors for their success.

Method

The present work is a qualitative study that seeks to answer questions on critical aspects associated to the start and operation of business incubators in Ecuador. Specifically, this study explores the stakeholders’ involvement and perceptions of entrepreneurs of client firms regarding the type of services, and how effective these services have been in supporting the survival and early-stage growth of nascent companies. This research represents one of the first attempts that we know of in carrying out a preliminary diagnosis regarding the factors related to the start and early-stage operation of the incubators in the country. This diagnosis is worthwhile since it can help to reorient the efforts and existing practices to achieve the expected performance of the incubators and the companies lodged with them. Based on the extant literature, two structured questionnaires were designed and administered to managers of incubators and to the entrepreneurs of tenant companies.
What comes next is a description of the process followed to design the questionnaires and how the gathering of data was conducted.

**Stage 1: Design and validation of the questionnaires**

Based on the identification of key factors in attaining effective operations of business incubators and on research conducted in other countries, two structured questionnaires were developed. The first questionnaire was oriented to collect data about the following aspects: 1) Early-stage performance of the incubators; 2) The stakeholders’ involvement; 3) The type of support and nature of business relation with the incubators’ stakeholders; and 4) The services and activities developed by the incubators to support tenant companies. The second questionnaire included the following sections: 1) General issues regarding prior working experience of the entrepreneurs; 2) The incubators’ services; 3) Internal and external networking; and 4) Self-report of tenant companies on their early-stage performance; and 5) Role of the incubator in the tenant companies’ attainments. In order to determine content-related evidence of validity, the instrument was reviewed by local experts. Thus, the first version of the instrument was reviewed to determine how appropriate and comprehensive the content was, as well as how adequately the questions represented the content to be assessed (Fraenkel, & Wallen, 2003). According to this revision, an improved version was developed until the final document was achieved. The other instrument was provided by researchers of the Ghent University (J. Brunell, personal communication, December 2005). This instrument was translated from English to Spanish and back-translated to ensure accuracy, using the method suggested by Behling & Law (2000). Due to the small number of incubators and tenant companies, the validation of internal consistency was not carried out.

**Stage 2: Administration of the questionnaires**

The questionnaires were administered to managers and entrepreneurs of tenant companies of the two incubators in Ecuador, one in the city of Quito and the other in Guayaquil. In fact, at the time this study initiated there were only two incubators operating, one (in Loja) that had just started and the other (in Cuenca) was in the last stage of planning before opening its doors. The managers of these incubators were contacted by telephone to invite them to participate in the study and to set up an appointment for an interview. Confidentiality of the information provided by the interviewees was promised. Due to the difficulties in making a face-to face interview, the questionnaire to entrepreneurs of tenant companies was administered by telephone. By doing so, eight entrepreneurs agreed to participate in the study.

**Results and Discussion**
Data regarding key aspects on the initial performance of the incubators are described. Then, a summary of the most relevant aspects is presented with regards to the stakeholders’ support and to what extent this support has been critical on the creation and sustainability of the incubators. Next, a description of general information about the entrepreneurs of tenant companies is presented. Finally, the entrepreneurs’ perceptions of how the incubators’ services have supported the survival and early-stage growth of tenant companies are described.

**Issues on Early-Stage Performance of Incubators**

Since the incubators in Ecuador started in 2002, it is too early to make a comprehensive assessment of their performance. In spite of few years of operations and the difficulties faced by these incubators, their performance seems to be promising when looking at the number of companies that had been created at the time this study started. In fact, nine companies were created, five at the incubator in the city of Quito and four in Guayaquil. These facilities are non-profit organization and receive funds from various universities and local governments. Nevertheless, these incubators have experienced and continue experiencing scarcity of funds for their operations and sustainability. This reality is in part due to the lack of policies oriented to support these facilities. Moreover, similar to the situation in restructuring countries (Lalkaka & Abetti, 1999), the funding by public organizations and other donors is not on a regular basis and bureaucrats are not business oriented. Thus, these facilities will continue to operate under increased pressure to reach economic sustainability. The first section of the study also investigated about the selection criteria used by the incubators’ management to accept a tenant company. The findings indicate that one of the selection criteria is whether or not a company is based on technology, which means that a firm offer innovative products and services that add value to the marketplace and involve certain level of technology. Based on this consideration, we found that seven companies offer technology-based products and the other two offer services based on technology. Other criteria used to accept a tenant company at the incubators’ facilities respond to the following questions: Are the products and services offered to the market innovative? Does the company have a sound management team? Is it foreseen that a tenant company will achieve at least a moderate economic impact for the Ecuadorian society? Accordingly, the interviewees indicated that all of the tenant companies meet these requirements and offer innovative products and services that add value to the marketplace. The technology involved in goods and services delivered by these companies fall into incremental innovation in the sense that they include the improvement and modification of existing technologies. This finding is not surprising because developing countries, as it is the case of Ecuador, has mainly evidenced entrepreneurial activity with low level of innovation (Turriago, 2002). As for the licensing of technology from a university or a research organization, none of the companies have been granted a license to
commercially exploit a product or service. One of the entrepreneurs reported that a patent for his invention was granted from Ecuador and several other countries in Europe and North America.

Despite of the number of companies created at the incubators, the managers of these facilities pointed out that the small number of opportunity-driven entrepreneurs is an issue. According to the findings only few individuals looking for the incubators’ support are entrepreneurs who pursue to create new ventures with high growth potential. This reality take us to argue that there is still a long way to go on preparing individuals for an entrepreneurial career regardless of the initiatives and efforts to support the formation of entrepreneurs that was described previously.

The Stakeholders’ Involvement

This section analyses key aspects about the stakeholders’ support and how critical it has been regarding the start and current operations of the incubators. A number of public and private organizations have been involved in this commitment. Amongst others, the Ministry of Commerce and Industry (MICIP), local governments, international organizations, Chambers of Commerce and Industry, independent investors, and several universities have cooperated in different ways. From one side, they have been helpful in demonstrating interest in an incubation system in the country. Accordingly, these organizations have been supportive in facilitating all the required paperwork for the creation of the incubators. On the other side, sponsorship of the participating universities has been of great importance in providing funds both for the launch of these facilities and for their current operation. Nonetheless, the funding is still insufficient to ensure their sustainability considering that the amount of money provided by these organizations is rather low. Moreover, taking into account that the incubators just started few years ago, there is still years to go to reach an acceptable level of incomes from the services delivered to tenant companies.

Entrepreneurs’ Perceptions on the Incubators’ Services

What follows is a description on general information of the entrepreneurs of tenant companies and their perceptions of how the incubators’ services have supported the survival and early-stage growth of their companies. The findings indicate that the founding team of the tenant companies is comprised of mainly two persons. The entrepreneurs are, in average, 35 years old and posses a degree at the undergraduate level, mostly in technical areas. Moreover, these entrepreneurs are well experienced people in research and development (R&D) and their expertise in the business sector is nearly 9 years in average (see Table 1).
Table 1. Key data of the entrepreneurs and tenant companies

<table>
<thead>
<tr>
<th>Field of study</th>
<th>Age of entrepreneurs</th>
<th>Number of partners</th>
<th>Number of employees</th>
<th>Years of experience in R&amp;D</th>
<th>Years of experience in the business sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer science</td>
<td>34</td>
<td>3</td>
<td>12</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Agriculture</td>
<td>45</td>
<td>2</td>
<td>10</td>
<td>28</td>
<td>10</td>
</tr>
<tr>
<td>Administration</td>
<td>29</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Agriculture</td>
<td>30</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Administration</td>
<td>27</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Design and Production</td>
<td>59</td>
<td>2</td>
<td>0</td>
<td>8</td>
<td>18</td>
</tr>
<tr>
<td>Administration</td>
<td>34</td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Computer science</td>
<td>21</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td>5</td>
</tr>
</tbody>
</table>

N= 8

According to the findings, performance of the tenant companies, in terms of the number of employees, can be regarded as remarkably good if we take into account that these firms are less than three years old. As observed in Table 1, the average of jobs created by each company is six despite of the fact that one of the firms had not hired any personnel yet. Another interesting finding is that the majority of tenant companies offer products and services that fall into the entrepreneurs’ expertise area. Thus, the entrepreneurs have been able to identify and exploit an opportunity taking advantage of their experience in R&D and expertise in the business sector.

The last section of the study investigated about the entrepreneurs’ perceptions on the incubators’ services and how they self-assess their companies’ performance. The entrepreneurs were asked to rate the importance and effectiveness of the services provided by the incubators. Variables were measured in a Likert-type scale from 1 to 7, where 1 represents “Not important” and 7 “Very important”. Similar scale was used to measure the effectiveness of the incubators’ services in supporting the creation, survival and early-stage operations of the tenant companies (see Table 2). In general terms, the services provided by these facilities are considered of great importance in supporting the creation and survival of nascent companies. Specifically, developing a business plan was considered as a very effective service for starting up a business and the early-stage operation of the firm.
The interviewees were also asked to self-report their companies’ performance in terms of: job creation, revenues, and development of new products and services. As shown in Table 3, the evaluations made by the entrepreneurs indicate that the tenant companies are successful when these three variables are used. Fifty percent of the entrepreneurs reported that their companies have performed well in terms of jobs created. For the other two variables, more than 60% of interviewees considered that their companies are successful or very successful.

Table 3. Self-report of companies’ performance

<table>
<thead>
<tr>
<th>Companies' performance</th>
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<tbody>
<tr>
<td>Jobs created</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>6</td>
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<td>5</td>
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</tbody>
</table>

N = 8; ND: No data was provided
Finally, the study made an overall assessment of how supportive the incubators have been for the start and development of the tenant companies. For this purpose, the entrepreneurs were inquired to choose among three alternative responses. These alternatives were as follows: 1) critical, without the incubator’s support, the company would not have been successful; 2) important, the incubator’s support has been helpful but not critical to business success; and 3) not very important, the company would have done as well elsewhere. We found that 38% of the interviewees consider that the incubators’ support was critical. Said differently, the company would not have been successful without such a support. Moreover, fifty percent of entrepreneurs evaluated the incubators’ support as important but not critical for the firms’ success, and only one entrepreneur indicated that it was not very important.

Implications

Although it is too early to make a deep assessment of the incubators’ performance, the study is worthwhile because it represents a first diagnosis for a longitudinal study about the incubators’ effectiveness in helping new companies to survive and grow. Moreover, this diagnosis can help reorient the efforts as well as the existing practices and the formulation of strategies to achieve an overall good performance of the incubators and the firms initiated at these facilities. Thus, a follow up research study needs to be conducted to have a better insight of the benefits provided by the incubators. It is also advisable to carry out cross-country studies in order to observe similarities and differences on the incubators’ contributions to the survival and growth of nascent companies. This kind of studies can help to observe the incubators’ strengths and weaknesses and how they can be managed to convert them into opportunities. Although in this study a profound analysis of the incubators’ performance was not conducted, the findings presented here are nevertheless still of great value because they allow policy makers and all of the stakeholders involved to know which problems these incubators face in nurturing tenant companies as well as in their sustainability.
References


Scaramuzzi, E. (2002). Incubators in Developing Countries: Status and Development Perspectives, *The World Bank*, Washington, DC, May, available at [http://wbln0018.worldbank.org/ict/resources.nsf/a693f575e01ba5f385256b500062af05/466a1b5b402c714e85256e7c0067a72f/SFJLE/incubators.pdf](http://wbln0018.worldbank.org/ict/resources.nsf/a693f575e01ba5f385256b500062af05/466a1b5b402c714e85256e7c0067a72f/SFJLE/incubators.pdf)

