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"COMPARATIVE ANALYSIS OF UNIVERSITY BUSINESS
INCUBATORS IN ITALY: THE CASES OF START CUBE, I3P AND
INCIPIIT CAMPANIA"

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Firma dello studente

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¹ Gibran K. The Prophet. Knopf, New York 1923.

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Abstract

The creation and development of an ecosystem that is in favor of the birth of start-ups represents an important scenario, that government and local authorities have been considering as fundamental for years. Especially if we consider the role that they are assuming today within the so-called *knowledge-based economies*, where start-ups act as main innovation creators accounting for a no-negligible portion of a nation's richness.

In the formation of this such supportive ecosystem for the start-ups, Business Incubators have a vital relevance since their mission of helping start-ups in overcoming all their problems related to the lack of financial resources and of an adequate system of relations with all the external actors that revolve around them. University Business Incubators, object of this thesis, fall under the category of Not-for-profit Incubators and represent today a preferential channel chosen by the start-ups for their incubation path. The main reason must be necessarily searched in the ability of these actors in providing to the incubatees not only the traditional incubator's services, that materialize in granting a physical space and a different complementing services related to it, but the possibility for the start-ups to be inserted in a context full of experience, knowledge and with a strong resonance in all the territory, as that of Universities.

So the first research question, here, is that of analysing and deeply screening them through a complete examination of their structure and Business Model that allow to focalize on the main strengths and criticalities of the University Business Incubators. This study creates the premises for the second question of the dissertation: trying to understand the impact that the local context and public authorities have in their life. Their support is supposed to be vital not only from the economic point of view but also in paving the way to their development within the business environment.

Both the questions are answered thanks to the deep analysis and illustration of three real Italian University Business Incubators, opportunely selected according to our research's aim. They are Start Cube, I3P and Incipit Campania, respectively the incubators associated to the University of Padua, Polytechnic of Turin and both Federico II University and University of Sannio. Their study is implemented from two point of views: an external individual analysis of each unit and the possibility to have a direct approach with them thanks to face-to-face interviews. This way of proceeding helps to have a clear frame of the actual role of University Business Incubators in Italy and to highlight the main points that will clarify if Italy can be defined or not as an accommodating country for their development, as in the aim of this thesis.

Introduction

It is absolutely out of discussion that the modern competitive environment is stressing some important points about the weight that innovation actually has in the economy of nations: innovation and its economical exploitation as the main mean to reach a strong competitive advantage on the other actors, worldwide. Even if this concept is deeply rooted in the past, today it seems to assume a stronger relevance looking at:

- The general economic depression that each nation is facing;
- The continuous growing of global competition that is putting a strong pressure on the traditional actors in charge of producing and spreading innovation.

As a matter of fact, this background has created a new important scenario: innovation accounts for a relevant slice of profits in the balance sheet of nation, and is an important pillar for the development of a territory. However, it is able to achieve these goals only in the presence of two fundamental premises. The first concerns the conviction for which the paradigm innovation is equal to economic development, has sense only when it translates in something really concrete. Therefore, we are talking about the ability to transform a mere idea, with an intrinsic economic potential, in a new product/service to launch in the market. The second one, that assume an even greater importance, is related to the creation of an organization culture and broader environment that is conducive to, and supportive of, such activity.

It is exactly in the creation of this supportive environment that Universities have to play an important role, both through the formation of an adequate *forma mentis* voted to the entrepreneurial values for all the actors that revolve around them, and in the building of accommodating structures able to follow a start-up in all the steps that will conduct it to the real market. Since years Universities have been considered as entities out of the economic logic of profit, and so closed in its ivory towers. However, it is in the light of these facts that there is the necessity to re-think the Business Model of Universities, as fundamental connecting figures that act as a bridge between the academic and the entrepreneurial world. The focus is pointed on them because of clear reasons:

1. They represent a meeting place of researchers, experts and young students and so a fully-ferment structure, from which can be created new knowledge to be exploited for the implementation of innovation for the market;

2. On the other side, they can paradoxically represent the main stop in this passage from the mere idea to the market, when a research or a project, here developed, remains on the paper.

Starting from these preliminary considerations, the main topic of this thesis is studying the role of University Business Incubators, a particular category of Business Incubators and then natural consequence of about it has been said above. The study will be implemented through the illustration of three real cases of University Business Incubators present in Italy that are:

1. Start Cube: the University Business Incubator of Padua;
2. I3P S.c.p.A: Innovative Companies Incubator of Polytechnic University of Turin;
3. Incipit Campania: the Incubator that is formed on the cooperation of University Federico II of Naples and Università Degli Studi Del Sannio.

They could be very fitting cases that allow answering our research questions. Firstly, clarifying what about their main characteristics, processes, benefits for start-ups and criticalities related to them, and what are the differentiation features in respect to the traditional Business Incubators. The author Sarfraz Mian talks about *value-added services* (Mian, 1996)² to indicate those services that only the University Business Incubators are able to provide to their incubatees, and that put them as preferential actor to be chosen by start-ups in order to grow in a real vital and nourishing environment, fundamental for their life. Therefore, it will be important to analyze what are these value-added services, in which way they can affect start-up formation and performances, and if really only the UBIs³ are able to provide them.

Through a total examination of the University Business Incubators is possible to shed light on other important aspects that define the second research question, regarding how fundamental is the support of the public authorities for the life of these actors. Classified as Not-for-profit Incubators and so the only form of profits is represented by the fees that the incubatees periodically pay to have a space within them, it is evident that the support of the authorities is essential, but not only from an economic point of view but also in creating the conditions for their development.

Made this important premise about the main questions of this work, the purpose is to contribute to the international incubator literature by exploring all the features regarding the University Business Incubators, in particular looking at the role that these actors have in the Italy. In any

² Mian S. (1996). Assessing value-added contributions of university technology business incubators to tenant firms. Research Policy Elsevier Science, p. 1-11

³ UBI stands for University Business Incubator.

case, it is important firstly to clarify what is intended with “features” of an UBI and why it has been decided to focus on the Italian context.

In order to provide a complete study of these actors, as in the aim of this dissertation, the approach to the study will be that of deeply analyzing all the aspects of an University Business Incubators, both qualitative and processual. Therefore, with the term “features” is intended:

1. Analyzing its structure and Business Model;
2. Describing all the Incubation processes for the incubatees: it means to enlarge the point of view and looking at the skimming process of all the possible incubation proposals and the criteria through which they are selected, as first. This process intersects itself and complements the entire pre-incubation phase that each start-up faces, before the official annexation within the incubator. After a study of all the subsequent steps/phases according to the specific case, will be presented;
3. Studying the services at disposition of the start-ups, opportunely dividing the traditional physical services and the value-added ones;
4. Trying to summarize the performances of UBIs at the end of the last economic year, according to the available statistics.

All the points, mentioned above, will be treated thanks to the presentation of three real Italian University Business Incubators that represent the objects of this thesis. They are:

- Start Cube, the University Business Incubator of Padua. It was born in 2004, today it represents a key actor in Veneto for the spreading of an entrepreneurial culture in the region, through its fundamental services to the start-ups that have the possibility to exploit all the knowledge and experience linked to the University of Padua and to be inserted in well-consolidated network. It is part of a region and ecosystem already strongly voted to the creation of new businesses, and that believes in the precious mission of the incubators. It represents also an interesting case, due to the administrative change occurred very recently with the annexation within the Scientific and Technologic Park Galileo and its related consequences;
- I3P S.c.p.A: Innovative Companies Incubator of Polytechnic University of Turin. It is without any doubt, the most recognized and performing University Business Incubator in Italy and not only. Its contribution to the start-up way of thinking and economic development of Piemonte Region allows it to have an international appeal and to be included among the best UBIs in Europe.

- **Incipit Campania:** the Incubator that is formed on the cooperation of University Federico II of Naples and Università Degli Studi Del Sannio. It is the younger UBI among those analyzed, and the first within the Campania Region. Since this premises it can be considered a pioneer in this sense and a sort of start-up itself, interesting to study in order to understand the reasons for which it is actually in a quiescence phase.

The choice of these three units of analysis is linked to the purpose of this thesis, of focalizing on the Italian context. In the light of the important initiatives made in some important European countries:

- France, where the government policies about the development of competitiveness have provided for incentives to the creation of innovative clusters;
- Finland with supportive actions for the start-ups creation in the high technology sectors (ICT, life-science and biotech);
- Germany with the start of the program *EXIST*, focalized on the academic spin-offs and the development of the entrepreneurial culture. In particular it looks at all the technology transfer processes within the high-formation schools;
- Holland, where different actions have been implemented to stimulate forms of partnership among businesses, universities, incubators, banks and other financial partners.

So, it is important to understand how Italy have reacted during these years and is reacting now, if the government and local authorities have a strong relevance in the life of these UBIs and in which way they influence them. Ultimately trying to establish which can be the opportunities or criticalities for an University Business Incubator in Italy, and if it can be defined as an accommodating country for them.

In order to answer the questions of this dissertation and trying to accomplish in full to its goals through the illustration of the three cases, direct interviews will be conducted to the main figures within each of the unit of analysis:

- Ms. Giulia Turra, Business Developer at Start Cube;
- Professor Marco Cantamessa, CEO and Chairman of the Board at I3P;
- Mr. Achille Caldara, Organizational Manager at Incipit Campania.

Each interview will be structured in a way that it is possible to distinguish two specific parts. In the first one, also called hardware part, in which will be discussed the numbers and results of each incubator concerning the last economic year. Meanwhile in the second part, called software part, will point out the incubation steps, the services at disposition of incubatees with

a particular focus on the network and internal relationships and the main organisational aspects of the specific UBI. Only by using this approach, it is possible to deeply understand these University Business Incubators in their totality.

In general, this thesis is composed by three chapters:

The first chapter aims to introduce the concept of Incubator, with an initial introduction on the strict relation that exists between innovation and Business Incubators. So starting from the evolution of its definition during the time and continuing with a revision of the existing literature, it is studied its function for the start-up and its main features. A separate final paragraph is dedicated to the different type of Business Incubators, which are the criteria in order to classify them according to the Allan and McCluskey theory (Allen D.N., McCluskey R., 1990)⁴ and according our personal suggestion.

The second chapter, in a process of continuous approach to the object of the thesis, concerns the specific category of University Business Incubators. Firstly a look at the role of the Entrepreneurial University in the modern context and then a list of the different definitions proposed by authors of UBIs. It continues with a complete screening of these actors and with a particular mention to the academic spin-offs. The reason is that they represent the more clear final product of this entrepreneurial transformation of Universities.

The third and last chapter concerns the analysis of the three cases according to the methodology briefly explained in the beginning of this paragraph. This chapter has the task of providing answers to our main questions, and it concludes with a final comparison among them. The comparison allows to not simply highlight similarities and differences but to touch some other important aspects of Italian situation and Italian UBIs. All these aspects will be definitively resumed in the conclusions, with the attempt of defining a clear frame of the Italian context and problems.

⁴ Source: Allen D.N, McCluskey R., (1990). Structure, Policy, Services and Performance in the Business Incubator Industry. Entrepreneurship, Theory and Practice.

CHAPTER 1

The Incubators and the Incubation Program: “21st Century will rely on knowledge, innovation, entrepreneurship and Business Incubators”

1.1 The evolution of Incubator definition

“It is categorically accepted by researchers that the 21st century will rely on knowledge, innovation, entrepreneurship and Business Incubators. The ideas of human capital, knowledge and Research and Development have evolved the economies towards knowledge based economies in which concepts such as innovation, knowledge transfer and the presence of supportive infrastructures have assumed a crucial and quite vital importance” (Jamil, Ismail, Mahmood, 2015). What emerges is the need of a clear overview about the significant role played by Business Incubators, starting by analysing the evolution and differences that came in succession during the years about Incubator definition.

The dictionary dates its entry in the 1857, where Webster’s Dictionary defines the term incubator as: “an apparatus by which eggs are hatched artificially b: an apparatus with a chamber used to provide controlled environmental conditions especially for the cultivation of microorganisms or the care and protection of premature or sick babies”.

It is only starting by the middle of 1980’s that editors of business journals dedicated a session to business incubation and the definition of business incubator began to emerge.

We assist to the proliferation, in these years, of a serious of papers having the incubation phenomenon at the centre. The great number of academic researches follow the increasing trend of Business Incubators’ formation as underlined by an NBIA (National Business Incubator Association) study in the 1992, where more than fifty American Universities built new technology/business incubation facilities around their campus, during those years.

All of these papers have as least common denominator the importance of facility, infrastructure and building presence (in other words a physical space) within the incubator for new companies:

“An Incubator must have a physical plant with below market rents, shared services, logistical support, and business consulting services” (Gatewood et al., 1985; Allen, 1985; Peterson, 1985).

It is with Allen and Weinberg in the early 90’s that it became evident that the industry had shifted its focus to value added services provided by the incubators such as entrepreneurial training, mentoring programs and networking opportunities rather than what mentioned above. This marks the beginning of new approach to the incubator’s concept: when discussing the incubator, it is important to keep in mind its totality.

“It is not a just shared-space office facility, infrastructure and mission statement, it is also a network of individuals and organizations including the incubator manager and staff, incubator advisory board, client companies and employees, local universities and its members, industry contacts, and professional services providers such as lawyers, accountants, consultants, marketing specialists, venture capitalists, angel investors and volunteers” (Hackett and Delts, 2004).

It is clear the passage *from incubation facility to the process of incubation*. The point of view moves on the the supportive environment for new companies, a nurturing environment necessary to hatch them.

The National Business Incubator Association currently defines a BI⁵ as:” A dynamic process of business enterprise development. Incubators nurture young firms, helping them to survive and grow during the start-up period when they are most vulnerable. Incubators provide hands-on management assistance, access to financing and orchestrated exposure to critical business or technical support services. Most also offer entrepreneurial firms shared office services, access to equipment, flexible leases and expandable space, all under one roof”

It is important to stress the point on this last definition, since it also signed the line of demarcation between what are considered the yesterday incubators and the tomorrow ones. Such close examination of the different definitions of business incubators represents, in fact, a clear trace of the development of the heterogeneous types of incubators that today live in the economic environment.⁶

“Most” and not all the business incubators rely on a structured physical space and this signifies that the same atmosphere can be re-created and same benefits can be reached without it. The

⁵ BI stands for Business Incubator. The use of the term “Incubator” in this work reminds to BI concept

⁶ The different typologies of incubator will be examined later.

observation lens is pointed on the thick networks and virtual linkages with all the external economic actors that an incubator is able to implement.

This is what the *Cognitive Proximity* can generate, and it seems will gradually replace (not without question marks and criticalities) the *Geographical Proximity* on which a deep literature is based on.

1.2 Incubator Literature Review

The literature for incubation is quite new and often ambiguous. The ambiguity is mainly related to the interchangeable manner in which terms such as “Research Park”, “Technology Innovation Centre” and “Business Incubator” are used in the literature and the concept of “Business Accelerator” that is often used as synonymous of business incubator, inappropriately. It makes even harder to implement a systematic review of incubator literature, since this generalization of the concept obstacles what to include in the sample of incubator population researches to analyse.

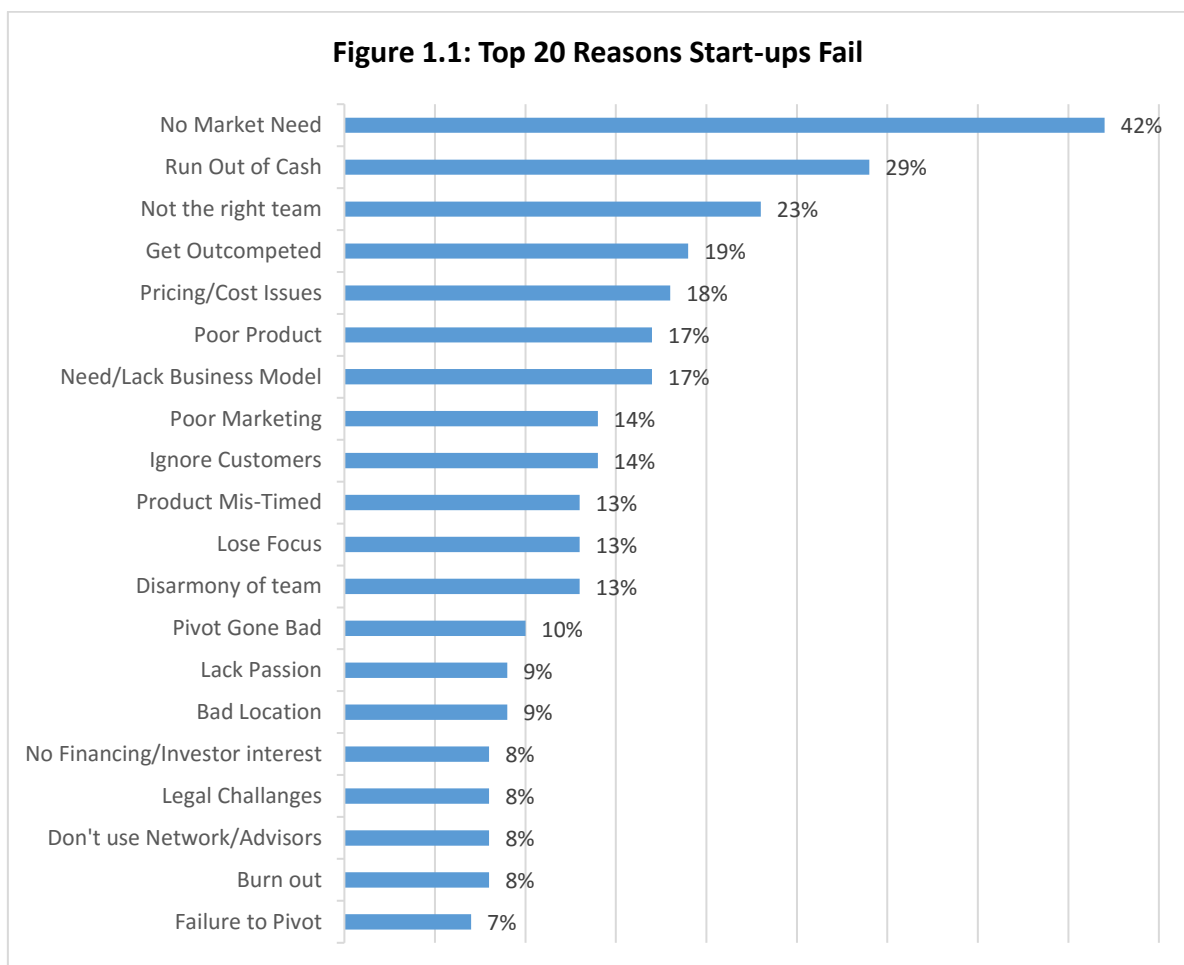
Despite such criticality, recognized but not really examined in depth by researchers, and despite the relative novelty of the topic, the literature is plenty of works and it reveals a constant attention dedicated by academic researchers and authors, demonstrated by the continuous development of theories about new forms of incubation.

The reasons have to be investigated in the linked benefits that an incubator is able to generate for the economic development. It is out of discussion that an economy will only be able to survive if its entrepreneurs keep following the path of continuous innovation (Schumpeter, 1942). Start-up companies constitute strong and important players in the innovation process, their formation and growth is one of the priorities of policy makers, worldwide.

It is this assumption that seems to be the fundamental point of each research, it moves beyond the different conflicting opinions about the most important aspects of an incubator and what are its main aims.

Regardless of its stated goals and objects, “the universal purpose of an incubator is to increase the chances of a client firm surviving its formative years” (Allen and Rahman, 1985). Nevertheless, it is not a surprise that the start-up failure rate is rather high, as demonstrated by a study of OECD in 2002. On average, one on three new European enterprises fails before the second year of its existence, 50% to 60% never survives the seventh years. Further, a NBIA research shows that only a small percentage of start-ups is able to overcome the typical “*five*

year survival rate". A very recent study, promoted by Fortune explains that nine out of ten start-ups fail, so much that some American researchers talk about "cult of failure". All new businesses are firstly forced to face the problem of recognition of their idea, investors could consider it not commercially viable and so not worth to be financed. In the same study, CB Insights parsed 101 post-mortem essays by start-up founders to pinpoint the reasons they believe their company failed. Number one reason for failure, cited by 42% of polled start-ups, is individualized ex-ante the possibility of financing funds, that is the lack of market need for their product. Many start-ups build things people do not want with the irrational hope that they will convince them otherwise. The Figure 1.1 below summarizes the top 20 reasons for start-ups failure:⁷



Source: <https://www.cbinsights.com/>

Stinchombe in the 1965 coined the term "*Liability of newness*" to collect all the disadvantages that a new business is constrained to face. He focus on the problem, looking more at their strategic and organizational liabilities:

⁷ Source: <https://www.cbinsights.com/>

1. New organizations operate inefficiently as long as people do not learn their roles, and organizational routines have not been developed;
2. New organizations must rely heavily on social ties among strangers, and the consequent lack of confidence translates into an additional source of organizational inefficiencies;
3. The construction of a stable portfolio of customers takes some time, during which customer-producer ties are still very fragile.

In this framework, Business Incubators represent an important tool to promote innovation and oppose to this high start-up failure rate, reducing the liabilities of newness. Business Incubators constitute an environment, especially designed to hatch enterprises (see e.g Lalkaka, 2003). They provide their client companies with several facilities, from office spaces to capital management support and knowledge. This allows start-ups to concentrate on the business plan and raises the success rate.

Through the activities of mentoring and advising in all the aspect of business development and growth, the incubator gives a vital help to the start-ups in achieving their universal goal: to survive and develop as a corporate financial entity that delivers value to the owner/s (O'Neal, 2005)

Start-up companies located in a business incubator is demonstrated to have:

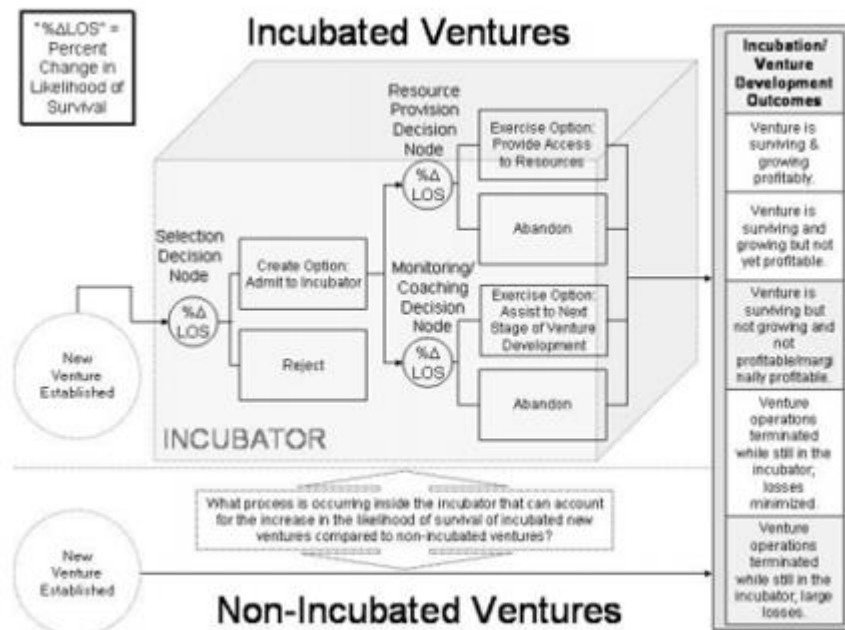
- A higher survival rate (Ferguson and Olofsson, 2004; Sherman, 1999; NBIA, 2001). The 87% of incubator graduates surpass the five year mark;
- Higher sales growth (Lofsten and Lindelof, 2001, 2002; Colombo and Delmastro, 2002);
- Better innovation performance (Tamàsy, 2007).

The substance is that an incubator provides start-up companies with an environment and variety of services to help them grow more quickly and successfully. It can be considered as a centre of hyper connectivity, where several different areas of assistance are coming together to add value for clients.

Sean M. Hackett summarizes the benefits that a client firm has from the incubation process through his Real Options View of the incubation process. In the Figure 1.2 is clearly depicted a comparison in terms of likelihood of survival between incubated and non-incubated ventures.

Hypothetically, at each decision node in the incubation process, the likelihood of the surviving incubatee is changed by how well the option is exercised:⁸

Figure 1.2: Real Option View Theory



Source: Hackett, Dilts (2004)

Once clarified what about the main function of an incubator (a constant in each incubator's research) as savior for new ventures and promoters of innovation, the review of literature is made easier by distinguishing three incubators' generations along time:

- First Incubator generation, from the middle of eighties until nineties;
- Second Incubator generation, nineties;
- Third Incubator generation, from late nineties on.

For each generation is possible to associate a theory or more, about the role played by BI in the environment.

Incubators of first generation emphasized their importance in the regional development (job creation, for instance) and real estate appreciation. Client firms were offered office space and a number of shared facilities. This concept is evident in the researches of different authors (Brooks, 1986; Plosila and Allen, 1985; Lumpkin and Ireland, 1988) that ground on the "theory of economic development through entrepreneurship" and "transaction cost theory". The former

⁸ Source: Hackett S., Dilts D. M., (2004). Areal options-driven theory of business incubation. The Journal of Technology Transfer, 29(1), 41-54

is used to highlight the gap that occurs between conceiving the new business concept and actually instantiating the firm, so in this way the incubator is able to reduce this gap. The latter pointed on the possibility for a firm to achieve a competitive advantage in respect to the competitors by reducing the cost of doing business. In this view, the incubator is able to reduce the start-up costs and other operating costs by providing a physical space and services at low cost.

In the second generation, that covers a time period well defined, from the latest eighties until the latest nineties, the focus moves from the incubator to the incubation process, as just touched on the evolution of Incubator definition (see paragraph 1.1). It does not however address the willingness of a client to utilize support structure on any given day. Researchers strengthen the importance of the services (more than a physical space) for a new venture, such as consultancy services, training sessions, network access and venture capital. In particular, it was stressed the relationship between incubator and its client. If there is no fit, it may result in a value subtracting incubation process. With the term “*fit*”, we refers to a process of cross-fertilization and co-creation among the actors: incubator, client firm and the network.

What mentioned above is reflected in the “Interdependent Co-production Modeling” and “Network Theory”. This last one (discussed by Nohria and Eccles, 1992; Lichtenstein, 1992), argues that the most value-added component of BI is the network relationship. In order to develop a new idea, to make it commercially viable, it is important for the start-up to stay connected with the overall economic environment. A network is constituted by all the dense linkages between the firm and:

1. Clients, Vendors & Suppliers, Partners, Venture Capitalists, Business Angels, Crowdfunding Platforms etc. The relationships with these actors are called *inter-organizational relationships*;
2. Employees, BI staff, other client firms incubated in. These types of relationships are called *interpersonal relationships*.

The results of different surveys, assessing the importance of the network, demonstrate that it is the co-presence of inter-organizational and interpersonal interactions that makes the incubator an entrepreneurial ecosystem.

Finally, third generation concentrates on promising start-ups in the ICT and high tech sectors, so the role played by the “*Technology Incubators*”, and Virtual Incubation Theories.

Virtual is often viewed as synonymous with electronic or online, although in this context this does not capture the concept in full. Virtual stands for not bricks and mortar. A “traditional”

bricks and mortar incubator offers its services within the walls of the incubator building and uses the physical concentration of incubatees as a tool for improving incubation outcomes. A virtual incubation service is not bound by a physical building or any other geographical constraint; the services are made available to a dispersed group of users based on ICT tools – or not. The focus is put on the information flow, the growing importance in the roles of knowledge brokering and market space for ideas (Gans and Stern, 2003).

1.3 Incubators' Classification

The examination of the literature about Business Incubators, focalized on the evolution of incubator's meaning and structure, cannot exclude an attempt to classify their different typologies.

In order to do that, it is necessary to define the criteria through which a discrimination of the different types of BIs is operated.

Incubators, as any other structure, are characterized by a business model that defines their aims but especially their operative and organizational *modus operandi*.

Generally, an incubator is defined by:

- A Mission and Vision;
- A location and extension of geographical range (in an industrial zone, close to an university, or no physical presence as in the case of Virtual Incubators).
- Level of specialization (in terms of economic sector interested);
- Level of investments and services offered: so if the incubator follows the start-up until its development or only the initial phases, what types of services it offers: know-how, networking, financial support etc....
- The terms for selection of client firms;
- Exchange system between incubator and start-up;
- Graduation term in which the start-up should leave the incubator, defining the way-out.

The most important work on the issue of identifying incubator taxonomies was provided by Allen and McCluskey in the 1990. They focus on the primary and secondary objectives of four types of incubators that are distributed along a value-adding continuum. On this continuum, incubator types are positioned from the least value adding to the most ones. They include: For-Profit Property Development Incubators, Non-Profit Development Corporation Incubators, Academic Incubators and For-Profit Seed Capital Incubators.

The Figure 1.3, reproduces the Allen and McCluskey continuum:⁹

Figure 1.3: The Allan – McCluskey Continuum

	Real Estate For-Profit Property Development Incubators	Value-Added Through Non-Profit Development Corporation Incubators	Academic Incubators	Business Development For-Profit Seed Capital Incubators
PRIMARY OBJECTIVE	Real estate appreciation Sell proprietary services to tenant	Job creation Positive statement of entrepreneurial potential	Faculty-Industry collaboration Commercialize university research	Capitalize investment opportunity
SECONDARY OBJECTIVE	Create opportunity for technology transfer Create investment opportunity	Generate sustainable income for the organization Diversify economic base Bolster tax base Complement existing programs Utilize vacant facilities	Strengthen service and instructional mission Capitalize investment opportunity Create good will between institution and community	Product development

Source: Allan, McCluskey (1990)

Another important work was implemented, more recently, by the European Commission in 2002 in their report “Benchmarking of Business Incubators”.

It limited to distinguish BIs in two different types:

1. Traditional Incubators: the primary goal of this first category is to facilitate economic development by promoting entrepreneurship, innovation, employment opportunities and growth. For this reason, most of the incubators are formed directly by national or local authorities. Specialised incubators have been established by universities or private sector organizations;
2. New Economy Incubators: they are often primarily virtual, they are usually funded by venture capital companies or set up by large multidisciplinary consultancies that are able to offer a complete range of technological, advisory and other business support services to their clients. So, they differ in the *modus operandi* in respect to the first category since are private sectors, profit driven with the return that comes from the direct investment in the start-ups and not from rental fees; they focus mainly on ICT

⁹ Source: Allen D.N, McCluskey R., (1990). Structure, Policy, Services and Performance in the Business Incubator Industry. Entrepreneurship, Theory and Practice.

new ventures; they have a virtual presence unlike their counterpart, that bases its formation on a physical presence (European Commission, 2002).¹⁰

Both these works have been used as basis for the classification proposed herein.

In particular, three fundamental features have been considered in order to individualize different typologies of BIs:

1. Methods of control (public or private);
2. Profit orientation (for profit or not-for-profit);
3. Level of specialization (specialized or mixed).

Private Incubators can be firstly divided in two macro-classes: in the first one are included all the incubators that are born internally to a big companies, that choose this process in order to manage R&D projects. In some cases, these incubators become real spin-offs and so independent entities that have the main aim of diversifying the corporate strategy of the parent company. In the second range there are limited companies that provide capital to “seed fund” start-ups and support them during their development (until the public offer, in some cases). Generally, their participation ends when other types of investors succeed.

At more micro-level perspective, it is possible to distinguish different types of Private Incubators, classified according to the services offered and different configurations:

- Venture Incubators: they offer all typical services with a specific emphasis on the managerial support and networking;
- Venture Portals: thanks to the web portals, investors can have access to a great number of different projects and start-up initiatives divided by industry, investment dimension or development phase;
- Venture Networks: they invest in initial initiatives and promote the cooperation among partners at the same time.

Conversely, Public Incubators are public entities that have the final aim of supporting the regional and local development, focusing on the creations of new start-ups that can increase the rate of job occupation and promote entrepreneurship values. Also, the incubatees have the possibility to increase their visibility and reputation in order to have access to external financial investors. Two types of Public Incubators are BIC (Business Incubation Centre) and UBI (University Business Incubator). The latter keep focus on the technology transfer to the external and its economic exploitation, they offer the general services of an incubator plus other specific

¹⁰ An example of New Economy Incubators is Accenture (European Commission, 2002)

services related to the academic research (Grimaldi and Grandi, 2005). In both the case incubatees pay a fee for the services provided.

The second criteria used for the classification allows to differentiate For-profit Incubators from those that are Not-for-profit. The former are mainly characterized by a business model based on fees and/or equity. They give a strong financial support to new venture/start-ups in exchange of a direct participation in their risk capital.

On the other hand, Not-for-profit Incubators are financed by government grants or regional block grants. The empirical evidence shows that there is a strong correlation between categories Private-For profit and Public-Not-for-profit, in fact in the most of the case For profit incubators are carried by private investors, big companies and venture capitalist meanwhile Not-for-profit by government and public institutions.

However, it is important to underline the presence of some hybrid forms constituted by joint-venture between private and public entities, generally in the form of Science Park.

The last criteria to analyse is related to the level of specialization. According to this feature, it is possible to identify:

- Multipurpose Incubators: all those BIs that provide their services to start-ups indifferently from the sector in which they want to operate and have a wider-scope goals to achieve: to create business with new start-ups and supporting the entrepreneurship, to sustain the regional and local development in order to reduce the disparity gap by increasing the employment;
- Specialized Incubators: those BI that are constituted for a specific purpose and offer their incubation program only to client firms that operate in specific sectors. Clear examples are Technology Incubators that have the specific aim to stimulate the innovation through the success of technology start-ups. They look exclusively to ICT, biotech sector. Another examples are those incubators that Aernoudt in 2004 called Social Incubators, they operate in the no-profit sector with the final aim to reduce the social gap by mean of integration of social categories.

To conclude this excursus about the BIs, it seems to interesting to show some data about the Italian contest, briefly¹¹:

- The 63,6% against the 36,4% are public incubators (Banca D'Italia, 2014);
- The 73% against the 27% are Not-for-profit incubators (Banca D'Italia, 2014);

¹¹ The data consider a sample of 58 incubators, based in different Italian regions.

- The 74% of them have a strong or weak tie with an university or public research institution (Banca D'Italia, 2014).

In addition the BI main goals pursued are:

- To promote innovative start-ups;
- To fix up depressed area;
- To develop a specific industry/sector.

CHAPTER 2

The role of University Incubators: A Way to an Entrepreneurial Society

2.1 Innovation and Entrepreneurial University

“The key to our success...will be to compete by developing new products, by generating new industries, by maintaining our role as the world’s engine of scientific discovery and technological innovation. It’s absolutely essential to our future”.

These are the words spent by the president of Usa, Barack Obama, at Penn State University in November, 2010. It represents a clear example of how essential is become the idea of innovation as the key for achieving the competitive advantage that one nation can exploit on the others.

Undoubtedly, this remark on innovation, mirrors a concept that is already settled in time, deeply. It is not a surprise to find out previous comments stressing this point, as in the case of report of National Academy of Engineering about competitiveness in 1988.

However, today it seems to achieve a stronger significance, looking at:

- The general economic depression that each nation is facing;
- The continuous growing of global competition that is putting pressure on the traditional actors in charge of producing and spreading innovation.

In any case, innovation has assumed, in these years, the meaning of entrepreneurship and creation of economic value for the community: then innovation as basis for the global and regional development. The successful pursuit of innovation is a function of individual enterprising endeavour and entrepreneurial organization capacity. Innovation is impossible without these. They are both necessary conditions, sufficient only when combined with an organization culture and broader environment that is conducive to, and supportive of, such activity.

It is only considering these premises that is possible to understand the importance is assuming the concept of *Entrepreneurial University* worldwide.

Universities are embracing entrepreneurship as critical to their mission, becoming one key actor in creating the “*innovation ecosystem*”.

Historically, local development has been an important goal of the nation's large universities. Many of America's leading universities, particularly land-grant universities, have always felt a strong responsibility for the betterment of their surrounding communities.

But it is today (more than ever) that universities are feeling this pressure, since over the last two decades the majority of value creation has occurred in young, start-up companies (Haltiwanger, Miranda et al., 2010). These things are strictly correlated: the creation, and success of new ideas and the consequent benefits for the entire society represent, in fact, an important prerogative of university environment.

Through its activity of researching, mentorship for young students in developing their entrepreneurial skills that universities candidate themselves as important force for the economic development.

The nexus must be identified in the passage from the concept of university as a merely knowledge creator to the concept of university as a supportive environment for the commercial exploitation of this knowledge. For this reason their programs are stressing on the pedagogical value of entrepreneurship, as a set of skills that can be applied across professional environments and activities to supplement the students' classroom experience.

It is well understood by the government in United States, since universities have been the largest sector to receive federal R&D grants, receiving nearly \$36 billion from federal agencies. Leaders of universities and federal agencies share a common desire to increase collaboration and bring innovative ideas and research to the market to create real-world solution and high growth start-ups. Obviously, this means looking at university and industry as two realities strictly communicating and in some cases overlapping.

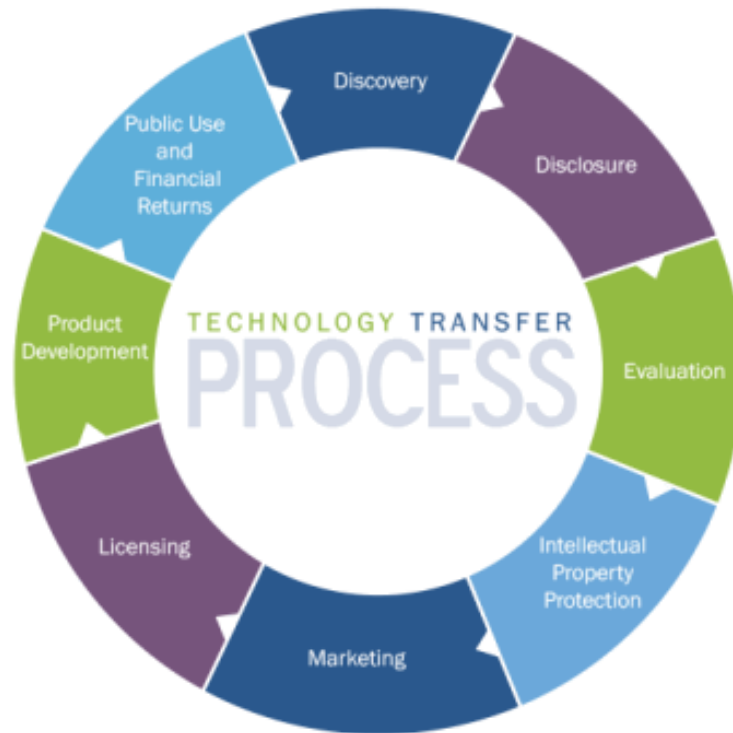
So, universities are transforming into an innovative and entrepreneurial type, which is oriented on the current market needs and has well developed ties with industry and government.

The traditional way in which the knowledge, produced through a constant basic research activity at universities, flows to the market is constituted by *the technology transfer process*.

It represents the hub and the engine of the commercialization process within universities. It is a complex and multifaceted process, involving not only technology transfer managers, but also scientists, entrepreneurs, business man, investors, representatives of federal labs, university administration, federal state government, industry.

The Figure 2.1 depicts *the technology transfer process*:¹²

Figure 2.1: The Technology Transfer Process



Source: <http://www.fredhutch.org/en.html>

Different are the studies during the years that tried to assess the impact that the variables, included in this process, have on the performance of firms. First of all, it was identified what to include in the technology transfer definition (Rothaermel F., Thursby M., 2004):

- University licenses;
- Patent citations;
- Creation of University Incubators¹³;
- Number of spin-off companies established¹⁴.

The first two are the most usual way to transfer knowledge to the market, as demonstrated by several researches. The most significant is that produced in 2002 on a sample of 132 American universities, responding to a survey. According to the research, there was more than 4100 new patent applications and more than 3000 licenses and option executed (Thursby and Thursby, 2002).

¹² Source: <http://www.fredhutch.org/en.html>

¹³ University Incubators, examined later, will be the main subject of the dissertation.

¹⁴ Even spin-offs will be treated later, separately.

Referring to the licensing process, it starts with a faculty member disclosing a discovery to the university's office of technology transfer. It evaluates the commercial potential of this invention. If there is some commercial potential and expected licenses are anticipated, the office applies for a patent.

“Backward patent citations are references made to prior art in a patent application. Patent backward citations are bibliometric fossils that identify the ideas on which a firm draws when applying for a patent” (Rothaermel, Thursby, 2004). Surely, this implies what is called an “absorptive capacity” of firms to assimilate and exploit external knowledge. Firm must build internal capabilities to evaluate external research and apply it to commercial ends.

Both licenses and patent citations are demonstrated to have a positive impact on the firms' performance, where for performances are intended essentially revenues and successful market share for the product on which the technology transfer is based on.

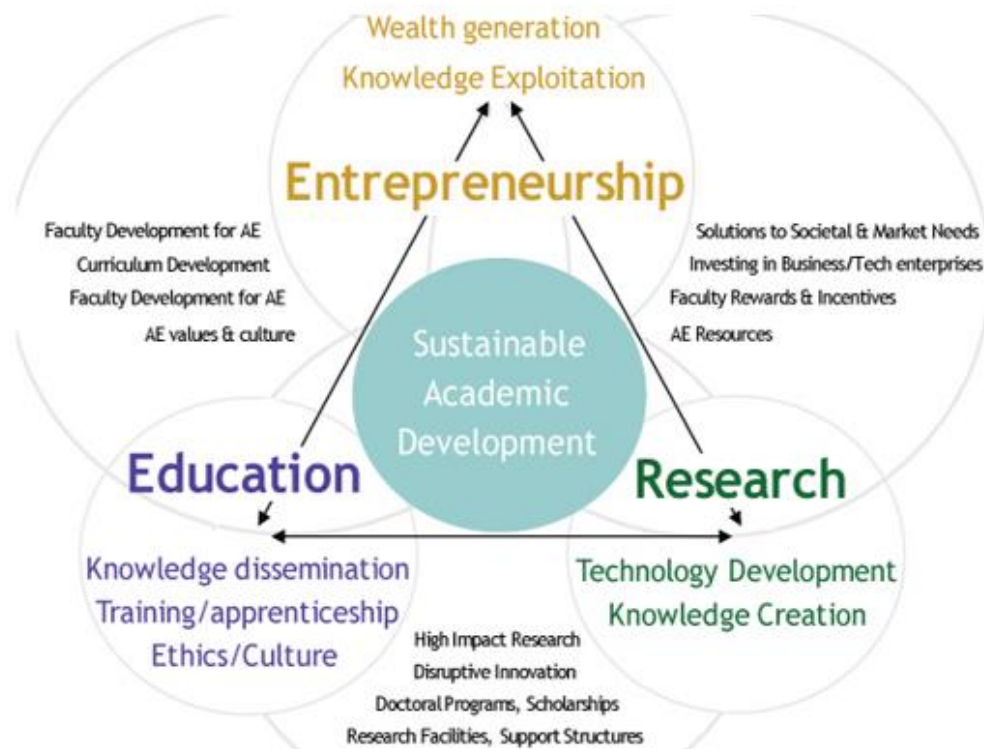
However, while on one side these two variables represent strong tools in favor of firms to take advantage from universities' knowledge and capabilities, on the other one they have some criticalities. First of all, both are still largely linked to the academic world of researches, denoting a more fragile connection with the industry/market. More, they are mostly suitable for established companies, getting away from the concept of universities as a promoter of new young start-ups for new entrepreneurs. Third, they are costly, so often universities are not able to find licensee in the region they are located because the no presence of big/strong industrial enterprises which can take these inventions on board. The same considering patent citations that are far from costless.

The last two variables to be considered in the technology transfer process, University Incubator and Academic Spin-offs, are more demonstrative of the entrepreneurial spirit of universities about fostering new generation of entrepreneurs.

Stevens Institute of Technology talks about technology transfer as more than a simple process, it is a shift in academic culture that adds a new dimension to the higher education. The Figure 2.2, shows what is called “*academic triangle*” that tries to depict the changing role of university:¹⁵

¹⁵Source: <https://www.stevens.edu/>

Figure 2.2: The Academic Triangle



Source: www.stevens.edu

Summarizing, acquiring entrepreneurial skills means understanding the concepts and processes associated with successful entrepreneurial performance; is the process of creating value regardless of the limits of resources as you begin. The innovative and entrepreneurial University is a combination of the most innovative, interesting and successful examples of what universities and colleges are doing around the country to foster innovation and entrepreneurship.

2.2 University Business Incubators: general understandings and definitions

University Incubators represent the main subject of this dissertation. The special focus reserved to these actors is due to the diverse perspectives on which they can be observed, suggesting different causes for reflection related to their role and impact in the economic ecosystem.

As explained in the previous paragraph, Universities has added a new mission to their traditional functions of teaching and research, filling a central role in the generation and

exploitation of new knowledge and in the economic development of an area, consequently. They represent one of the three components (together with Industry and Government) constituting the “Triple Elix” formulated by Etzkowitz and Leyderdoff, considered the engine of economic development (Etzkowitz, Leyderdoff, 1995).

University creates the link between knowledge and economic knowledge (Braunerhjelm, Acs, Audretsch, Carlsson, 2010; Qian and Acs , 2013).

The capacity of Universities of creating a composite supporting structure for the creation, development and commercial exploitation of knowledge, classifying itself legitimately as Incubator, constitutes the most representative part of the changing role of University as an entrepreneur.

It is in fact in its incubation program that should be recognized those lateral ties between companies and universities, on which Etzkowitz and Leyderdoff argued. Here, the university-industry collaborations increases: the interactions among them take place in both the direction.

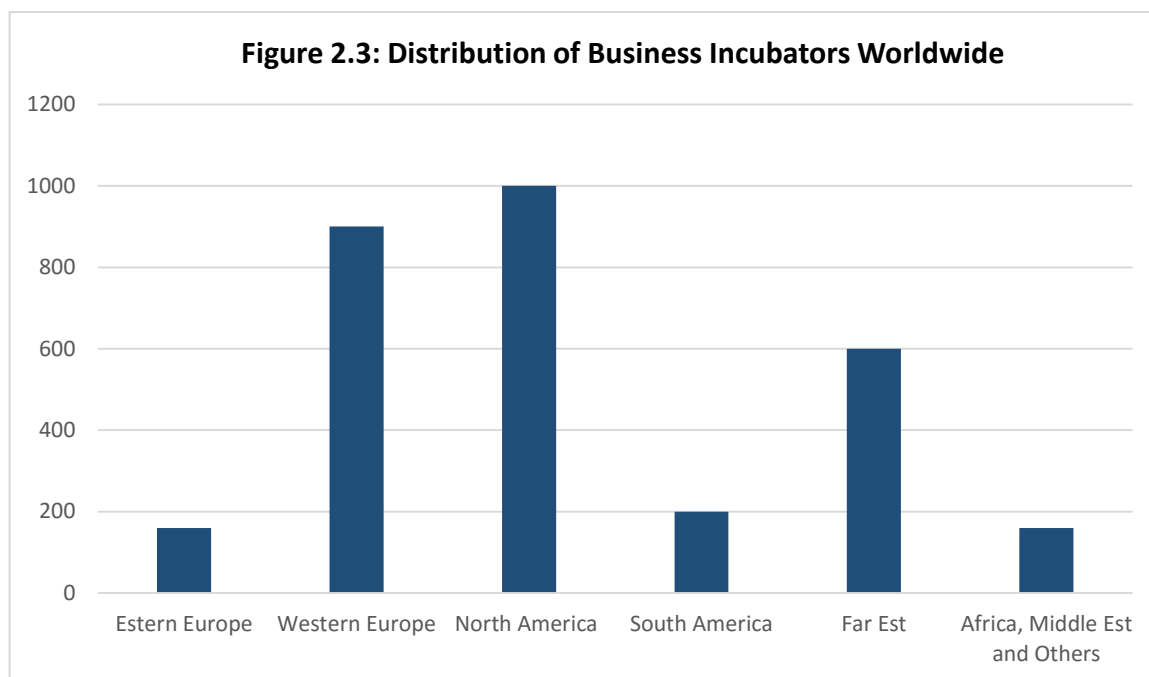
In other words, not only people belonging to the academic world, embodied in the figure of researchers, professors and young students, are promoters of the knowledge’s passage from university to the industry ($U \rightarrow I$) through their activity of research and study; but are also external actors with their new ideas that look at universities as an environment to develop them, making the same concrete ($I \rightarrow U$).

The University incubation program assumes an even more relevance if it is considered the importance of science-based industries such as nanotechnology, micro-electronics and electronics (Baba, Shichijo, Sedita S., 2009), where the contribution of basic science (produced in the university’s structures) is unavoidable. In these industries, in fact, the need for radical innovation is high and the role acted by Pasteur Scientists, in the co-evolution of science and technology, is crucial (Baba, Shichijo, Sedita S, 2009).

Some authors talk about an elevated form of cooperation between University and Industry, not a simple form of agreement. Their relationship does not complete in a mere services’ supply from university, but it is based on a dense system of linkages and exchanges.

Since these factors, it is not a surprise that the University Business Incubators are subjected to an increasing interest for public and private actors, confirmed by a growing trend that involved all the BIs (and them also) during the years. In general in 2001 was estimated the presence of

about 3.300 structures classified as incubators: the Figure 2.3, shows the distribution of the Incubators among the countries worldwide:¹⁶



Source: Rustam Lalkaka (2001)

In 2012 according to a study of NBIA, the number of incubators is more than doubled, becoming about 7.000 incubators, of which the 20% are promoted or have strong ties with academic institutions. In particular in North America, where the ground for the BIs proliferation is particularly fertile, the 32% of them are sponsored by academic institutions.

Their role is gaining an increasing importance also in the emerging economies, where the power of education is trying to balance the limitation of the government sector as a main agency for leading economic growth. A study about the nascent formation of UIs¹⁷ in India and their effectiveness is an example (Bathula, Karia, 2011).

In 2014, UBI Global (University Business Incubators Association) in its yearly ranking of the most important University Incubators, estimated the presence of about 800 UIs in 66 countries (including emerging countries of South America, Asia and Africa). But of this initial number, only the half were accepted in the sample for the ranking, especially due to the severe role of acceptance to the sample that have brought to the exclusion of some BICs, defined as not properly academic incubators.

¹⁶ Rustam Lalkaka "Best Practices in Business Incubation: Lessons (yet to be) Learnt", Paper presented to Belgian Presidency's international conference on business centres, Brussels, Novembre 2001. European Commission, Enterprise DG

¹⁷ UI stand for University Incubator

Regarding to Italy, according to PNI Cube (Associazione Italiana Degli Incubatori Universitari e Delle Business Plan Competition), actually are present 38 associates among Universities and University Incubators.

The data provided, are a demonstration of the importance of this actor as a primary stakeholder in the economic environment (Hytti, Ljunggren, 2011).

Overlooking the general concept of what an incubator is (already treated in the first chapter), it is going to be listed the different definitions of University Incubator during the time:

- University Incubators are entities adopted by states to promote the ecosystem by supporting spinoffs and small and medium enterprises during the development and growth stage (Studdard, 2006);
- University Incubators are considered as a doable strategy for the development of new business ventures by provisioning the resources and ensuring feasible environment (Mian, 1996);
- University Incubators as a university sponsored incubation system with space provision within university and behaves to promote the development of university spinoffs (Palumbo and Dominici, 2013);
- Universities are a key player of economic team to win the match of growth through their active participation in *managing incubators*, research and development, innovation, commercialization and formation of entrepreneurs in both developed and developing countries (Miner et al., 2001).

In these definitions is possible to acknowledge two fundamental points that are common for all of them: the importance of the UI for the development of new ventures that are in an embryonic phase and their role of regional economic growth's promulgator.

It is not by chance that the points above mentioned, are recalled in the most of papers to describe the main aims of incubation process. They can be summerized in (Wang, Hung, Wang, 2013):

1. Create Job Opportunities: they are effective tools to create self-employment opportunities, conventional product/service companies and high-growth companies. They are used to foster innovation and impart an entrepreneurial spirit;
2. Enhance Economic Development: they are used as much for spurring regional economic development and establishing industry clusters and revitalizing urban environments;
3. Build Global Networks among firms and all the external economic actors.

2.3 Structure and Business Model of an UBI

In order to define a general framework for the description of the structure and services offered by an University Incubator, this dissertation harks back to the paper “The University Business Incubator: A Strategy for Developing new Research/Technology-Based Firms” (Mian, 1996). According to it:

- First of all, the majority of UIs are characterized by the presence of a physical space and facilities. They are located on or near their respective sponsoring-university campuses, even if, the specific relation with the single university can differ from case to case;
- Regarding the Governance and Policy Guidance, generally the University Incubators facilities are managed by various types of boards with the involvement of university, state, local government actors;
- Staffing: the facilities employ varying number of administrative and professional staff;
- Funding Sources: they include state funding and university support for tenant firms;
- Sector and Entrepreneurs targeted: it generally depends on the specific resources at a particular facility. As explained in the beginning of this paragraph, University Incubators play a fundamental role for the development of science-based sectors., where skills and capabilities of researchers and young talented students meet the need of innovation in these sectors;
- Strategic and Operational policies, they considers: tenant selection, tenant graduation, intellectual property safeguards for tenant firms and UI-firm linkages. It is worth to notice that the first variable (tenant selection) has been used in many cases in the literature as a parameter to differentiate and classify different type of incubators. Regarding the graduation time, the most of incubators consider a period from two to five years.

A small digression is made regarding the services offered by the incubator. It is appropriate to distinguish the main services that are common to quite all BIs and those services that are specifically university-related, those services that Mian defines as “value-added services”¹⁸.

The usual services are related to:

1. The usage of an assigned space, that varies according to the size;
2. Fax and photocopier in the shared spaces. Then personal computer, phone and receptionist;
3. The usage of conference room;

¹⁸ The value added services will be examined in depth in the paragraph 2.5.

4. A dedicated space in the university web-site;
5. Accounting/marketing/business plan helps.

Concluding, in relation to the way in which the university appropriates value from its tenant firms, a separated discussion will be made after in relation to the universities' spin-offs. Classified as public and Not-for-profit incubators, the only stream of revenues that University Incubators have to reach the self-sufficiency is related to the fees that are periodically paid by tenant firms for the usage of the dedicated physical space and services, plus extra payments that firms sustain to have access to other specific services (most of them are listed as value-added services).

2.4 Incubation Steps

Before analyzing better the main advantages and possible criticalities related to the incubation of a new venture within an University Incubator, it is worth to describe the phases that usually a firm experiences during its incubation program.

The National Business Incubator Association , different authors in the literature (Al-Mubarak, 2010; Wang, Heng, Wang, 2013) agree with defining three main steps that a new venture faces during the incubation period. These are:

1. A Pre-Incubation phase or Start-up creation stage: it is generally related to the all the services and activities that an UI provides to a potential entrepreneur to transform his/her basic idea, invention in something that is commercially viable. This is, in nutshell, the difference between an invention and a real innovation in the market: an invention remains only a creative idea if there is no one able to implement and make money from it. It is recognized that an incubator plays a fundamental role into the passage from the invention to the innovation, acting as a sort of bridge for them;
2. Incubation or Early stage: it concerns with the possible passage to the maturity phase and it is the longer step. The actions activated generally are: access to finance, direct coaching and mentoring services, as well as hosting services and specific training (Wang, Heng, Wang, 2013);
3. Post-Incubation or Expansion stage: it is related to all the activities that have to be carried out when the company has reached a maturity phase. In general, a tenant firm has two possible option: leave the incubator or remain. There are a great number of cases in which tenant firms decide to still remain within the incubator either to not allow

the diffusion of the knowledge (a precise policy of the firm) or to take advantage about the prestige related to remain incubated in an university campus.

2.5 Main Benefits and Advantages of the incubation process within an UBI

In this digression about the main benefits or advantages related to the University incubation process, it will be assumed a one-direction perspective, that is analyzing those advantages from the specific point of view of tenant firms, excluding the benefits that an UI can bring to the general economic environment (mentioned in the previous paragraph).

It is useful to start from some data: Coopers and Lybrand in the 1995 implemented a very effective study, in which they analyzed what could be the effect of a relationship between the firm performance and an academic institutions. The study involved a sample of 424 product and service companies and it was conducted through interviews. The result showed that growth companies with universities ties have productivity rates almost two-thirds higher than their peers (Coopers and Lybrand, 1995). Companies interviewed, that had universities' ties, resulted to have:

- Project higher annual revenues since the exploitation of university resources (21% higher);
- More recent bank loans (32% more);
- Major capital investments (23% more).

The data above help to understand the effects of the relationship among universities and firms. The term university resources indicates the mixture of technical and human-related services, provided to tenant firms. These services are those that Mian defined as value-added services (Mian, 1996).

Specifically, according to the author, value-added refers to those specific ways that an UI program enhances the ability of the tenant firms to survive and grow. These include the possibility to utilize university's labs and equipment, that is crucial considering the importance that they have in science-based sectors.

Related to it, also the possibility to have access to qualified university personnel. They represent very strong resources for the new ventures, since their specific and high qualified knowledge. It was statistically revealed, that growth companies used students as resource. Some 70 percent hired student interns, while 40 percent recruited their employees directly from the student

population. It is not a case that much of the funding received is used by tenant firms to hire graduate students to work on projects. These students become familiar with the research product and are well versed in the intellectual capital created.

More, Universities are able to stimulate R&D and innovation on the new products of the firms. The presence of UI helps to gain understanding about the characteristics of the products and the processes developed by them and of the value of their inventions.

In addition to technical based transfer and benefits, incubation is fundamental also to provide to young entrepreneurs business oriented knowledge. This is done via traditional methods such as business seminars and training programs. But it can assume an higher value in the form of one on one coaching and mentoring that serial entrepreneurs offer to incubator clients, providing real advice and addressing the most important and pressing issues that incubator clients' daily face. (O'Neal, Schoen, 2008).

Among the softer value-added aspects, other two situations impact positively on the performance of incubatees. Firstly, the possibility for the entrepreneurs and their employees to communicate and to interact with the other firms incubated within the university campus. It has not to be underestimate: not only the value that these interactions have in the creation of a network of relationships for the firms (already treated in the first chapter about the network creation within an incubator), but to look at them as social and recreational activities. They play a very fundamental role in the creation of a cooperation environment that in the most of the case conducts to a conflict situation than to an agreement. In fact on the other side of the coin, this situation constitutes an important criticality that will be analyzed in the next paragraph.

The last aspect regards the possibility for the tenant firms to gain reputation and prestige related to their incubation within an UI. It has obvious positive returns, for the possible connections that firms institute with all the other external economic actors.

Especially if considered from a financial point of view, the reception of a tenant firm within the UI's incubation program and the access to their powerful system of services, is a huge plus for the obtaining capital from venture capitalists, business angels etc...

Concluding it is possible to assert that an UI plays a fundamental role in providing the infrastructure, necessary to nurture growing companies (Mian, 1994) : it provides both the psychological and technical support that is necessary to model new ideas in innovations for the market, that have the potential to change lives and way to behave of consumers.

2.6 Problems and Criticalities related to the UBIs

In reference to the most important problems related to the University Incubator, it is useful to distinguish them in:

1. Problem/s that the UI is constrained to face with and that have implications also for tenant firms, consequently;
2. Problem/s that are more specifically related to the relationship between UIs and firms.

The first sub-set is not able to leave out of consideration the financial issue, that is recognized as the most important obstacle for an University Incubator.

As already mentioned, University Incubators fall within the Public and Not-for-Profit categories of incubators. Its nature brings to some important implications, inevitably: their birth and development is linked to the public policies in providing them funds in the form of federal grants. The general economic environment and its condition weights a lot for the supporting policy that the public bodies offer to the UIs.

Most or quite all of UIs are not able to reach the so-called self-sufficiency: the revenues, arisen from the incubation programs, are not able to cover the managerial costs in third on four cases. On average the part of costs not covered from revenues is about 41%, considering the Italian case. The main item of costs is related to the maintenance and development of facilities within the university campus, expenses that are not adequately balanced from an economic support of local or regional government. The main form of income for UIs is related to the fees that tenant firms pay for the utilization of facility and university-related services, but they are able to cover, on average, only the 55% of costs (Auricchio, Cantamessa, Colombelli, Cullino, Orame, Paolucci, 2014).

It is expected that such financial suffering translates in a deterioration of the quality of the total incubation program, including both physical structures and “softer services”.

But this is only one part of the story: except for United States, in the majority of the other nations, tenant firms complain a still fragile connection and proximity of the incubator with financial actors and investors, embodied in the figure of venture capitalists, business angels, banks and other private/public investors. With a focus to the Italian context, it is emerged from a survey produced by Italian Bank that many of start-ups or tenant firms declared to have received an inadequate (or lesser than their expectations, at least) capital support both in the “pre” and “post” launch phases. Of course, this was the main factor that determined some negative judgements of firms about the role and the level of incubator’s involvement during

their incubation period, as showed in the same survey above mentioned (Auricchio, Cantamessa, Colombelli, Cullino, Orame, Paolucci, 2014).

Set aside the main problems related to the linkage between the UIs and the main public figures that will be re-called successively, it remains to point out some criticalities in the specific relationship between UIs and incubatees.

In this case, it will be made a distinction between two problems, emerged as particularly relevant during this excursus about UIs:

1. The first one is related to the graduation time that is necessary for the tenant firms to leave the incubator, reaching its autonomy. This matter was analyzed by Frank Rothaermel and Marie Thursby in their paper in 2005, in this case will be made a brief summary about their conclusions;
2. The important issue of “cooperation” between university and their staff and new entrepreneurs with their ideas.

Starting with the first issue, it is useful to highlight the aim of the study implemented by the authors above mentionated. Their work started with the precise intent of evaluating the real impact that an University Incubator has on the firms’ performances, that always is reason for interest for researchers in this field. In order to do that, it was conducted an empirical analysis on a sample of 79 start-ups incubated at Georgia Institute of Technology.

What they surprisingly found, was that even if strong ties with university reduced the likelihood of firm failure, on the other side it strongly retarded graduation from the incubator. For strong ties it was intended the presence of Georgia Tech professors in the senior management of start-ups or start-ups based on university IP.

Taken as reference a graduation time on average of three years for an incubated start-up, it was statistically revealed that these type of ties significantly retarded start-ups graduation. It because the strong faculty involvement is a signal of an early stage technology that is still in its embryonic phase and still linked to the basic research. (Rothaermel, Thursby, 2005)

As a consequence, it is not commercially prepared to enter in the market. This brings to different considerations: if this delay should be considered or not as failure of UI’s program in its role of bridge between invention and innovation and how to manage the relationship with the university for the tenant firms.

It is clear that, here, there is a presence of a well precise trade-off: if on one side there are the evident results of the study that have negative consequences, represented by a missing and/or

retarding in the main aim of an entrepreneur that is to achieve an economic return for its activity through its commercialization, on the other it is important to remind how fundamental is the incubator's support to make a rude idea or invention in something that is able to satisfy the consumers' needs.

It is evident that the solution at the problem cannot be universal, but the trade-off should be considered and solved according to the specific firm case. In general, it is recommended on this perspective, to not impose a forcing graduation policy by UIs that can transform in a real trap for the tenant firms.

The second and last problem to explain is related to the divergences that are born during the incubation period among academic figures and their related staff and entrepreneurs, employees of incubatees.

The origin of such problem is due to a vision of both the actors (university on side and firm on the other) that is well described by a paradigm deeply rooted in the past: the imagine of the firms that asks for quick solution to a specific product problem and in response it gets a thick, detailed, painstakingly compiled research report from University. Therefore, it emerges the image of University and its "*ivory tower*" as a primary cause of what is called "*disturbance*". This paradigm is truly based on stereotype but it is justified by a right scepticism: it cannot be ignored that Business and Academia embody different values, and in many cases, their cooperation have conducted to conflicts rather than agreement. In this context, the challenge is to look ahead by creating an effective cooperation model, based on reciprocal understanding about the real benefits for the entire society that this cooperation could bring to. It is for this reason that factors such as increasing the social relationships among actors within the incubator gains importance. What is fundamental, is to create and try to formulate a cooperation model based on the concept that tenant firms and the incubator must be willingness to share expenses, results, resources and risks to achieve the same final result (Gögl, Schedler, 2009).

2.7 University Spin-offs

University spin-offs (also called Academic spin-offs) represent one of the possible outcomes of an university, compared with the publication and patents count.

What makes themselves a so increasing reason of interest is that they mainly embody the new values of the entrepreneurial university, discussed at the beginning of this chapter. Their linkage with university is clear and explicit, since it is recognized to be the main actor to influence their

creation and development together with the personal reasons that can induce a scientist, researcher or a young student to initiate the entrepreneurial path.

This linkage assume an even increasing value with the object of this dissertation, since University Incubators play a crucial role as a vital environment for the development of university spin-offs, acting as a facilitator for the growing-up of ideas, under which they are based on, and for their commercial transformation.

As usual in this work, it will be listed some definitions about University Spin-offs present in the literature, in order to have a better understanding of what they are. In particular, the first two definitions aim to describe what is a “spin-off” in general, meanwhile the others are mainly focused on the university ones:

- “Spin-offs are those companies based on the parent R&D organizations, namely, the government R&D laboratory, the University, the University research centre, and private R&D organizations”. (Rogers and Takegami, 2004);
- “Spin-off is a company composed by individual who were former employees of the parent organization, and where the technology and the academic inventors may spin off both from the institution, or where the technology spins out from the institution but the academic inventor is employed in the university, or finally where only the technology spins out while the academic inventor does not maintain relationships with new firm but may have equity”. (Nicolau and Birley, 2003);
- “Academic spin-offs are those high-tech companies whose core business is based on the commercial valorisation of results of a scientific and technological research”. (Shane, 2004);
- “Spin-offs companies are those companies that germinate from a University, where a group of researchers compose the entrepreneurial unit aiming at the exploitation of skills and result from the research developed within University” (Conti et al, 2011)

Apart from the different definitions proposed during the years, it emerges that academic spin-offs are fundamental mode of exploiting potentially valuable discoveries, produced at University. In these such definitions must be searched their importance for regional and national policymakers all around the world, since they act as boosters for the economic development and technological growth.

Clarified the primary aspect of an University spin-offs, this examination will proceed by looking at:

1. What are the main factors that influence a researcher to start-up an academic spin-offs?

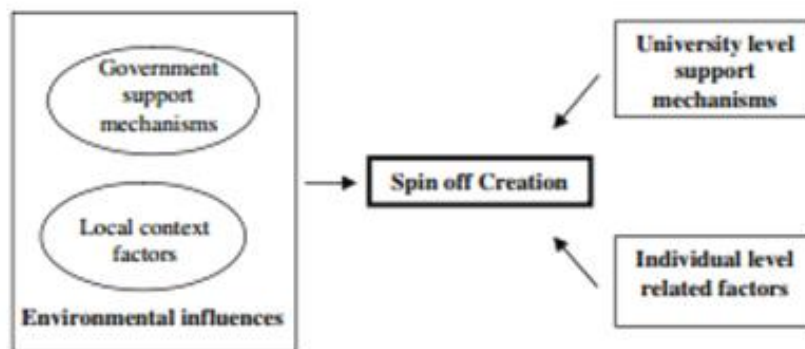
2. What about their structure and tipologies?
3. Barriers to Academic spin-offs' development.

In relation to the first point, an important work was developed in 2008 by Riccardo Fini, Rosa Grimaldi and Maurizio Sobrero at University of Bologna.

Through an empirical analysis conducted on sample of 47 academic spin-offs, they focused on what are perceived to be the main actors and in which way they are able to influence this such important decision to create a spin-off.

Four factors are pointed out, but for the aim of this dissertation, a particular attention will be made on two of these. The Figure 2.4 shows them:¹⁹

Figure 2.4: Main Factors influencing a Researcher for the creation of a Spin-off



Source: Fini, Grimaldi, Sobrero (2008)

The first one, is the general local context: it can be defined as a mixture of tangible and intangible skills and resources such as physical infrastructure, corporate physical assets, R&D laboratories, human capital etc... (Niosi and Bas, 2001).

Local context is perceived as fundamental to provide a financial support, first of all. In particular, the presence of Venture Capital is indispensable for the growth and expansion of small and young firms. They operate essentially through a direct financial support in the form of capital investments but also by providing additional managerial support in the early stages of spin-offs' life cycle.

¹⁹ Source: Fini R., Grimaldi R., Sobrero M. (2008). Factors fostering academics to start up new ventures: an assessment of Italian founders' incentives. Springer Science+Business Media, LLC, p. 1-23

More, the industrial composition of a specific context can determine business opportunities. In this sense, it is known that proximity to other actors that operate in the same sector, can facilitate the normal exchange of ideas and knowledge.

Obviously in the case of academic spin-offs the geographical proximity is referred to university campus, research centres and other firms that may be incubated within it, that allow the so called “*contagion effects*” (Shane, 2004).

In particular some faculty’s members can be socially influenced and conditioned in the difficult decision to start-up a new venture. Through the observation of the others, they convinced themselves about this option, making it easy and desirable.

A second important role is played by the Government: it is increasingly becoming aware of spin-offs’ capability to create economic value. For this reason, governments around the world are trying to implement the necessary conditions for their development, through a series of legislative interventions. These have as specific focus, the provision of financial incentives. Nevertheless, if it is well understood by some nations such as United States that tried to mitigate the funding gap through the institutionalization of different programs (see Small Business Innovation Research Program and Advanced Technology Program), others are far from this. Considering the Italian context, for instance, during the years it have been made progresses for the transformation of the university from a civil servants of institution to a vision of university as self-employed, but the financial helps for the entrepreneurial development of start-ups are still inadequate.

Without any doubt, the influence that University has on the decision to start-up a new venture from researchers and other people connected with the academic world is the greatest. The reason is essentially due to the varied policies and instruments that it can put in place, according to the phase of intervention, the type of support and the nature of resources mobilized (Di Gregorio and Shane, 2003). Firstly, to stimulate the diffusion of new entrepreneurial ideas, Business Plan Competitions (BPCs) are organized. They are contests among students and faculties, in which the most innovative and well-developed ideas have the possibility to turn in a creation of a new businesses. Obviously, during the implementation of these business ideas, University provides consultancy services and specific training to help the participants to carry out fine-tunings for them.

In a subsequent step, there is the crucial role played by University Incubators. Already treated (abundantly), in this point it is only remarked their conduct as a complete actor in supporting the creation of a start-up in all its life cycle, so they happen to be a critical resource for growth

and performance of spin-offs overtime. They provide access to knowledge, capital and social networks including other university start-ups, alumni, VC and business angels. In conclusion it is possible to state that an University Incubator provides at least four categories of potentially important resources: financial, technological, physical and managerial.

Other specific policies regard the preferential treatment for investors willing to pursue their research at an industrial level, the possibility for university-affiliated entrepreneurs to license university technologies and so on. They all represent important escapes to minimize the important problem of marketing new ideas (Fini, Grimaldi, Sobrero, 2008).

At the end, it remains to look at the individual factors: it is assumed that the inventor of an university technology plays a fundamental role in the decision process of creating an academic spin-off. Some authors talk about “*entrepreneurial types*” to indicate those that want to start-up a new venture for achieving their entrepreneurial goal. Among their goals there are: the desire of autonomy and the desire to make a step ahead in their careers. In this sense, it is demonstrated by several studies that those figures with an high status position in the university rank, have more probability to found spin-off companies since they are facilitated in acquiring resources under uncertainty, and they have already invested in the development of their human capital.

Clarified what are the main factors that can influence a such important decision to initiate the creation of a new venture, the next step is about defining Academic spin-offs’ structure (according to the existing literature) and in which way the University Incubators are involved in its governance, This last point is particularly important, in light of fact that, making available critical resources from the incubator to new ventures generates an interest in controlling the effective use of these such resources provided by university. Therefore, University Incubators need to focus on the adequate governance structure of an academic spin-off, and they may require the presence of one or more individuals in the spin-off’s board, for instance.

In this work, it is done a close examination of two important studies, made on this purpose, and in particular an attempt of comparison and overlap of them.

The first one (Schillaci, Romano, Longo, 2011), it extremely important in order to depict a very clear matrix that allows to identify the different typologies of spin-off’s governance, following two dimension that are the ownership structure and the board of directors’ composition. The second one (McLean, 2011) goes in depth in specifying three different types of equity participation of University within the spin-off.

Starting from the matrix, the Figure 2.5 depicts the different governance structure of Academic spin-offs:²⁰

Figure 2.5: Governance Structure of Academic Spin-offs

<i>Board of directors participation</i>	YES	Technological alliances based on no-equity relationship	Technological alliances based on majority investment
	NO	Independent Entrepreneur	Technological alliances based on minority investment
		NO	YES
		<i>Ownership structure participation</i>	

Source: Schillaci, Romano, Longo (2011)

Just to be exhaustive, it useful to recall that owners of an academic start-ups are those individuals that have the right to control the organization and the right to appropriate of its profit. Meanwhile the board of directors represents the set of individuals that determine spin-off's policy, monitor and control its implementation.

As illustrated in the matrix, a first form of governance form is the Independent Entrepreneur: in this case the spin-off takes place from the initiative of academic individuals who decide to exploit a technology transfer opportunity through the formation of a new venture by university institutions selection and support.

In this case, the independent entrepreneur can assume a position in the market that could be hostile against the university or he/she can operate without any type of competitive position versus the university. Moreover, he/she can decide to develop formal ties with university context by assuming some members in the advisory board, fundamental for the early stage development.

Then there are three different hybrid typologies that highlight the presence of alliances between University Incubator and Spin-off. In general it is possible to define two macro-categories

²⁰ Source: Schillaci C., Romano M., Longo M. (2011). Academic Entrepreneurship, University Incubator and Corporate Governance. Sinergie n. 75/08, p. 1-20

according to the presence or not of university in the ownership structure of the spin-off, so having technological alliances based on no-equity relation and technological alliances based on equity relation.

Before analyzing them, it is useful to underline the potential benefits of these alliances from both the points of view:

- From the standpoint of spin-offs the incentives are: access to specific know-how, facilities, credibility stauts, R&D resources and infrastructures, attraction of seed capital and early stage investments, thinking bigger;
- From the standpoint of University the incentives are: intellectual property value creation, alternative sources of funding, employment opportunities for graduates, general accomplishment of its mission about helping the local development of a nation.

The benefits must be also considered by looking from the standpoint of both the partners, in the sense of: creation of a cross-fertilization process, formation of synergies and knowledge network externalities.

Coming back to the point, there are:

1. Technological alliances based on no-equity relation: In this case, the spin-off takes place by the initiative of academic inventors who are selected and supported by university, but the latter is not present in the ownership structure. The presence of University regards the board of directors, where university members are present in the form of *mentoring board, board of advisers, marquee board, think thank board*;
2. Technological alliances based on equity relation: in this macro-category is possible to pinpoint two different types of equity alliances, based on the magnitude of the university's investment and then in the related risk born by it. It is in this point that it is possible to propose a comparison between the two studies, mentioned above

The first type of equity alliance is that defined technological alliance based on minority investment, where the university participates as marginal shareholder.

In the study of Diane McLean, it is identified as *Hands On approach*. University provides a little funding, it helps the inventor in reviewing the business plan and in finding venture capital. Moreover, University negotiates with the representative of the spin-off company (not with the inventor in order to avoid conflict of interest) for the technology license. The Hands on approach is very similar to the *Hands off* approach, with the difference that in this case University participates directly in the practical development of the spin-off. In both the case, the minor investment can assume the form

of an exchange: spin-off is relieved from the payment of periodical fees but it is balanced by an equity position of the university itself.

The last case is the technological alliances based on majority investment, where the university is a strong risk-bearer, it provides a strong financial support and other start-up support for the business. This type can be identified with the *Up-to-Your-Neck* approach proposed by McLean.

The choice about different form of alliances or agreements is up to University Incubator and the single inventor, and it can be influenced by looking at different variables such as: the sharing or co-development of a technology, the business capabilities, the firm-specific assets including financial contributions. Some authors suggest that the variables that mostly weight on this choice are the presence of technological and managerial competences.

To conclude this excursus about the Academic spin-offs, it remains to treat the main barriers that obstacle the formation and growing of them. One of this has been already touched on above, talking about the inadequate support of Government in providing financial assistance for the creation and development of University spin-offs. This is particularly important in the phase of development of an academic spin-off's invention: the main funding actors (VC, business angels, government grants) are willing to sustain the creation of a new venture based on the exploitation of a new invention, only when it is really demonstrated that it works "not only in the university laboratory". It means that the development phase, that is clearly expensive and risky, is a burden that weight completely on university's shoulders and can conduct to a failure.

In any way, if it represents a problem that is located upstream in the spin-off's formation, there are some others that can be called "practical barriers" to be analyzed.

The first one is related to the red tape slowness, intensive and formal institutional constraints that wind down the creation and implementation of activity.

This is one reason for which Technology Transfer Office are mainly occupied by license that seems to be a quicker and safer tool. University just signs a simple license and sits back to collect royalties. But in reality, it is demonstrated to be more a common pitfall than a real barrier, especially if considered some real cases.

In UK, for instance, the process of a spin-off creation takes a week and costs €200, any other complication are purely voluntary. Cheap and easy company formation are symptomatic of an entrepreneurial culture, that unfortunately, in Italian context still lacks.

Another set of problems regard the relationship between the spin-offs and the university governing body, to which the former is linked.

It can be easily demonstrated why a whole investment by University is not properly a good idea. Apart from the limited budget, just in the selection of which are good spin-offs the cumbersome presence of university administrators can have bad effects.

In fact, Universities are very likely to be influenced by the professor academics standing, and the elegance of technology. For this reason the presence of venture capitalists, for instance, assumes an important space because they become very accomplished in assessing markets, cash flows management teams and milestones. Having an outside investor is a good discipline for the companies. The transition from academia to business is not easy, and requires individuals to develop new attitudes as well as new skill. The venture capitalist will make it clear at all stages that they are there to make money, not to advance science or to give the inventors and management a better life. They will thus impose a discipline, which the university could not possibly impose, and thereby make the spin-off company more likely to succeed as a business in the long run. Then it is better that an University (and UI) invests alongside with VC but never alone.

Going on, the relationship's problems reveal themselves during the life cycle of the Academic spin-offs. They could result in hierarchical conflicts, strategic asymmetries and risk of adverse behaviour.

Obviously, this list of negative aspects about that explicate in the alliance between these two actors for the creation of a spin-off needs a clarification: if on one side what described above is true and shows itself in many practical cases, on the other side it has been repeated many times during this chapter the importance that an University with its campus and incubator has for the birth of a new venture and specifically for the birth of an academic spin-off.

Therefore, spin-offs need to stay close geographically to University Incubator but not suffocated by its huge bulk. In particular, for an administrative point of view, its presence is important but must be mitigated, because being locked into the university's personnel policies purchasing and/or any other type of administrative process can be fatal.

CHAPTER 3

University Incubators Map in Italy: The cases of Start Cube, I3P and Incipit Campania

3.1 The Reaserch

The development of this dissertation has followed a precise path, from the beginning.

The first two chapters, in this sense, have been fundamental to open the doors to this third chapter, in which it will be showed the analysis and the research, on which the dissertation is based on.

For this reason, the first one has been necessary to introduce the concept of Incubator, as a *fly-wheel* for the spreading of innovation and a nurturing environment for the new businesses in the market.

After a rapid excursus of Incubator literature, the main aspects and features have been presented, always with a constant attention to different studies that have been developed during the time on this topic.

Subsequently a specific classification of the different types of BIs has been defined according to given criteria and, as a complement, some data about Business Incubators in Italy.

In the attempt to address this work toward its well-precise aim, we moved to analyze a specific category of Incubators: *The University Incubators*.

Even in this case the structure has been the same: definition of an University Incubator and a clear overview of the literature about it, initially. After it has been made a complete screening of features, business models, benefits and criticalities related to these actors.

Therefore, to conclude this foreword, the first part of dissertation has been preparatory to a more concrete one: a study of the University Business Incubators' role within the Italian context, through a comparative analysis of three cases.

The idea of the research is born with the initial attempt to define which are the main parameters used to judge the performances of an University Incubator and applying them to three Italian cases.

As just repeated previously in this work (chapter 1, paragraph 1.3), for this actor, it is even harder to frame clear indicators about how well it is performing in the economic environment.

In fact, University Incubators fall under the category of Not-for-profit Incubators and this condition puts the accent on a specific point: the impossibility to judge their performances and to compare them on the basis of the only profits, obtained in the end of the economic year.

Even if it is clear that any economic entity is not analysed only on the base of profits, it is out of discussion that they represent a sure *litmus test* about its trend (in this specific case about the incubator's trend).

Therefore, the "*profit*" for a Not-for-profit Incubator is something that materializes in other forms, valued with some other economic and no-economic indicators that allow having a complete overview on its performances.

From the collection of data and results about different University Incubators present in Italy, as starting point of this work, the focus rapidly changes: to pass from a more general understandings about the UIs' key performance indicators to a detailed study of specific examples of them. The study gets involved the incubator world in its totality: looking at their structure, their business model, their services at disposition of the incubatees and their results.

Such "*cross analysis*" of three actors included in the sample is fundamental to enlarge the point of view of this work.

The comparison is useful to not only evaluate the points in common or differences about the units of analysis, but to inspire other considerations that are worth of notice and that will emerge during the discussion.

3.2 The sample:

The choice of the units to be included in the sample is not random at all.

PNI, the Italian association that gathers University Business Incubators and the academic Business Plan Competitions, was born with the aim of stimulating the birth of new high-knowledge businesses with a clear academic origin, actually counts on forty partners among Universities and Academic Incubators.

The figure 3.1 that is going to be showed below is useful to illustrate the mapping of UIs in our nation:²¹

Figure 3.1: Partners of PNI Cube: Universities and Academic Incubators in Italy



Source: PNI Cube (Associazione Italiana Degli Incubatori Universitari e delle Business Plan Competition) web site, www.pnicube.it

So among them, what about the selecting criteria for the units to be included in the sample?

The choice of University Business Incubators to put under the lens of observation is made according to three specific criteria that can be summarized in this way:

1. Firstly, to include the Incubator associated to the University of Padua. In the perspective of the research, it constituted the pivotal actor to be compared with the other peers;
2. To include the most performing Italian University Incubator according the rankings, proposed by different organizations. The idea has been to find an entity that could act as benchmark for the analysis, and so an actor recognized worldwide for its activity.

But what ranking should be consulted for this aim? For this point, a digression is needed. In this work, it is decided to refer to the annual University Business Incubator Ranking proposed by UBI Global, for its accuracy and reliability.

UBI Global is thought leader in performance analysis of business incubation around the world. It helps business incubators and business accelerators become more efficient and competitive through a comprehensive benchmark where more than 400 incubation programs in over 70 countries participate.

²¹ Source: <http://pnicube.it/>

Its mission is to support the entrepreneur to create successful businesses by facilitating activities such as information exchanges among the local, regional and national support system of business incubation.

Shrinking the focus to the subjects of this research, University Business Incubators, UBI Global team acts in two way: helping the universities in developing their entrepreneurship programs and consequently helping the incubators in learning from the best incubation practices.

As just mentioned above, each year, UBI Global publishes the UBI Ranking, but the point here is to understand how to be included in.

First of all, they define precisely who is a University Incubators:

- It is an entity managed (by) or affiliated to university (-ies).
- Its primary objective is to facilitate entrepreneurship and support early stage (new) ventures through a systematic (mid-long term) and extensive incubation process that includes services and infrastructure.
- Quality controlled intake of clients (start-ups) and regular time bound exits in form of graduate start-up clients.

The key to identify the top University Business Incubators lies in using the right criteria. UBI Global research team together with prominent top thinkers, experts and advisors believe that any such incubator must be measured on three global performance categories: A, its contribution to the ecosystem; B, its value to the start-up clients; and C, its attractiveness quotient.

The contribution to the ecosystem measures (A) the economic impact that the incubator has on the ecosystem, the value for client (B) measures the benefits and quality of the services that the incubator provides to the start-ups, the attractiveness (C) measures the incubator's attractiveness quotient driven by its post incubation performances and success stories.

However, this is only one part of the story: in addition to these three global performance categories, they are considered other seven sub-categories (talent retention, economy enhancement, competence development, access to funds, network enhancement, incubation offer and post incubation performance) and more than sixty KPIs.

Just to show the huge work made to draw up the ranking, in the Figure 3.2 are reported the KPIs mentioned above, divided by sectors:²²

²² Source: <http://ubi-global.com/>

Figure 3.2: UBI Global Key Performance Indicators Used

Referring Sector	Key Performance Indicator
Services provided to incubatees	Active coaches, active mentors, Training and Support, background of coaches and mentors, n. of technology experts...
The Network	Contacts with: business providers, seed capital firms, venture capital firms, large corporations, government. Events created and collaborative incubation atmosphere, n. of international Sponsor and Partners...
UBI's performances	Revenue (\$), jobs created, survival rate of start-ups, start-ups' turnover, n. of new collaborations created, amount of investments for start-ups, % of start-ups need funding, % start-ups don't need funding...
Start-ups performances	Sales revenue (clients), n. of clients acquired, % of no-local client, % equity stake, amount of funds obtained, number of actual employees...

Source: Author's Elaboration

3. The last criteria concerns the willingness of comparing three actors in disparate parts of Italy (north and south of the region). The reason must be searched in the aim of showing the impact that the government and local support has on the development and wellness of the UBIs. So trying to understand if and in which way local public policies could affect their performances.

The filtering process, according to the criteria defined above, conducts to the final choice of three units of analysis to compare:

1. Start Cube: the University Business Incubator of Padua;
2. I3P S.c.p.A: Innovative Companies Incubator of Polytechnic University of Turin;

3. **Incipit Campania:** the Incubator that is formed on the cooperation of University Federico II of Naples and Università Degli Studi Del Sannio.

They mirrors clearly the selection process explained. Later, in the paragraphs them dedicated, it will be clarified the reason why.

3.3 The Method

In order to implement an efficient comparison and cross-analysis among the actors selected, the hardest part is to collect valuable data about them.

As just reminded, this analysis tries to depict the University Incubators in its totality, disregarding from a mere comparison of the last financial results. This means that it is necessary to enlarge the perspective of interest during the collection of data and information.

Therefore, it is important to start from scratch: recreating the story and the evolution on time of each subject is useful to highlight the turning points in their life, which have a direct impact on their activity and performances.

Only later is possible to analyze every single aspects regarding:

- The structure and the Business Model;
- Incubation Process for the incubatees;
- The Services at disposition of start-up;
- Performances at the end of the year.

The data that are going to be showed cannot be obtained only by consulting the web sites of *Start Cube*, *I3P* and *Incipit Campania* respectively, or with researches on data providers. An accurate analysis makes necessary to have a face-to-face interviews with those that “live” the incubators day-by-day.

They are the only able to make clear some peculiar aspects that characterize the three actors and to underline the huge work made to improve the quality of their services and the entire economic ecosystem, as well.

For this reason, the comparison bases itself on three interviews made to:

1. Ms. Giulia Turra, Business Developer at *Start Cube*. The interview has been implemented in April the 18th and with a duration of about one hour;

2. Professor Marco Cantamessa, Chairman of the board and CEO of *I3P S.c.p.A.* This second interview has been conducted previously in February the 18th with a duration of fifty minutes;
3. Mr. Achille Caldara, Organisational Manger at *Incipit Campania*. This last interview has been conducted in May the 5th and with the same duration of the previous one.

All the interviews are semi-structured and conducted by following a precise logical thread: dividing the interview in two specific parts.

In a first part, also called *hardware part*, discussing about “*the numbers*”: they refers to the actual presence of start-ups incubated, classified according to the type of incubation program carried out and their specific nature (start-up or University Spin-off); the economic performances in the last year and the main KPIs used to judge them.

In a second part, also called *software part*, are highlighted: all the organisational and managerial processes (the selection of start-up to be incubated, the main channels through which the proposals arrive, the incubation phases, services for the incubatees, the relationships among all the actor involved in the incubator and how they are stimulated, how the network of relationships is implemented, what about their main competitors). In any case, in the appendix of this chapter, it is possible to have a direct approach with the interviews in which it is showed their basic structure.

Once clarified the process of collection of data, it remains to spent few words on how the analysis will be presented.

Firstly, it will be analyzed each University Incubator, individually. This in order to have a clear overview about them.

Then it will be dedicated a separate paragraph for the cross analysis and comparison, in which other important considerations, emerged during the study, will be discussed.

3.4 I3P S.c.p.A: Innovative Companies Incubator of Polytechnic University of Turin

As just anticipated in the previous paragraph, a specific selecting process (according to determined criteria) seems necessary to choose the right actors to screen for the aim of this dissertation.

Any efficient comparison or analysis cannot exclude the presence in the sample of a unit of analysis that acts as benchmark for the study of the other peers.

In this specific case, the benchmark has to satisfy two peculiar conditions:

1. It must be an actor with a strong experience, gained during the years, in the Incubation processes and practices;
2. An actor recognized for its performances, even out of the Italian context and that could fall under the annual ranking proposed by UBI Global, for the most performing University Business Incubators.

In this sense, the choice is not difficult, since it is universally recognized that I3P S.c.p.A, the University Incubator of Polytechnic of Turin, represents a case of success in the Incubation sector and in the promotion of innovation worldwide.

Such demonstration has been supported during the time by different recognitions, both in the form of awards for its activity and from a legislative point of view in the same time.

Therefore, it is possible to state that it is the main University Business Incubator in Italy and one of the most important in the European landscape.

In 2014 I3P ranked at fifth place in Europe and fifteenth in the world in the UBI Global ranking that examined more than 300 University Business Incubators for 67 countries, analyzing the attractiveness and the creation of value for clients and entire ecosystem.

Even in 2015, as clarified by Professor Marco Cantamessa (CEO and Chairman of board) during the interview²³, I3P was auto-excluded from the ranking, since it became part of the advisory board of UBI Global and so an active part in the process of ranking the other Incubators.

This because the process of ranking creation of the Swedish Company is not mono-directional and passive: in fact for this process, a constant and active involvement of each single University Incubator is necessary through direct and indirect surveys and researches.

It emerges that an effective feedback of the other part is fundamental: as the same CEO of UBI Global revealed, Ali Amin, the choice to include I3P in the advisory board was due to the fruitful feedback with it and due to the huge experience that has in the Incubator and Incubation sector.

²³ The interview has been conducted in February the 18th with a duration of about 50 minutes.

It is obvious that success story of I3P starts different years ago: for the aim of this work, it seems useful to summarize it in some phases. Each phase is accurately selected because represents an important turning points for the actor²⁴, affecting its structure and general performances during the years. The Figure 3.3 shows them:

Figure 3.3: The evolution of I3P during the years



Source: Author's Elaboration

As represented in the figure above, I3P S.c.p.A is born as no-profit consortium in 1999 from the idea of four partners:

1. Polytechnic University of Turin;
2. Turin Province;
3. Chamber of Commerce of Turin;
4. Finpiemonte.

Today all the actors are still present in the board of I3P, and their idea is born from the awareness of how the University Incubators' reality is strongly spread in Europe, with significant successes in the creation of new high-technology businesses, and how (despite the big potential), Italy is extremely late. From this mere idea, different studies about the economic feasibility of the project develops, all with the same least common denominator: the reality of Polytechnic and the socio-economic situation of Piemonte are good premises for the foundation of an University Incubator.

The first years for I3P are fundamental to build the basis for the future success of the incubator, despite difficulties and a lot of question marks. Essentially the greatest criticality is about the cultural context around the incubator: *in primis* the Italian firms that still do not consider the importance of start-ups as innovative solution providers and as a notable slice of economic return for the country.

²⁴ Each phase is built on the data present on I3P web site, available at: <http://www.i3p.it/>

Still the scepticism concerns also the new role of University as a direct and active promoter of innovation.

These problems seems to overcome the other more practical ones, that concern the creation of a physical space to dedicate to the start-up, the creation of a Business Model for the Incubator and the building up of a network of relationships, fundamental for the survivor of both the incubator and incubatees.

Despite all, I3P succeeds in obtaining a great physical space for the start-up, firstly by having the possibility to exploit areas within the Polytechnic and then by acquiring in 2001 a huge space, previously dedicated to the activity of Motorola S.p.A.

The year 2001 is an important data also because it represents the official inauguration of the Incubator, in which it presents itself to the industrial scene, including other important local actors such as Unione Industriale Torino.

The first phase concludes in 2003, not by chance: this data represents the first turning point for I3P. Among the premises for the creation of the Incubator, there was the aim to reach in the first three years of activity the economic balance. The objective is reached in full and I3P finishes this early activity period with:

- 39 start-ups incubated during 1999-2003;
- 13 start-ups that conclude the incubation process and are really operating in their reference market;
- I3P becomes part of important projects, such as *Gate2Growth* and *MIP*, all with the aim of promoting the culture of innovation among countries.
- Another important partner is inside I3P: Torino Wireless. It is fundamental to support both economically and with the right expertise the start-ups in the ICT sector.

The second phase covers a period of five years, form 2004 to 2008.

These are the maturity years for I3P: the consolidation of the network of relationships with the actors that are part of the external environment that surrounds the Incubator, allows it to increase its performances in terms of number of start-ups that can enter in the incubation program and amount of financing obtained by the start-ups from external actors.

Emblematic in this sense are the entering of new partners, such as *Comune di Torino*, that constantly offers its economic help to the incubator and the number of increasing sponsors, such

as *Fondazione Cassa di Risparmio di Cuneo and Unicredit S.p.A* for the amount of financing to address at the most innovative ideas.

Simultaneously, I3P starts different projects with external actors with the aim of providing “*value-added services*” to the incubatees: different continuing education courses are implemented with the presence of professors, experts and real entrepreneurs.

The scope is clear: to place side by side both the theoretical knowledge, fundamental to form the start-ups in the creation of their idea, and the practical experience that allows them to transform the idea in something commercially viable.

The last two years of this phase are equally important:

- In 2007, I3P changes its location. Thanks to the financing of CRT Foundation, the incubator inaugurates the “*Agorà della Cittadella Politecnica*”, a huge physical space completely dedicated to the meetings of young talents, researchers and businesses.
- In 2008, there is another important change, from an administrative point of view. After nine years the Professor Vincenzo Pozzolo and the Engineer Michele Patrissi abandon their role as CEOs of I3P in favor of Professor Marco Cantamessa.

It remains to analyse the last phase of I3P life cycle, from 2009 to the present.

This period probably marks the passage from the most performing University Incubator in Italy to one of the most performing University Incubator in Europe and worldwide.

It is important to underline three important data:

- In 2011 is born TetraBit. It constitutes a new incubation path, completely dedicated to the digital projects for consumer market, such as e-commerce portals, social network web sites, web and mobile apps. TetraBit represents a real physical and virtual gym for the development of new ideas, linked to Internet. It offers mentorship and educational programs, networking events and working spaces within an open area located in the secondary location of I3P;
- In 2013, I3P becomes one of the first Incubator obtaining the Certification from *Ministero Dello Sviluppo Economico*, according to the changes in the legislative framework. With the advent of law number 221/2012 that converts the legislative Decree n. 179/a, new important dispositions in tax related subject for innovative start-ups are introduced. To be certified as Incubator of Innovative Start-up represents a strong recognition from the public authorities about the commitment

and the experience of the incubator in the support of new businesses. It is the same Decree to underline it, in fact the prerequisites to obtain the certification are adequately specified and only the structures that are able to reach a score of 40 points in possessing them can obtain the certification;

- Two thousand and fourteen: it represents, as just explained, “*the year of awards*” for I3P. UBI Global puts it at 5th place as most performing University Incubator in Europe and 15th in the world.

Summarizing the history of I3P, has been a necessary step to make clear the importance and the improvements made by the incubator from its foundation to the present.

Now, as in the aim of this dissertation, a complete close examination of all the aspects related to the incubator it is going to be made.

All the processes that concern the entering, the type of incubation path, the services offered to the incubatees are put under scrutiny. Each of these aspects are completed with related statistics, to underline the performances of I3P during the years.

These statistics are obtained through I3P web site and the interview to the Professor Marco Cantamessa. Interview allows to study the ultimate results of the incubator, considering the first trimester of 2016, also.

From 1999 to the present, this University Incubator fostered the development of 190 new businesses within it, according to the data until the end of 2015.

Of this number, 142 are still operating in their reference market. These are important numbers because they underline a first important aspect: the mortality rate for the start-ups is low.

However, a step back is necessary: the mortality rate tells us the percentage of start-ups that fail in the three years after the launch on the market.

This rate is obtained as the reverse percentage of the number of start-ups that still live in the market. To clarify the passage:

$$\% \text{ of Start-ups that are active in the market} = \frac{\text{Number of start-up active in the market}}{\text{Total number of start-ups incubated}}$$

In I3P case the % is equal to = 0,75 %

$$\text{Mortality Rate} = 100\% - (\%) \text{ of Start-ups that are active in the market} = 0,25 \%$$

This rate is low, considering:

1. The huge number of incubatees that the incubator has hosted from the foundation. According to the words of prof. Marco Cantamessa, I3P is able to launch in the market more than 50% of new businesses created in Piemonte;
2. The market statistics talk about a mortality rate of about 92% for the start-ups during the first three years of activity, due to the causes already explained in the firsts chapter, paragraph 1.2.

The mortality rate constitutes a first important Key Performance Indicator about the efficiency of I3P. It becomes a valuable estimator about the quality of incubation process and ability of providing to the incubatees all the knowledge and practical experience to survive in the market.

The Figure 3.4 shows some statistics about the number of start-ups from 2011 to 2015:

Figure 3.4: Results of I3P in the last five years in terms of start-ups incubated

Total start-ups of I3P - At the end of the year -	NUMBERS OF I3P IN THE LAST FIVE YEARS (founded in 1999)	2011	2012	2013	2014	2015
	Total number of start-ups entered within I3P	136	143	156	170	190
	# of which still operating	112	114	123	130	142
	# of which acquired	6	7	7	11	12
	# of which liquidated/ceased	18	22	26	29	36
	# of which Spin-offs of Polytechnic	44	45	48	55	56

Source: I3P web site, <http://www.i3p.it/>

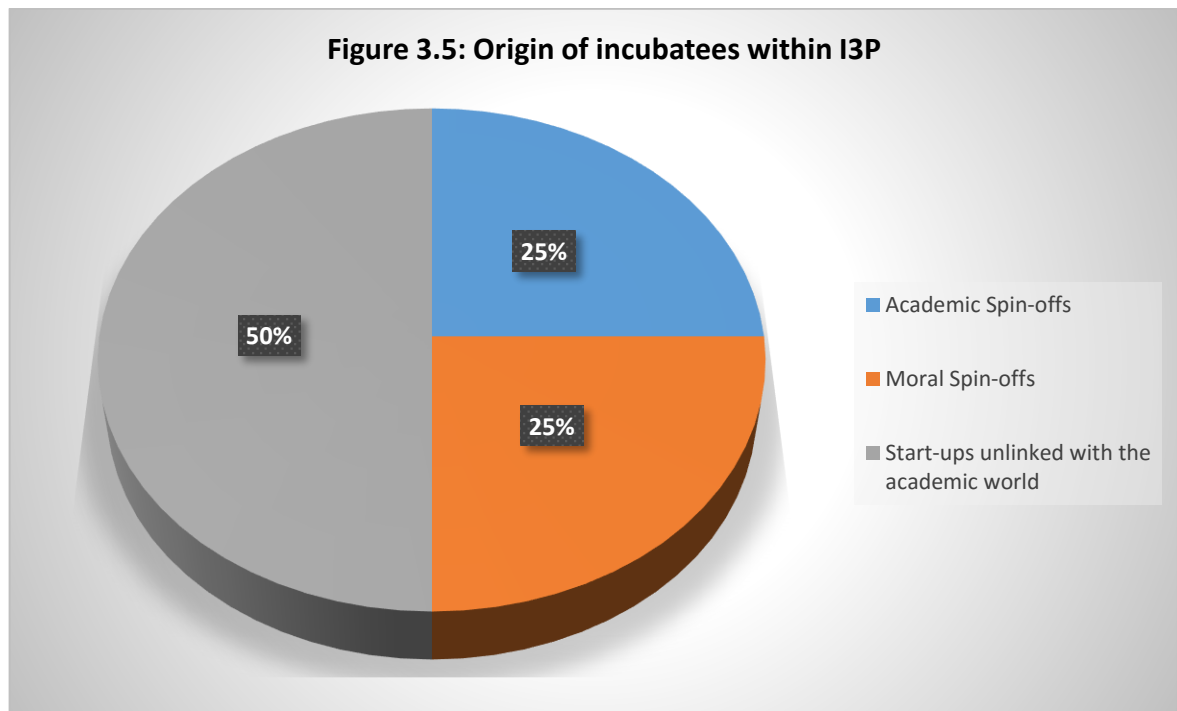
A first consideration is about the number of start-ups that annually are accepted within the incubator. This is an increasing number that moved from seven (from 2011 to 2012), thirteen (from 2012 to 2013), fourteen (from 2013 to 2014) until to twenty (from 2014 to 2015).

The average number of incubatees increases for two fundamental reasons:

1. From a structural point of view, I3P during the years has been able to enlarge the physical space to dedicate to start-ups, increasing the amount of incubatees to be accepted in;
2. The start-ups exit from the incubator is more rapid. It means that after the normal incubation period of three years, each one decides to not extend the incubation experience for another year or more. This is another sign about the ability of I3P to consolidate and prepare the new businesses to the real world.

Actually, so considering the end of February 2016, period in which the interview was conducted, the number of start-ups officially added on are 48.

In the following Figure, 3.5, is represented “*the origin*” of these start-ups within a pie chart:



Source: Direct Interview with Professor Marco Cantamessa (I3P)

The linkage with the University is evident: it must be seen not only in the percentage of Academic Spin-Offs on the total of incubatees actually present in I3P. In fact the figure above, shows another 25% of start-ups incubated, defined as *Moral Spin-offs*: with this term it is possible to define all those start-ups that from an administrative and legal point of view do not fall under the category of University or Academic Spin-offs, but have an evident and direct academic origin. To be precise, they are all those start-ups that are born from an idea of different actors involved within the Polytechnic, which have decided to invest their intellectual capital in the formation of a new business.

Differently, “*the external start-ups*”, are generally founded by entrepreneurs or actors completely apart from the University that decide to be incubated in order to exploit I3P services and to take advantage from the geographical proximity with Polytechnic.

This last point allows making another important consideration: only eight on the 48 incubatees are *virtually incubated*.

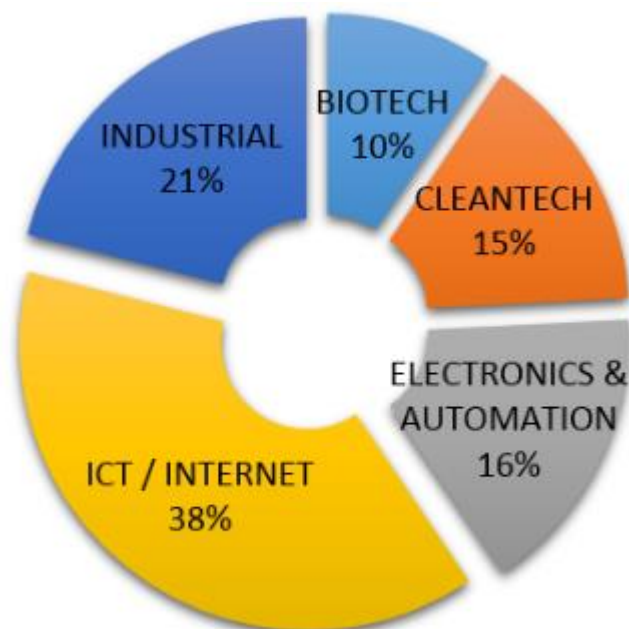
As just touched upon in the paragraph 1.1 of the first chapter, the virtual incubation refers to a particular incubation path, where the incubatee decides to exploit the same services and network of the traditional incubation process, but without remaining close (from a geographical point of view) to the incubator’s facility. The reasons for this type of incubation process are two, essentially:

1. It is the same start-up to choose it, because of a real geographical distance from the incubator;
2. It is I3P to adopt the virtual incubation path, because of it has not the necessary space, that the start-up needs, to incubate it normally.

Generally, the virtual incubation is not a suggested way to start the incubation experience, or better it is not strictly supported by I3P: exploiting the proximity with the University with all the relative services is, without any doubt, a huge advantage.

Another important data concern how the present start-ups are divided according to the reference market, that is symptomatic of both the value proposition of I3P and the skimming process of ideas, consequently (Figure 3.6).²⁵

Figure 3.6: Start-ups divided by sectors



Source: <http://www.i3p.it/>

As is possible to deduce from the figure above, I3P is born to promote and support the creation of new *hi-tech* businesses, exploiting the innovative potential developed in the research's centres of the region. Therefore, it selects business ideas with an high growing potential and high-knowledge based. It becomes evident looking the sectors, to which start-ups belong to, that are exclusively: ICT, Eletronics and Automation, Industrial and Hi-Tech.

Different considerations have to be made for all the processes related to the selection of the ideas and their skimming. This passage is really important because it allows to understand better

²⁵ Source: <http://www.i3p.it/>

the key activities, made by I3P upstream, before starting an incubation path with that specific start-up. It is also important because represents a distinction factor in respect to the other units of analysis, included in the sample. Before dealing with it, it is necessary to make a step back and:

1. Mentioning the main channels through which the business ideas arrive to I3P;
2. Showing some statistics about the number of projects and business ideas that arrive to I3P, on average.

Regarding the first point, it is possible to state that the main channels for the proposals are essentially two:

1. The first one, probably the more traditional and efficient at same time, is the *word of mouth*. Saying better, it represents the one-to-one knowledge that establishes within the Polytechnic among the different actors or entrepreneurs that had a previous experience within the incubator, that act as sort of bridge for the spreading of the knowledge about I3P externally. For sure, this channel is that of an higher substance in terms of quality and innovation about proposals.

2. The second one refers to the myriad of events that are organized during the year. *Start-up* and *Business Plan Competitions* are the most important, in this sense.

Start-up Piemonte and Valle d'Aosta meets about 80.000 students, 1.700 doctoral candidates, 1.800 professors and more than 1.000 researchers: it is a big slice of the public research in Piemonte and Valle d'Aosta regions. The aim of this event, of which I3P is one of the organizer, is to support the development of new businesses that make the most of academic research.

Business Plan Competition has the same aim of the previous one, but includes also the business ideas that are not linked with the academic world. Even in this case, it is important to remind that I3P is one of the promoter of this event. PNI Cube, Italian Association of University Business Incubators and Business Plan Competition in fact, has its headquarter within I3P campus.

To these two more formal events should be added others, more informal, that are organized annually: *Start-up Weekend*, *International Matching Event*, *Digital Experience Festival* and so on. All these last events are born with the objective to put in contact new actors with the incubator for a very first exchange of ideas and opinions. *Start-up Weekend* in particular, is an event organized in different periods of the year, during which developers, business managers, start-up enthusiasts, market gurus,

designers work to the implementation of demos or prototypes to present during the event.

Turning back to the analysis, it remains to show some statistics about the business ideas that, on average, arrive to I3P annually before passing under the skimming and valuation process.

Even in this case, the Figure 3.7 shows the results, with a covering period of five years, from 2011 to 2015:

Figure 3.7: Statistics about the number of Business Ideas

		2011	2012	2013	2014	2015
I3P Activity -in the year-	<i>Business Ideas</i>	202	253	270	242	348
	<i>Project launched</i>	64	74	94	126	151
	<i>Established Firms</i>	9	14	29	22	45
	<i># incubated within I3P</i>	9	7	13	14	20

Source: <http://www.i3p.it/>

These numbers are explicative about the accuracy of the selection process of business ideas: less than the half becomes real projects launched, to be precise a percentage of 43,4% considering 2015. This is even more clear, if it is considered that in the same year the total number of incubatees is only 20.

Professor Marco Cantamessa, actual CEO and Chairman of the board at I3P S.c.p.A, defines it a *maieutic process*: for each business proposal is defined a first meeting at I3P. The important thing is that there is no space for proposals that arrive through a simple call. Once implemented the meeting, to each possible future start-up to incubate is associated a tutor.

He or she has the important task to help step-by-step the new entrepreneurs to make a simple idea something concrete before being valued by a Committee, according to two points of view:

1. Technical, examining the content and the viability of it;
2. From a commercial point of view, determining the attractiveness.

With different deadlines, are organized meetings between the tutor and the proponents and he/she assigns new tasks to accomplish. This continuing test, according to the main principles of lean start-up, allows understanding if that idea can effectively go on or it is lacking of something. Such lacks can be adduced for I3P at:

- An idea that is scarce on its own;
- Market inability to accept the new proposal;

- Lacks concerning the team building among proponents.

Already in this first phase, a great number of ideas are rejected. The activity of tutor, assigned to each team, is fundamental in order to train them in improving their technical projects and in acquiring the entrepreneurial capabilities, that in the most of case (especially for academic researchers), are completely unknown.

In fact, a critical aspect concerns the implementation of the Business Plan to be presented to the Committee. A right implemented Business Plan represents an important business card to be accepted within the incubator. A good idea with a great potential but without a Business Model that supports it, will be not accepted with a great percentage of probability.

For this reason, the help of I3P tutor is essential, making a Business Plan means:

- Analyzing the external environment in which the new business is going to enter;
- Defining the supply chain and all the actors related;
- Implementing an accurate Competitors' Analysis;
- Defining a marketing strategy for the product or service to be launched in the market;
- Defining the operational structure of the business;
- Determining the legal status of the business;
- An accurate economic and financial planning.

Obtaining such work from persons that, in the most of cases, have never heard about a Business Plan is impossible.

The Business Plan will focus on a particular area, according to the specific actor that will be probably incubated:

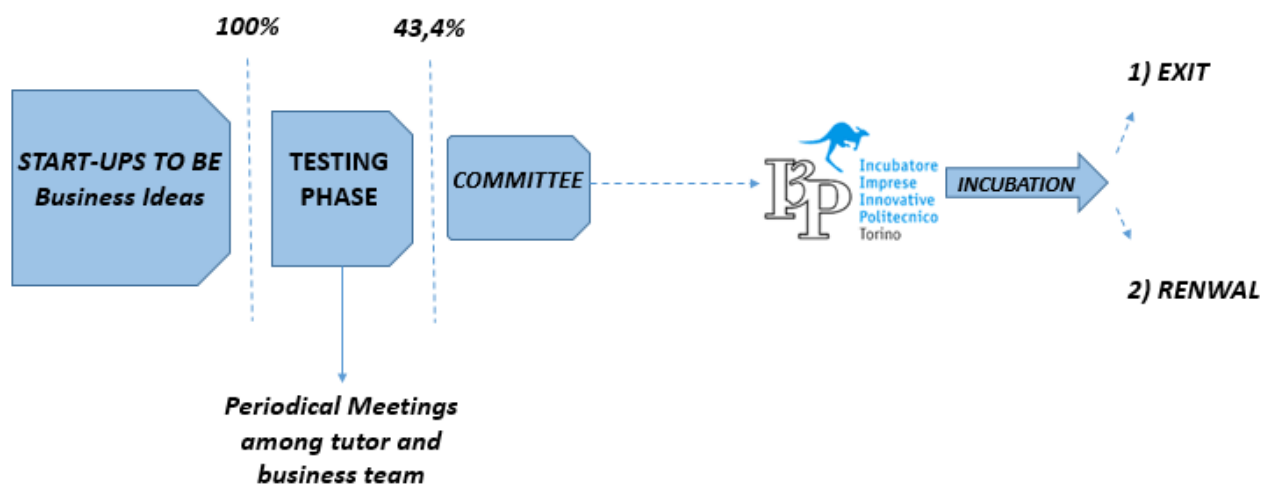
- Academic Spin-offs that have implemented an idea that will probably have a market space, in which the greatest part of the risk is related to the development of technology. In this case the Business Plan has its particular focus on identifying the right market segment to tackle and how to promote the product;
- All those innovative ideas and projects that have a big market risk linked to the possible use of the product/service. In this case, the Business Plan becomes more concrete, in the sense that all the possible clients individualized, will receive prototypes periodically, to test the attractiveness and application of the product.

Even if the support of tutor appears indispensable, it is not a service offered by all the University Business Incubators, as it is possible to see after in this chapter.

All the Business Plans are presented to the Committee that is composed by business managers, economists, professors and venture capitalists. If their judge is positive, the start-up will be admitted to the incubation phase. It is worth to notice, as prof. Marco Cantamessa underlined during the interview, that a good percentage of the Business Plans presented pass this sort of final test. The reason why is that of the initial important skimming, made during the test phase between tutor and team.

The selection process, just explained, is none other than one of the *Incubation Phases* that all the start-ups faces within the University Incubator. In fact, it corresponds to the specific phase of *Pre-Incubation*, but in order to be clear and precise the Figure 3.8, summarizes them:

Figure 3.8: I3P Incubation Phases



Source: Author's Elaboration

The *Pre-Incubation phase* does not stop to the positive judge of the Committee, that establishes the entering within the incubator, but it continues until the concrete incubation of the start-up. There is a real complement step, in which tutor supports the entrepreneurs in the conclusion of the last tasks concerning essentially:

- Researching the most feasible financing sources among business angels, venture capital funds and banks' funds;
- Completing the management team thanks to the network of managers and experts of I3P;
- Solving some weaknesses, individualized by the Committee.

The *Incubation phase* constitutes a period of three years (generally) in which the new businesses have the possibility to exploit all the services offered by the incubator.

As just explained above in this paragraph, it is possible to distinguish between two incubation paths that are the traditional physical incubation and the virtual one, essentially. A different mention has to be made for *Tetrabit*²⁶. It is a specific incubation path, dedicated to only the new projects related to new media. It is the same name Tetrabit, to have a particular meaning that is: “*to nurture the bit*”, helping them in becoming something new and innovative and “*to grind the bit*”, resting on the technical knowledge present in the region. At the end of the three years, start-ups have two possible choices, as represented in the figure 3.8:

1. Leaving the incubator: during the years, start-ups have reached a certain degree of maturity that enables them to walk on their legs. In this sense, for maturity is intended both a structured level of capabilities among the actors that compose the operational and managerial team, and structured relationships with all the external actors that actively participate to the life of the new business.
2. Deciding to add a new year of incubation. To this decisional node belongs all the remaining actors that are still immature to face the market. However, this last decision must be necessarily discussed with I3P team.

Therefore, it is during the Incubation period, that realizes the transformation process for the incubatees. From mere ideas, thanks to the exploitation of all the services offered within the incubator, they start to become structured entities. In the chapter 2, it has been explained what about the services of an incubator by distinguishing between traditional incubator’s services and value-added ones.²⁷ In order to analyse the I3P services, the same distinction is used in the attempt to understand, essentially, if there is a nexus between what is described in the literature and the real case.

There is no doubt that for traditional incubator’s services are intended all those that are linked to the exploitation of a physical space, that I3P lists in this way:

1. A furnished office of about 20, 30 or 40 square meters;
2. The possibility to stay connected with a 4MB/sec net;
3. Shared offices and space to use for all the day long;
4. A centralized answering service;
5. Meeting rooms;
6. Monitoring and cleaning service.

²⁶ For the aim of this dissertation, Tetrabit is only touched on. For more information, it is possible to consult the web site: <http://www.treatabit.com/>

²⁷ Source: Mian S. (1996). Assessing value-added contributions of university technology business incubators to tenant firms. Research Policy Elsevier Science, p. 1-11

Even if these ones, in the point of view of an external reader, can be seen as basic services to be moved to the background, they represent an important starting base. The possibility to have access to spaces that are completely furnished with all the equipment that are needed for the correct implementation of the products and services that they are creating, must be not undervalued in the light of fact that at the start of this experience, each of the start-up would be not able to face the costs associated to the purchase of them. The same considering meeting rooms, that acquire a strong importance if it is considered the necessity to organize multiple events with the external actors that are part of start-up ecosystem: suppliers, clients and investors (above all).

It is clear that they assumes a stronger relevance if complemented with those defined, as value-added services. During all the interviews to the different University Business Incubators, included in the sample, it is asked what about the type of services that, in their point of view, are the most value adding for the start-ups. For I3P providing surplus values means: living in a context rich of experience and to be inserted within a well-defined network.

Both of them may be defined as interconnected and overlapping. Probably with the former, is intended the possibility for the start-ups to have access to the knowledge, produced at all the levels of the incubator from the internal actors. This knowledge is provided through that supporting process that has been explained above during the pre-incubation phase, regarding the formation of the teams with the technical helps but especially by providing entrepreneurial skills that they lack. However, this process of continuing exchange of knowledge is not run out only in pre-incubation phase but it continues during all the life of the start-ups within the incubator. The mentoring and coaching activity, in fact, is constant during all the incubation time and concerns: tax-related consultations, legislative aspects, and seminars about the safety on the workplace and on the intellectual property. Such seminars are held by Polytechnic professors but also from external guests agreed upon I3P.

From this last aspect, that it is possible to deduce the connection and the overlapping between the advantages related to living in a context full of experience and to be inserted in a defined network. The external guests are part of this such network and at the same time enrich an environment already full of experience. So for external guests are intended professors and experts from the main Italian and European universities, entrepreneurs with international reputation.

The possibility to have frontal lectures about these topics is part of the fee that each start-up pays periodically to the Incubator or with an extra payment, but with a discounted price.

A particular digression, instead, has to be made in analysing the importance of the network for the incubatees. The network defines all the possible relationships and connections that each start-up is able to create with both internal and external individuals, thanks to the incubator. I3P, in this way, is able to act as a sort of bridge in the approach between the start-up and the complex ecosystem, of which it is part. I3P has the aim to facilitate these connections both with local actors (Institutions and other businesses) and in a more ample context, national and international. For this reason the I3P commits itself to create synergies, that can be created both in a more formal and informal way at all the levels of the incubator.

For formal relationships (or inter-organizational relationships) are intended all the connections that establish among start-ups and:

1. Partners;
2. Sponsors;
3. Other Associations.

Today I3P has been able to create a dense system of linkages that can count on more than 50 figures among those mentioned above. Since it is already treated about the activities of coaching and mentoring of external guests, that are partners of I3P, a different mention is destined to the Financial Partners.

The strength of I3P during the years was the ability of implementing strong ties with actors able to give a concrete help to the incubatees. It is important to remind that the run-out of cash represents the third most important problem among the top twenty reasons start-ups fail.²⁸ In the Figure 3.9, are represented them:

Figure 3.9: Financial Partners of I3P

Partner	Function
Michelin Development Foundation	It intends to promote the SMEs that are close to its building, supporting them economically and professionally.
Italian Club of Investments	It is an Accelerator Enhancer, and it has the aim of providing seed financing to the start-ups within incubators.

²⁸ This aspect has been already treated in the first chapter, paragraph 1.2 of this dissertation.

Italian Angels for growth	It is a not-for-profit association that has the aim of promoting and spreading the entrepreneurship culture.
Italian Pole of Venture Capital	It includes 27 VC funds, between Italian and international and it covers all VC segments from Angel Investing to Early Stage.
U - Start	It allows the matching and cross-border investment between venture capitalists, family office and the best European start-ups.
Club of Investors	A group of Piemonte Investors that have decided to invest in young start-ups, but with a clear innovative and technologic contents.
Intesa San Paolo	It is the bank group, leader in Italy and with a strong presence in the Mid-Eastern Europe and in the Mediterranean area.
Unicredit Bank	The bigger bank in Italy that helps the start-ups in choosing the right form of investments and bank solutions for their needs.
BCC Credit	A traditional bank that supports the small local entrepreneurs on the economic, social and cultural point of view.

Source: Author's Elaboration

Among the Financial Partners appear venture capitalists, business angels and banks. It is worth to notice some important statistics, concerning the investments received by the incubatees from 2014 to 2015:

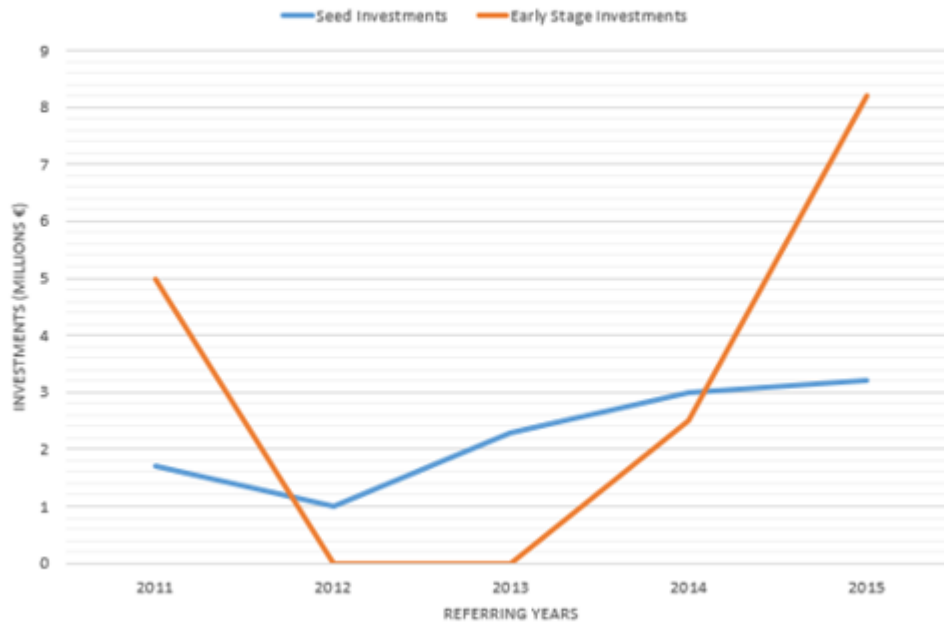
- At a seed level, that is more important, the amount of investments is increased of about 10%. They moved from € 2.900.000 in 2014 to € 3.200.000 in 2015.
- At an early stage level, the statistic is more fickle. In general, the investments moved from € 3.500.000 to € 8.900.000 in 2015.

The increasing trend can be easily showed in the graph, Figure 3.10:²⁹ a little mention must be made, referring to the lowest peak for the early stage investments in 2012 and 2013, equal to

²⁹ The data can be easily found on I3P web-site, <http://www.i3p.it/>

zero. They represent the first investments in risk capital and include both seed investments and other financing to start a new business when the productive activity is completed. It is clear that this type of financing is linked to the validity of the product/service on the market, and for this reason more difficult to be achieved from start-ups.

Figure 3.10: Financial Partners' support to the Start-ups



Source: Author's Elaboration

In the first two months of 2016³⁰, the start-up received € 600.000 in investments, underlining a very profitable trend that is expected for the rest of the year. These numbers are not by chance, but they are the result of a continuous working made by I3P team in organizing events to promote a first contact for the parts.

Moreover, a list of services are dedicated only and exclusively for the investors. They are *orientation services*, where I3P team supports investors in choosing businesses that reflect better their needs. Other services, as just touched on above, are those that allow an approach between the parts, granting an adequate privacy.

Other important actors, part of the huge network of an incubator and in this specific case of I3P, are the Sponsors. Their support in this case is that of complementing the great help that I3P

³⁰ These data have been provided by the CEO and Chairman of the board at I3P, prof. Marco Cantamessa during the interview.

received and it continues to receive from the local institutions: Chamber of Commerce of Turin, Province of Piemonte and Finpiemonte.

Here a little digression is necessary: it is important to clarify that from an administrative point of view I3P structures itself as a consortium, an union of actors. This means that the different partners, since the beginning, wanted that all the actions defined by the incubator, should be implemented according to a precise strategic policy: acting all together. So historically, all the actors gave their important contribution according to the precise moment in which the incubator was acting. Today, due to the cut of about 50% of funds to be destined to the operating arm of I3P, the Chamber of Commerce is less present. In the actual state Finpiemonte (Institution for the development of Piemonte) is the most important supporting figure for I3P. This mainly because the business model of I3P is centered on working with “*European Social Funds*”. The business model is such that:

- I3P set a target for the revenues that come from the market, that is equal to 35%. For revenues are intended the fees that each start-up pays for all the services;
- The remaining part of revenues is possible thanks to the financial help of the institutions and local authorities (Finpiemonte especially, in this case).

Coming back to the Sponsors, their complementing function is evident in the case of *CRT Foundation*. It is a private no-profit entity that supports the development of Piemonte and Val d’Aosta regions with important actions for the safety of cultural assets and for the promoting of research and innovation. In this specific case of I3P, it financed the building of I3P campus, called *Agorà della Cittadella Politecnico*.

The second point to analyze about the network, concerns the importance of all the informal connections that are born and implement among the persons within the incubator. In general, they are implemented with one-to-one exchanges of opinions, ideas but also considering relationships that are out of working context.

One person can maintain them with its colleagues, with incubator’s personnel and with members of other start-ups. The relational network is in the same way important for the creation of a collaborative atmosphere within the incubator that can bring to the creation of synergies. Such synergies can transform either in a mere exchange of experiences or in something more, by starting a partnership among the incubatees. It is clear that is always the incubator to act the important role of promulgator of these relationships. I3P, in this sense, organizes informal meetings in which partecipate all the actors of the incubator to share opinions, results and successes of each of them, during the years.

Moreover, other informal events are organized to stimulate the knowledge on the territory about the I3P activities and to promote the knowledge of its start-ups to different entities. One of them is the “*Pitch on the Beach*”: it is an event hold in the Tetrabit campus in the summer period, and it represent an occasion to know all the start-ups (their products and services) that grows within the *IT gym* of Tetrabit.

It is out of discussion that both for the international appeal and for the type of entrepreneurial ecosystem that it has been able to create, I3P represents an example for the activity of the other University Business Incubators in Italy. It continues to be an authentic innovator in the incubation practices, implementing each year new solutions for the development of a nurturing context for new businesses. Maybe it is the only figure in Italy to be able to get close to the most important American and European giants, that for both results and for the financial support that they receive from the public institutions are still light years away.

In any case, the numbers and performances are clear: analyzing the most important Key Performance Indicators, defined by the CEO during the interview, and showed during this examination:

- 190 start-ups created from the foundation to the present;
- More than 1.400 new jobs created, among incubator’s personnel and start-ups’ personnel;
- More than 40 mln/€ in terms of risk capital for start-ups from 2007 to the present;
- A total turnover for the start-ups of about 70 mln € in 2014;
- 348 new business ideas in 2015 and 151 new projects launched.

Such results make useless to look at the main competitors of I3P among the other University Business Incubators, but it should be underlined that its competitors are clearly incubators that fall under the category of Private Business Incubators and Business Accelerators such as H-Farm, Nana Bianca and End Labs³¹, unless are considered some other European UIs’ models.

3.5 Start Cube, The University Business Incubator of Padua

Start Cube, the University Business Incubator of Padua, represents the second unit of analysis of this research about the map of UIs in Italy. Actually, as just explained in the paragraph 3.1 of this chapter, the aim of this dissertation is trying to clarify what about the role of a Not-for-

³¹ These Private Incubators and Accelerators have been indicated as direct competitors of I3P from prof. Marco Cantamessa, during the interview.

profit Incubator as the UBI in Italy, and since the beginning this study has been conducted with a focus on the University Business Incubator of Padua.

Even if the object of the research involves a deeper study of three UIs in Italy, analysing them in the totality of their processes and features, Start Cube remains the pivotal actor to focalize on and to be compared with the other peers. Then it is possible to state that it represents the main subject of this study, and for this reason included in the sample of the analysis. With the aim of highlighting its main aspects, advantages and criticalities in respect with the other units of analysis, the method for its examination and presentation will be the same used for I3P, and the same also will be used for last subject to analyze. Then the procedure is that of describing:



This type of process allows touching all the points that are fundamental to describe the Business Model of Start Cube, as a whole. For each of these points it will be showed some statistics, complementing the description. Each data showed during this study, is obtained thanks to researches on web and the fundamental face-to-face interview, implemented with Ms. Giulia Turra, Business Developer at Start Cube.³²

The importance of this interview, in addition to the possibility of having the most recent data about the University Business Incubator, is made even clear in the description of the first step of this analysis: to retrace the main steps of Incubator History. This because the news present on the web about it are not thorough, even considering the web site of the incubator itself. All in the light of the recent facts that involve Start Cube, directly.

The history of Start Cube is recent enough that is possible to be enclosed in three stages, as showed in the Figure 3.11:

³² The interview has been conducted in April the 18th, at the headquarter of Start Cube in Via Della Croce Rossa, Padua.

Figure 3.11: Evolution of Start Cube during the years



Source: Author's Elaboration

Start Cube is born in 2004 from the idea of Professor Andrea Berti, actual director of the incubator. It represents the natural consecution of Start Cup Veneto, the Business Idea Competition of the University of Padua. To be precise Start Cup Veneto is a competition among innovative business ideas, completely financed and realized from:

- University of Padua;
- Venezia Ca' Foscari University;
- University of Verona;
- And with the collaboration of *Fab Lab Officine Digitali di Padova, Verona Fab Lab, FabLab Venezia, M3I, Prospera Association – School of Entrepreneurship.*

Start Cup Veneto has the same aim of Start Cup Piemonte and Val d'Aosta, already explained during the examination of I3P: it wants to stimulate the research and technologic innovation to sustain the economic development of the territory, giving concreteness to the participants' ideas and helping them in facing all the start-up phases of a new business. So all the participants to the SCV³³ can be part of a series of events useful to transform their idea in a real industrial project, and to establish a first link with the industrial and financial world.

In 2006 Start Cube, financed by its major partner *Fondazione Cassa di Risparmio of Padua and Rovigo*, implements a new path oriented particularly at the academic world and Spin-offs that have a clear academic origin. These Spin-offs need not only of physical space but also of knowledge about how to start a new business. During the years, Start Cube becomes the right place for the formation of numerous Spin-offs, although the certainty that a real contamination takes place also by separating from the *academic pillars*.

³³ SCV stands for Start Cup Veneto.

It is this such certainty that creates the premise for a changing in the admission of new businesses within the incubator, opening the doors to other start-ups, completely unlinked with the academic world. This process can be (in part) attributed to the change in the governance of Start Cube in 2008, with the entrance of Mr. Emiliano Fabris, actual CEO of Start Cube and even director of the *Technologic and Scientific Park Galileo*.

This last information is not by chance: a clear turning point for the future of Start Cube is in fact its annexation to the Technologic and Scientific Park Galileo, that has been made in March the 30th of this year. The main reason of this event is the possibility for the University Business Incubator of achieving a new legal status, fundamental for the obtainment of the Certification as Innovative Start-Ups Incubator.³⁴

Apart from the advantages of having this type of Certification for the Incubator and for the start-ups, there are some facilitations for who wants to invest in an innovative start-up that can be summarized in these two elements:³⁵

1. Introduction of tax-related incentives for the investments in start-ups that come from other firms or private persons: the incentives count both in the case of direct investments in start-ups, and in the case of indirect investments through other societies that invest in start-ups, mainly. The tax benefit is greater if the investment is made in start-up with a clear social scope and that operate in the energy segment;
2. Introduction of crowdfunding (that is a collaborative process of a group of persons that utilize their own money to support the effort of persons and other organizations. It is a form of financing from the bottom to the top that involves people and resources), of which the detailed regulation will be defined by Consob.

Therefore, it is possible to deduce that the entrance within the Technologic and Scientific Park Galileo has a very important purpose, and it has been a process awaited and quite inevitable for the improvement of the incubator.

Even if the history of Start Cube is not as detailed as in the case of I3P, where its foundation is occurred five years before, in any case its description is fundamental to frame better the actual administrative and operative structure of this University Business Incubator.

³⁴ According to the article number 25 of the Legislative Decree number 179/2012 an “innovative start-up” is a limited company, resident in Italy, where its share owned in majority by natural persons, are not negotiated on the official market and its exclusive scope is the development, the production and the commercialization of innovative products and services with an high technologic content. The main advantages of this status are: lowering down the start-up costs, a favourable job discipline for the hiring of new workers and the possibility to remunerate the workers with the stock options.

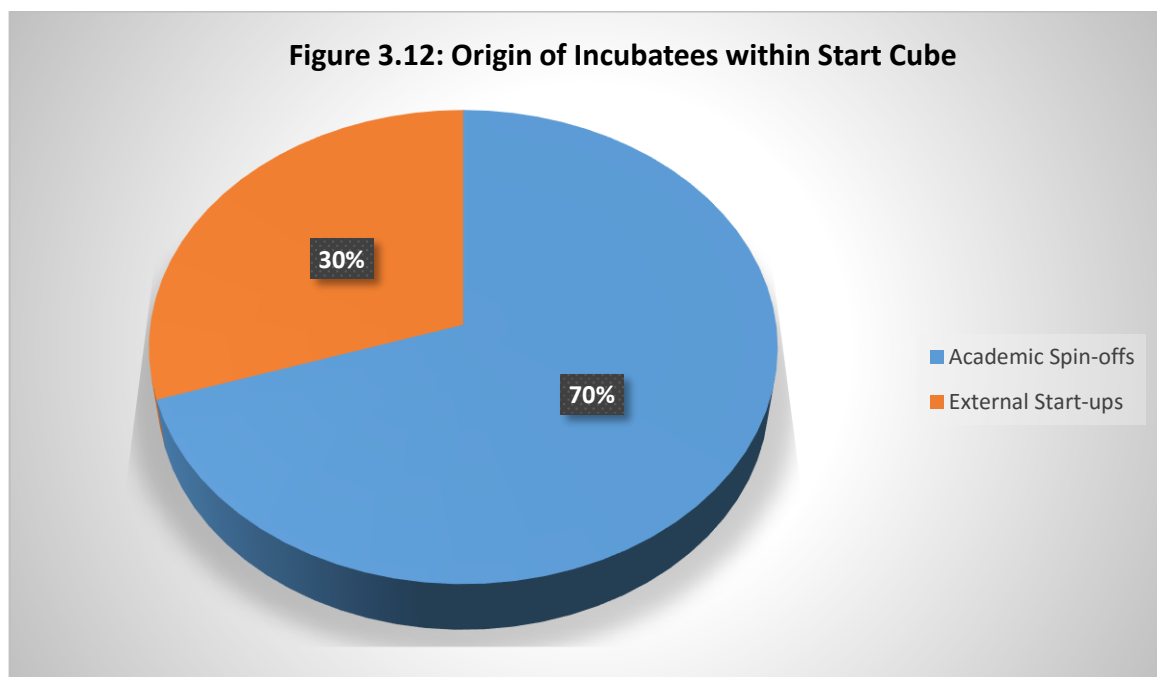
³⁵ Source: <http://www.startcube.it/>

Continuing the analysis according to the steps showed previously, now a complete study of all the incubation processes, from the selection of start-ups to be admitted until their possible exit, is going to be made.

From the foundation, Start Cube has hosted more than 60 start-ups³⁶, moving from the only four incubatees in its first year in 2004 until the nineteen that are actually present within it. The continuous increasing during the years about the number of start-ups to be admitted within the incubator is due essentially to:

1. Different improvements that Start Cube has faced during the years, that actually make it one of the most important actor in Veneto region and a convincing alternative to the other important Private Business Incubators, that live in the same territory;
2. As just underlined during the explanation of its history, a change in the selection criteria for the start-ups. So the focus moves from the exclusive entrance of Academic Spin-offs to the annexation of business ideas that want nothing to do with them.

In any case, the strong connection with the University is still evident by looking at how on average, the start-ups are classified according to their origins: (Figure 3.12)



Source: Direct interview with Ms. Giulia Turra (Start Cube)

About the total number of incubatees, six of them are virtually incubated (about 32%), for sure, a percentage that is higher in respect to what it has been already showed with I3P. The reason could be the approach that each University Business Incubator has in respect to this specific

³⁶ These data has been provided by Ms. Giulia Turra, Business Developer at Start Cube, during the interview.

incubation path: Start Cube looks at it in a less sceptical way, defining it as a good alternative to the physical incubation. It is clear that the virtual incubation in Start Cube is in certain case inevitable for some start-ups, because it has not the feasible space to host them in a not so big building or when the incubator is full (in this last case the virtual incubation is only temporary). Start Cube in fact, is located within a small structure and it is composed by different offices for each incubatees of about 17 square meters as minimum until a maximum of 46 square meters. Even if the Incubator is able to guarantee all the necessary services for the start-ups, it is clear that it is something different in respecting to have a real campus at the disposition. This last point is an added reason for the entering within the Technologic and Scientific Park Galileo, and Start Cube has in the pipeline the definition of a medium/long term project for the building of a real Incubator's citadel. In any case the virtual incubation is defined as valid alternative for those start-ups that already have an headquarter or for those that work with the final client, directly. However, they have the possibility to place their registered office within Start Cube and to exploit all the services that they need, in terms of technical knowledge and financial support to develop their business idea.

The conditions through which each start-up enters in the incubator are clearly defined within the announcement of selection³⁷. It states:

- Can participate to the ban all the natural persons that are holder of a company or that want to create a new one (with the condition that it must be necessarily set up within six months since the entering in Start Cube)
- Can participate already existing companies, but they must result active at the time of the participation.

They are categorically excluded from the entering in the incubator all the private Spin-offs. As known, they are branches of big companies that are created for different scopes: research, development and distribution of a specific product on the market, sharing of company's risk and division of governance. The reason of the exclusion must be founded in the specific policy of Start Cube: providing a support to all worthy business ideas that really need a concrete help.

The Public Mission of Start Cube is that of not sustaining who already possesses own resources or relational assets, well formed.

Turning back to the point, all the proponents that know about the services provided in Start Cube fill in a questionnaire for a very early knowledge between the parties, constituted by

³⁷ The Announcement of selection is possible to be consulted as a whole on the web site, <http://www.startcube.it/>

simple and direct questions about their project, their idea of product and service that they want to launch in the market. Only the candidatures that seem to be more solid, they are contacted for a new meeting. It will be the good response after the meeting that constitutes the pass for the entering within the incubator.

According to the announcement, the selecting criteria are:³⁸

1. Degree of innovation about the business idea;
2. Attractiveness of the reference market;
3. Skills and capabilities of the team.

The final entrance of a start-up within Start Cube is decided by a board of directors, that according to the importance of the project, is composed by the only manager of the incubator Mr. Emiliano Fabris and Ms. Giulia Turra, or it will be formed by them plus some other consultants or experts, and they will judge according to the criteria mentioned above.

It is possible to state that the Business Model of Start Cube is that of not betting on the excellent innovation, necessarily. Nevertheless, it is *betting on persons that are able to argue about their project of product or service from a commercial point of view*. This distinguishes Start Cube from other actors, such as H-Farm that, instead, has an innovation idea and policy that is very basic: it decides to admitt new digital products or apps, hoping in a very fast success. In this way, the life cycle of the incubatees is really short, and it allows the incubator to get into it some other businesses by increasing the exit rate.

However, as known, the final end of a new business or start-up is to create job positions and wellness on the territory, and it coincides with the mission of a Not-for-profit Incubator: creating sustainable and innovative occupation of new businesses that are able to compete on the market. For this reason a preferential exit strategy does not exist.

Before entering concretely within Start Cube, the admitted start-ups follow a Pre-incubation phases, during which the incubator's team help them in the implementation of the Business Plan for the constituting business, but this last point will be treated after during the description of Start Cube services.

All the proposals that arrive to the incubator come from different channels, in which the activities and services of the University Business Incubator are promoted. In general, it is possible to divide formal and informal channels that are:

³⁸ Source: <http://www.startcube.it/>

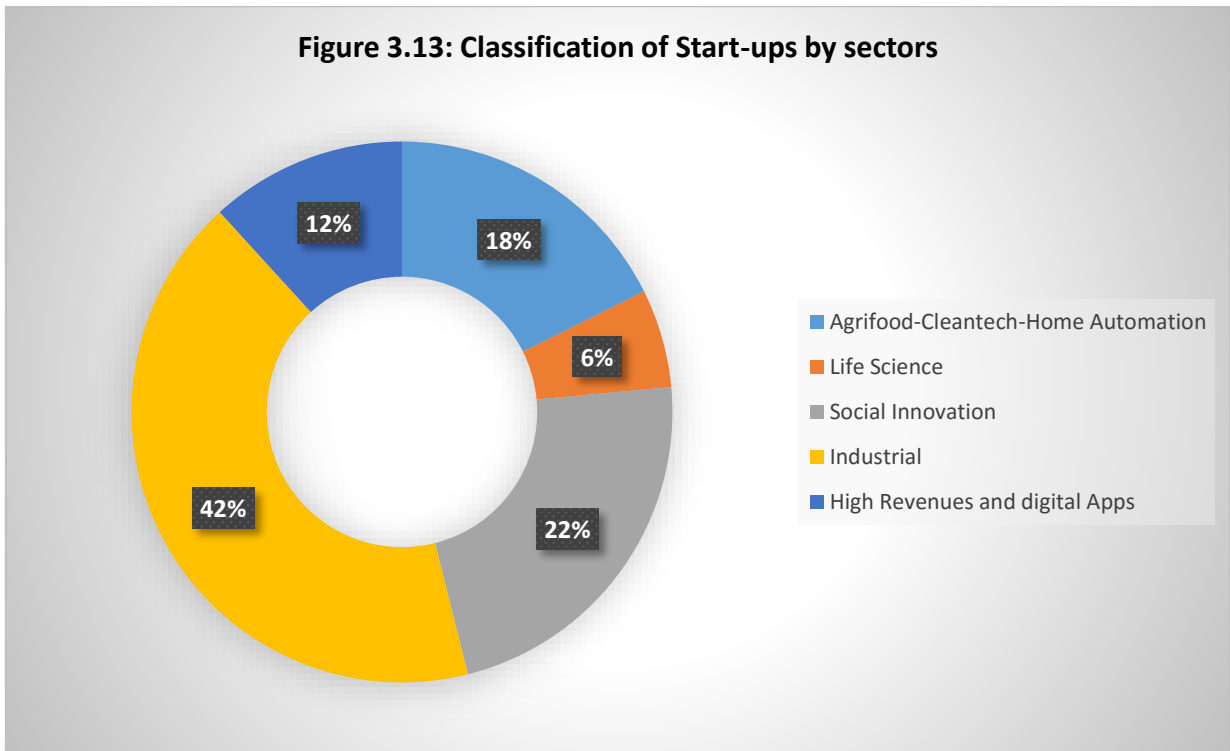
- All the events that Start Cube organizes or participates on territory: Galileo Festival, Fiera Campionaria, Steps and some others. All these events have a dual aim that is that of promoting the incubator and let external subjects know about it, but also to promote the start-ups already incubated. These are also known as *Pitch Day*: a pitch is a short speech that is used to catch the attention of various interlocutors about a project or business idea. Developing this type of capability is fundamental for those that want create a new business, and this capability requires dedication and a lot of training. In the most of case, it is possible to talk about *elevator pitch*, and there exist different types of them according to the reference target. It lasts from 30 to 120 seconds. The term has been coined in Silicon Valley and it describes the concept that each startupper must be able to present its idea in a time equal “to take the elevator”;
- Social Channels such as Facebook or other informal way of communicating (mail list);
- Word of mouth or references on the territory;
- Business Idea Competitions: Start Cup Veneto, Rebound, Bando di Incubazione di Primo Miglio. The aim of these events are always the same and in the case of Start Cup Veneto and Rebound³⁹, Start Cube is one of the partners.

Before discussing about the main incubation phases that each start-up faces, a specific analysis should be made about the sectors to which they fall under. In general, Start Cube does not define specific sectors of the market as a selecting criterion for the incubatees in order to be admitted. The decision is due to the specific policy of incubator: rewarding the idea disregarding from the reference market of the possible future product and service. In any case is useful to make an analysis, by looking at the actual 19 start-ups that are incubated within Start Cube⁴⁰ (Figure 3.13):

³⁹ Rebound is the start-up competition organized annually by *Gruppo Giovani Imprenditori di Confindustria Padova e Fòrema s.r.l.* The aim of this competition is the same seen with the other Business Idea Competitions, and of which it is part. From its web site is possible to look at the criteria used to elaborate the Figure 3.13. In any case, all the information are available at:
[http://www.confindustria.pd.it/confindustria/padova/istituzionale.nsf/\(\\$linkacross\)/B4C7BC811551DDFAC1257CE4002A4765?opendocument&restricttocategory=Universit%C3%A0%20-%20Impresa](http://www.confindustria.pd.it/confindustria/padova/istituzionale.nsf/($linkacross)/B4C7BC811551DDFAC1257CE4002A4765?opendocument&restricttocategory=Universit%C3%A0%20-%20Impresa).

⁴⁰ All the information are collected by looking at the web site of each incubatee.

Figure 3.13: Classification of Start-ups by sectors



Source: Author's Elaboration

The definition of the sectors follows the same scheme used in the ban “*Rebound*” for the division of proposals. So:

1. Agrifood – Cleantech – Home Automation: products and services oriented to the agribusiness sector, eco-sustainable technologies and domestic automation;
2. Life Science: products and services (included software) oriented to the human wellness (bio and med tech);
3. Social Innovation: products and services with the final aim of creating social and cultural innovation;
4. Industrial: products and services dedicated to the development of new materials and industrial processes;
5. High Revenues Digital App: digital products and services with a high economic return.

Even if the Agrifood sector represents an evident minority in terms of effective start-ups that belong to this one, within it there is *Ez Lab* that constitutes one of the most evident success case of Start Cube. In the end of the last year, it has achieved another important and unexpected goal: to be included among the top 30 European start-ups according to *Finodex*, an accelerator that selects, funds and supports the best project of the European context. Its project Agriopen Data has been able to pass two selection steps that allow it to obtain more than € 50.000 in terms of financing. Such project bases itself on the implementation of an operating system that enables

the farmers to have information about the products, their traceability from the field to the final customer and the cultivation techniques used, only with a simple click.

On the other hand, the case of the start-up *2045 Tech*, that fall under the category of High Revenues Digital Apps. In 2013, it was awarded as the Coolest Idea 2013, for its product *Floome*: it is breathalyser for smartphone that allows measuring the alcoholic rate. Its precision is guaranteed from the fact that it uses the same detectors of police and from a well-defined technology, developed through many laboratory tests. The appliance is complemented with an app for smartphone that shows graphically:

1. Your alcoholic state;
2. Recovery time that is necessary to get over the alcohol;
3. Thanks to a geo-localization service, it is able to show the taxi that is closer to your position.

This digression is useful to underline again the policy of the Incubator: they are the ideas to have a real intrinsic potential and value. On the other side, it is also true that the ideas need of a solid plan to make them concrete: for this reason, Start Cube specifies in the announcement of selection the condition for which the start-up must be established within six months from its entrance within the Incubator. The will is that of approving projects that are already solid. In this sense, Start Cube is clear: the ideas must be complemented with concrete actions.

Once defined the start-ups that have passed the selection criteria, they generally face an incubation period of 2 years. The *Incubation* comes after all the *Pre-Incubation phase* that coincides with the selection's period. The number of two years is indicated in the article number five of the regulations about start-ups' entrance and permanence.

It states that: the businesses that are already constituted at the moment of admission can stay within Star Cube for a period of two years, starting from the entrance, and this period can be prolonged for adding years. It is the board of directors of Start Cube to decide about it, but in any case, the start-up must necessarily present a specific request three months before the expiration of the incubation period. The request must be accompanied with the financial statements and any other documents that show the achievement of the goals, defined at the moment of admission, and the importance to stay within the incubator for an adding year.⁴¹

Therefore, it is the financial statement to weight at most on the possible continuing permanence within Start Cube. This is confirmed during the interview by Ms. Giulia Turra, explaining how

⁴¹ The complete regulations is present on the web site, <http://www.startcube.it/>

it also represents the most important indicator to evaluate the performances not only of the incubatees but also of the incubator, as well.

During the incubation period, each start-up pays for all the services that the incubator provides. These fees are the only form of revenues for Start Cube, and they include both the utilization of a dedicated physical space than the soft services. And in fact, the incubatees sign a services' contract and not a lease one. It is clear that are the soft-services or value added services to assume a greater importance for the development of the start-up on one side, but also they constitute a good element of differentiation with the other University Business Incubators, useful to build the comparison that will be showed later in this chapter. The basic services are almost the same for each incubator and for this reason are merely listed in this case:

- Utilization of an already furnished space, with different length as decided with the Director;
- Two telephones and high speed internet;
- Reception and answering service;
- Cleaning of the office;
- Fax, printer and copy machine;
- Utilization of common spaces;
- Meeting rooms;
- A dedicated space on the web site of Start Cube.

However, are those services, recognized as value-added services or soft-services that frame better the vital support of an incubator for a start-up. The ability of Start Cube in creating a panel of experts, that include professors and experts that provide their precious advice on all the aspects that concern the technical and commercial development of the product and services. The work behind their final choice is really accurate: the system of experts is opportunely created by an adequate process of selection and validation of them, in the aim of individualizing subjects that are up-to-date and prone to the start-up world. Start Cube organizes meetings with them each month, and their service are comprised in the fee that the incubatees pay. It is possible to state that the formation of the startupper is particularly curated by Start Cube and in fact the topics treated during the meeting try to cover all the possible doubts or criticalities that a new entrepreneur could have:

- Formation in early stage management, provided within the incubator and with a covering time of all the two years;
- Consulting support in business development, strategic marketing and sales;

- Solutions for the daily problems concerning contractual and tax-related aspects but also support in how to approach with start-up consultants (lawyers, accountants etc.)
- Consultation on sector analysis and market research;
- Information about the financing opportunities;

Moreover, the team of Start Cube is present during the first meetings that each start-up has with the actors involved in the supply chain of the start-up. From the incubator point of view, the way of thinking is that of not contractualizing the panel of experts and consultants as employees, but as service providers, because it would be against the logic of start-ups. There is also the possibility to organize vis-à-vis meeting between the single start-up and the experts, but it considers an additional costs out of the fee. The services that are more required by the start-ups concern three macro-area that are the legal and contractual area, administrative and accounting area and all that concerns the intellectual property. In particular, with the administrative and accounting area is intended all the procedures to start a new business, keeping records about the accounting and the implementation of the financial statements. It constitutes a further evidence about the fact that the main deficiencies of new entrepreneurs are related to the managerial and economic issues. Especially in the case of Academic Spin-offs, where in the most of the time new entrepreneurs are young students or researchers that are completely away in respect to the day-by-day issues that a new business has to face. The same consideration can be made regarding all the phases of the technological transfer: for this reason clarifications about how to patent the result of a research, are often needed.

The other key point to analyse about the benefit that the incubation experience is able to give to a new business, is the network of contacts that the University Business Incubator is able to create and making it available for the incubatees. The ability of Start Cube has been that of create a dense system of linkages that constitute a real eco-system for the start-ups. Within it are included all the experts that revolve around Start Cube, but also institutional actors and private financiers. Each of them has an important role in the life of incubator and for the start-ups consequently.

Starting from the University of Padua, that apart from the professors that carry out a specific function as already mentioned, represents a strategic place for two important reasons:

1. The former is about that it is a first interface between the external environment and the incubator. In many case it is within the University's hallways that are born new ideas of business or researchers decide to make a step ahead in making concrete their researches. It is important to think about the fact that the University of Padua is particularly active in the activities of basic and applied research, participating to regional, national and

European projects that lead to the obtainment of 42 million of euro on average during a year. From 2002 to 2007, it has been put at the first place among the Italian Universities for the excellence in formation, research and support services.⁴² Different seminars, for this reason, are organized periodically to promote the entrepreneurial culture in the academic world.

2. The latter concerns the valuable possibility to exploit University's laboratories and equipment for the development of the products and technologies. This possibility has an even greater importance if the start-ups think about the cost for the purchase of specific tools or for the exploitation of all the know-how of the University.

Other important institutional actors are: Fondazione Cassa di Risparmio of Padua and the Chamber of Commerce. They are both partners of the University Business Incubator and in particular: the first one, as already explained, has without any doubt the most relevance. It provides the funds for the economic sustenance of the Incubator. From its side Start Cube has the important role to manage them in the most efficient and transparent way (the so-called economy constraint that characterizes all the societies financed by public entities in part or in full). In this sense, Start Cube tries to maintain a good percentage of turnover among the incubatees in order to promote the dynamism and populousness within the incubator and to create peer education among the incubatees. Therefore, the incubator tries often to stimulate the complementarities among them, just in the selection phase to create and internal eco-system.

The second subject is the Chamber of Commerce: the partnership between the incubator and this one realizes with the project "*Sportello Nuova Impresa*". It is a project dedicated to all new entrepreneurs in Padua territory, where Start Cube acts as forming actor for them.

The last tile of the mosaic that constitutes the network of formal figures are private financiers. A particular mention has to be made for BAN Veneto. BAN is the acronym of Business Angel Network, and it is exactly a network composed of investors that select the start-ups to finance. It is interesting to clarify how BAN Veneto works: they are organized periodical meetings within Start Cube among Business Angels and start-ups. These meetings are merely exploratory, and they are implemented in the form of pitch days (already explained in this paragraph). Only those start-ups that have sparked interest from financiers are recontacted successively, when they are analysed through a complete screening of the project before having access to the financial support. The screening consists essentially in the redaction of the Business Plan that is the most critical part for the new entrepreneurs. This is not assisted from

⁴² Such results arise from the annual survey, conducted by Censis, about the quality of the Italian Universities and published on Censis web site, <http://www.censis.it/1>

neither the incubator nor from the BAN. The predominant reason is that the Business Planning activity, especially in the market research phase, is particularly costly and so not sustainable from the incubator. For this reason this external consultation, that lies outside the activity of tutoring during the pre-incubation phase in Start Cube, has a cost for the start-ups, and they can decide to only validate it having the support. The logic is quite cruel: if a future new entrepreneur does not have the capabilities to implement a Business Plan, is in the majority of cases ignored by Business Angel. The concepts of teambuilding and team multidisciplinary emerge again as fundamental for who wants to start a new business. The introits for the Business Angels are in the form of *success fees*: so, they earn money only in the case of an effective realization of the business idea. It is right to underline a concept: Start Cube and BAN Veneto are two interconnected actors but they are completely separated. BAN Veneto represents the financial channel for the start-ups, for which Start Cube acts as a bridge.

In order to remain on this topic, it is useful to show some statistics about the number of start-ups actually incubated that have received an external financial support. As clarified by Ms. Giulia Turra during the interview, the start-ups try to walk on their legs:

- Only four start-ups on the 19 have received early stage investments, and without it they would be not able to survive;
- Three have received accelerating investments;
- The remaining have not received external forms of financing.

The amount of investments in euro that has been destined to the seven start-ups, the 37% on the total, is unknown. This last aspect can be judged from two different point of views:

From one side a positive consideration could be that of the solidity of incubatees business idea allows them to survive in the market, even if with more than one problem.

On the other side, this data triggers a large-scale effort analysis about the scarcity of investments at an early stage phase for start-ups in Italy, but it will be the object of the conclusion of this dissertation.

The other complementary part of network concerns the system of relationships and linkages that the incubatees maintain informally with the members of the incubators, the other start-ups, colleagues and all the internal actors within Start Cube. According to the degree of importance, the relationships are maintained with a higher or lower frequency and in different forms: face-to-face, through phone calls or skype calls, e-mail or by using other social networks.

It is within the incubator that is possible to start the contamination process of ideas and projects that is strongly promoted by Start Cube. In this perspective, Start Cube organizes periodical

events to stimulate relational exchanges: these events are totally informal, and in fact are in the majority of cases organized in the forms of aperitifs or lunches. However, the final aim is not only to create the possibility of partnerships among incubatees or the creation of new businesses, but more in general to establish a collaborative atmosphere within the incubator. In the most of the cases Start Cube blames the incubatees of “*being able to do but not to communicate*” and the communication is something fundamental. This counts for both the management of common spaces of Start Cube, but more in general for the future of the start-up. In fact, one important reason about cases of incubation failure that set aside from the traditional ones is related to the partners’ disputes.

Once finished the incubation period that in any case does not have a constraining term, it starts the *Post-incubation phase*. Start Cube manages this phase in different ways, according to the type of tie between the single start-up and the incubator, formed during the incubation experience. In this case, the issue about the creation of a collaborative atmosphere reflects again: with some incubatees Start Cube continues to have day-to-day relationships and exchanges, meanwhile with some others the tie breaks immediately after their exit. This last aspect assumes a stronger relevance considering the monitoring activity that the University Business Incubator implements to analyse the survival rate of incubatees.⁴³ Actually, this activity lasts five years that is a period that covers *pre-incubation, incubation and post-incubation phase*, because Start Cube tries to follow the incubatees, constantly. However, for those that continue to stay connected with incubator, it is easier to check about their survival in the market without a formal control at the Chamber of Commerce. On average, according to the statistics provided by Ms. Giulia Turra during the interview, this rate is equal to 90%. It means that the estimated mortality rate is equal to 10%.

This result, together with another important KPI that is going to be showed, defines a reality that is in continuous development. In less than twelve years, Start Cube made great strides both in terms of results than in the creation of a real nurturing environment for its incubatees. The advantage of exploiting all the expertise of Padua University and to be inserted in a context, really prone to the start-up world, make it a key actor for the promotion of a culture voted to the innovation and entrepreneurship. The competition is not seen as an obstacle but as possibility of contamination, that is fundamental for the improvement of all the actors that are part of the ecosystem. Ms. Giulia Turra, Business Developer at Start Cube, states: “It is important to monitor all the figures present on the territory, trying to understand in which way they are moving and what type of projects they are going to launch in the market. With some

⁴³ The Survival rate is the reversal of Mortality rate, of which the formula has been showed in the paragraph 3.4

of them it is possible to create partnerships and interactions, as in the case of *Progetto Primo Miglio* in Vicenza, that involves Star Cube and the young entrepreneurs of Confindustria Vicenza.”

So, summarizing the available results of this University Business Incubator:⁴⁴

N. of Start-ups in 2004	N. of Start-ups today	Δ between years %	Average Survival rate %	N. of job positions actually created	Total number of incubatees from 2004-today
4	19	+375%	90%	50	➤ 60

3.6 Incipit Campania

In order to conclude this presentation of the three University Business Incubators that have been included in the sample, hereinafter is showed the last unit of analysis: *Incipit Campania*, the Incubator associated with the Federico II University of Naples and University of Sannio. The choice of including this actor within the sample mirrors the third selecting criteria, showed in the paragraph 3.2 of this chapter.

The above-mentioned criteria are perfectly in line with the main aim of this dissertation, and so:

1. Mapping the University Business Incubators in Italy (in order to have a clear overview) means to include in the sample for the analysis actors that are in some aspects different from a technical and structural point of view, but also to select figures that are disparate in geographical terms;
2. Studying a case in which it could be underlined even more the importance of the local institutions, in the process of creation and supporting of an University Business Incubator.

⁴⁴ These results have been obtained thanks to the interview at Ms. Giulia Turra, Business Developer at Start Cube, and from the incubator’s website: <http://www.startcube.it/>

The story and the experience of Incipit Campania include both the conditions above, and they constitute the main reason for its selection.

The so-called “modus operandi” for the analysis of this last unit will be the same as for the others two, but a particular attention will be dedicated at the causes that have been decisive for the definition of the actual condition of the incubator. Therefore, as always in this analysis, it will start from the history, why is it born and how it has developed during the years, and it will continue in presenting the main features and incubation’s mechanisms. Even in this case, the implementation of a face-to-interview with Mr. Achille Caldara, Organisational Manager at Incipit Campania, has been fundamental in order to show some aspects and results of the incubator.⁴⁵

The University Business Incubator Incipit Campania is born in 2007, following a project financed by *Ministero delle Attività Produttive*, so called at that time but now it has been renamed as *Ministero dello Sviluppo Economico*. The main aim of that project was of giving a public support for the development of the innovation and entrepreneurship, looking at the models of start-up system in the other parts of Italy and Europe, in general. To be precise in 2007 there was a re-financing of the same project, so it is clear that a first Ban was launched before, in 2003.

Incipit Campania participates at the second session of financing, and it takes on in the form of consortium with the participation of three legal subjects:

1. Federico II University of Naples;
2. University of Sannio;
3. *Alintec Scarl – Alleanza per l’innovazione tecnologica*, a networking of incubators with the aim of starting and promoting the birth of hi-tech businesses.

The will of defining a consortium of actors, is due to the criteria of the ban specified by the Ministry to have access to the credit: the winning company has the obligation of constituting in the form of consortium and it is the only actor to maintain contacts with the Ministry.

The project, since the beginning, has a precise deadline: it is instituted in 2007 and it has a five-year duration. Incipit Campania, as nascent actor during the time of the project, work in those years with the constant aim of continuing the activity beyond such period of five years. It means that paradoxically, in an environment in which the formation of an University Business Incubator is something new, Incipit Campania during those years acts and thinks as a real start-up itself. It is fundamental to stress this point: Incipit Campania remains the first pioneer actor

⁴⁵ The other important source is the incubator web site, <http://www.incipit.campania.it/>

in the creation of a real incubator associated to the Federico II University and University of Sannio. It has a first-hand experience with the creation of an ecosystem designed to the formation of new businesses through the technology transfer process, investing financing resources and not only. As any first experience, it represents a real bet that needs time to achieve an equilibrium. The necessary time is intended from not only an economic point of view, but especially considering all that is needed for the creation of a fundamental experience baggage and to make the processes efficient. It is sufficient to think that the first two years of incubator's activity served to organize the structures, to create a real Business Model for the University Business Incubator, to implement a valuable network of contacts that grows year-by-year.

Until 2011, Incipit Campania carries on with its activity, obtaining important results and with the hope that it can be supported even after the expiration of Ministry's project. Rather in 2011, it participates to a series of initiatives of *Regione Campania*, having as least common denominator promoting and launching on the market new businesses that operate in the new technologies' sector.

In all of these projects, Incipit Campania is appointed to act the role of main personality in the technology transfer process from the Universities to the market, and to be the connecting figure among all the entities in the region. Initiatives that are *all talk no walk*.

In fact at the end of the project, so with the end of the financing endowment by the local authorities and institutions, Incipit Campania is slowly abandoned, being subjected to an involution process due to the complete lack of support of the institutional environment. The consortium remains to be lived but it is in a state of quiescence. The fact that it is not completely ceased, underlines how during the working years it has achieved good results and it has contributed to the birth of some successful start-ups. These good results are the main incentive for trying to convince the local institutions to extend the financial support to the incubator during different meetings, where the board of directors of Incipit Campania shows different possible solutions on how to channel the investments, but vainly.

Before moving to the description and the analysis of this University Business Incubator, that despite its actual status, have done a lot for Campania Region in terms of projects and initiatives to promote a culture voted to development of new businesses on the territory, it is fundamental to stop and try to understand what have been the main causes of its partial failure. Even if to a shallow level all the faults should be attributed to the lack of financial support from the public authorities, it is necessary to go in depth to understand what have been the other problems that Incipit Campania faced during the five-years of effective activity.

It is possible to define three most important causes that emerge from the analysis of Incipit Campania case:

1. Missing financial support after the expiration of Ministry's project;
2. A basic cultural problem;
3. Inadequate preparation of the two Universities to embrace a such important structure, as an University Business Incubator.

The first cause is, without any doubt, the one that had the greatest impact on the dismissal of incubation activity about Incipit Campania. As already said more than one time in this dissertation, a real presence of the local institutions that sustain the incubators in its commitment to create something that, even if only remotely, can resemble the big European and international models of innovation's creation and its commercial exploitation, is basic. Incubators that are born as Not-for-Profit entities and have, as the only form of financial sustenance, the fees that are periodically paid by the incubatees to have access to the incubator's services, need absolutely to feel that there exists a proximity in terms of intentions and aims from both the parties. The concept to stress is that the creation of a fertile environment, for those that are willingness to do business, does not create benefits only for the specific University Business Incubator, that helps new entrepreneurs from the basic idea to the realization of the final product, but it is a win-win battle that creates advantages for the entire economic system. Even if Italy still characterizes to be an *high market failure area* and so it is difficult for the authorities to destinate funds in something that is seen as a mere bet, when it is decided to start a projects (as in the case of Incipit Campania) it is necessary to follow it through the end, and not to abandon the incubator completely, despite the important results that have been achieved during the years. It is a more ample issue, that needs of some other important considerations that will be treated in the conclusion of this dissertation.

The second cause is more linked to the specific regional context and concerns a basic cultural problem. When an University Business Incubator finds face to face with a so huge structure as Federico II University, it is constrained to deal with a cultural problem at the basis. This problem is related to the real distance that there exists between the entrepreneurial world and the academic and research world. Young researchers and professors should be stimulated from the idea of optimising the results of their studies and not confined within their academic pillars. Incipit Campania tried to make a lot of fuss in this sense, but without a real cooperation from the University itself is difficult. Starting from scratch and trying to solve such problem within a so restricted time, is extremely hard.

This aspect is linked to the last cause mentioned above. At the time of foundation of Incipit Campania, both Federico II University and University of Sannio were not really ready for this experience. If Incipit Campania is born to promote and accelerate the path from the laboratories to the market, it is not properly adequate the fact that Federico II University had at that time only a pole office for the technology transfer process and not a real dedicated university office for it.⁴⁶ More, from a structural point of view, Federico II University in particular never succeeded to implement a well-defined physical space for the incubatees.

Now, for the scope of this examination, it is right to move toward what are the good results that, despite the problems, Incipit Campania has been able to achieve during its activity and what about the main characteristics of incubation's processes.

In the last year of activity, in 2011, the number of incubatees has been equal to eight. Half of them incubated at the headquarter of Federico II University and the other half in the other structure. In fact, in the original intentions of the project there was that of creating two headquarters for the incubator, respectively for both the Universities. Within the University of Sannio the start-ups have the possibility to exploit a physical space, immersed in a geographical location that is more likeable for the start-ups even for stimulating the social interactions among the incubatees, trying to create a sort of campus to insert them. As opposite, in the other headquarter, Incipit Campania decides to follow another strategy: preferring to locate the offices for the incubatees really close to the University to the detriment of their design. The main reason must be searched in the will of exploit all the knowledge, technical equipments and laboratories of the University, in addition to the fact that it has not an exclusive physical space for the incubatees.

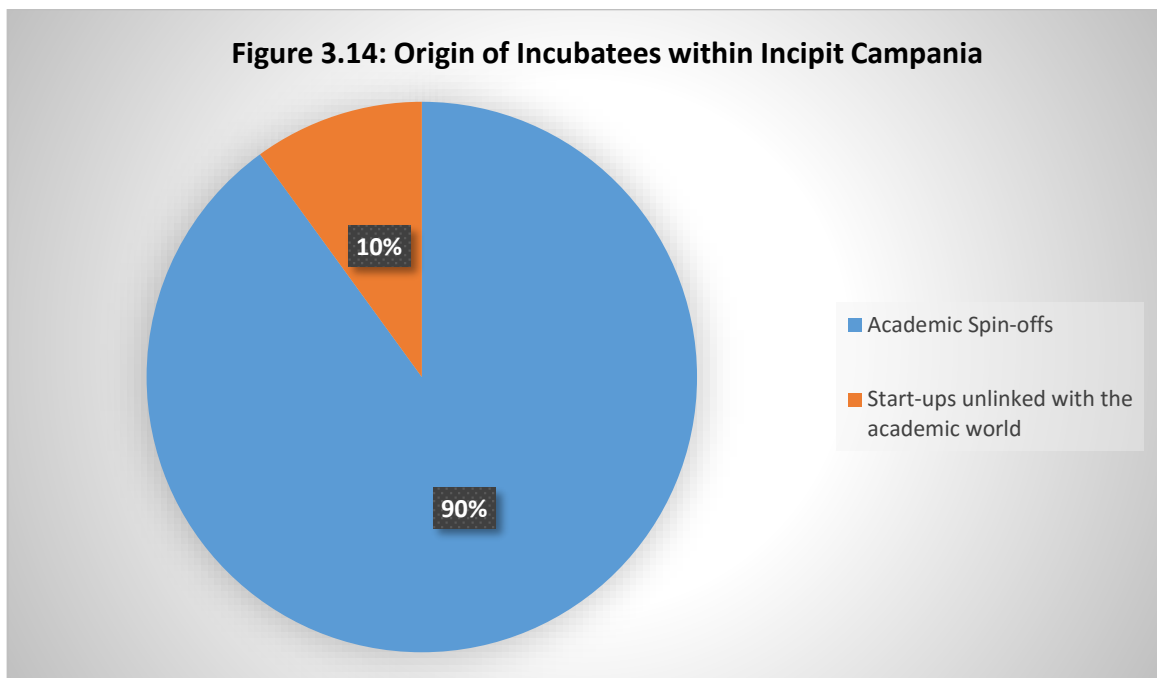
However, despite the lack of a well-organized physical space for the incubatees, Incipit Campania has never planned and implemented a channel for the virtual incubation. The reasons for a such decision are ascribable to:

1. The fact that the University Business Incubators is relatively young makes even harder to implement an incubation program, that is commonly called incubation at a distance. In fact, Incipit Campania worked really hard just to make itself known in the local context that seems difficult to think about the possibility to incubate start-ups that are geographically distant from it;
2. The second reason is, maybe, the most important one and is related to the specific policy of Incipit Campania: pointing to the promotion and development of new businesses in

⁴⁶ Only in the recent years, Federico II University dedicated a specific office for the technology transfer process.

the hi-tech, ICT and automation markets. These high-specialized sectors request the important support of laboratories, equipment and a specific know-how to carry on the business idea, that only the proximity to the University is able to provide. Moreover, since the beginning Incipit Campania looked primarily to provide its services for the commercial exploitations of ideas that were born within University's hallways among University's actors, for the creation of Academic Spin-offs.

Both these aspects are better clarified hereafter. Infact, on average, the incubatees are classified in this way according to their origin:⁴⁷ (Figure 3.14)



Source: Direct Interview with Mr. Achille Caldara (Incipit Campania)

It is not a case that almost the totality of incubatees fall under the category of Academic Spin-offs. As already specified in the history of Incipit Campania, it is born with the main aim of acting as bridge between the academic environment and the entrepreneurial one. In fact, the greatest work has been made in addressing young and graduate students, professors and researchers toward the “next step”: helping them in understanding the economic potential that is implicit in their researches, evaluating together the industrialization feasibility of themselves.

In any case, Incipit Campania never closed the doors to external projects that are completely unlinked with the academic world. In fact, the announcement of selection specifies that the University Business Incubators turns also to:

⁴⁷ The pie-chart in the figure 3.14 has been implemented according to the data provided by Mr. Achille Caldara, organisational manager at Incipit Campania, during the interview.

- Experts or group of persons that have an innovative business idea coherent with the market segments specified by the incubator;
- Already constituted entities that operate in the hi-tech sectors, with a well-defined business plan on new technologies to launch in the market.

Just from the announcement of selection, it is possible to look at the second consideration: Incipit Campania hosts only start-ups that point to the creation of new products or services in the ICT based field or in the automation of industrial processes' one, with a particular attention to the wireless, wi-fi and *rfid* applications. So all the start-ups insert itself in a niche market, but where a good project together with the adequate skills and competences of the team can bring to very profitable results. This is the case of three start-ups, born from 2009 to 2011 and incubated within Incipit Campania, that today still operate in the market:

1. *Critiware s.r.l*, which provides IT tools to test software in very critic sectors such as air and naval transport, management of energy and hydro infrastructures. It has been able during the years to involve in its projects important companies, such as *Selex-Si*, *Ansaldo Breda*, *Ericsson* or *Nec*;
2. *Meetecho*, that is probably the main case of technology transfer process from the University to the market, offers web-conferencing services by using one platform, compatible with computers and mobile devices;
3. *Remocean*, spin-off specialized in the in the analysis of sea bottom, waves and seastrem for the security of sailing. The solidity of its projects has been recognized by an important Venture Capital Fund (*Atlante Ventures Mezzogiorno*) that have financed about one million euro in it, becoming part of the board of *Remocean*.

Continuing the analysis of Incipit Campania, once defined the main features of the incubator's structure and the first important characteristic of its incubation policy, it is important to stress the point about the entire length of it, starting from the channels through which the incubation's proposals arrive. Differently from the other two cases, it is showed a particular initiative of Incipit Campania that underlines even more the effort that has been necessary for the incubator to affirm its presence on the territory. Through it and some other actions, Incipit Campania starts to build the tiles for the construction of the network, that Mr. Achille Caldara defines the main tool to promote its project and new candidatures.

This initiative represents a real direct action of technological scouting that is named *Techno Mining*. In the attempt of valuing the economic potential of research's results, the team of Incipit Campania, with the support of experts and technologists and through the network of their personal relationships, starts this scouting process. The cornerstone of *Techno Mining* is

that of a real visit to research groups, or simply their main proponent: a door-to-door made of meetings solicited by Incipit Campania.

During the meeting, the expert collects the candidatures of those that have the idea of a new product in store, it can be a product, a service or a patent, never exploited from an economical point of view. The idea is that of extrapolating the intangible content of the idea and to formalize it through the filling of a predefined form, thanks to the exchange of information between the expert (Incipit Campania) and research group. Techno Mining speaks to researchers, professors and students of all the Scientific Departments, just to underline even more the strategic policy of the incubator. For sure, it represents a new way to catalyse the start-up proposals and an optimal solution to promote the University Business Incubator within the academic environment.

The other channels are quite the same in respect to the Start Cube and I3P, but a particular value assumes the proposals that arrive from external associations in partnership with Incipit Campania:

- Api Napoli, Association of Small and Medium Enterprises in Naples and province;
- Other entities that are present on the territory, with which Incipit Campania creates external collaborations: *TecNapoli, Scientific Park of Salerno and Benevento, Citta della Scienza and IDIS Foundation.*

Still:

- The traditional word of mouth,
- University and Incipit Campania web site;
- Business Idea Competition: Start cup Federico II that has been renamed Start cup Campania;

After an initial skimming, the proposals that are more interesting and feasible continue their way to the entering within the incubator, starting a period of Pre-Incubation that lasts about six months. However, during this period the skimming process does not stop, and time by time and in a dynamic way the proposals are subjected to the judge of a scientific Committee. Within the Pre-Incubation phase are analysed in details both the developing potentialities of the projects but also the teambuilding of proponents, in particular their propensity to the entrepreneurial world.

The scientific committee judge the executive summary of the projects and it is formed by:

- Professors of both the Universities, Federico II and University of Sannio;

- A professor of Polytechnic of Milan's branch, that is in partnership with Alintec Scarl;⁴⁸
- A Managing Director of a merchant bank, associated with the incubator.

Obviously, the main parameter used to judge the proposals is its feasibility for the reference market. However, the paradigm is dual: if it is true that there is no space for a new technology if no referring market exists, on the other side, it is also true that creating a new need in the demand of consumers implies the development of a new technology that can re-shape the reference market.

All the pre-incubated start-ups that pass the judge of the Committee can have access to their dedicated space within Incipit Campania. The *iter* of incubation is the usual one and it includes a phase of pre-incubation (already showed), a proper incubation phase and a phase of post-incubation. In general, there is not mention to a particular duration of the incubation path, and in fact, it is not absolutely binding for the incubatees: the contracts with each start-up is annual, and according to the case, it is decided the renewal.

Among the services that Incipit Campania have provided during its period of activity before entering in a status of quiescence, for sure the ability in a such small period to create a network of relationships with external actors and among the incubatees is worth to notice. Especially considering the sectors, ICT and automation, make important to create a well-structured cluster. In fact, these sectors are characterized to be highly knowledge-based, for this reason the importance of building a system of relations that include all the start-ups and other external businesses (considering both SMEs and big companies) or research organisations is relevant. Essentially the main advantage consists in the possibility of knowledge exchanges that represents an opportunity for all the possible companies that are part of it. Moreover, a well-structured cluster allows facing the most critical challenge: trying to launch new important industrial partnerships with actors out of the Italian borders, opportunely selecting the best opportunities available.

The network is composed by all the partners of Incipit Campania, other external collaborations with different entities on the territory and all the informal linkages among the incubatees that contributes to define the value chain of Incipit Campania.

Firstly, there are the main partners of Incipit Campania, showed in the Figure 3.15:

⁴⁸ Alintec Scarl is itself a consortium, and one actor that composes it is a branch of Polytechnic of Milan.

Figure 3.15: Main Partners of Incipit Campania



Api Napoli – Association of the Small and Medium Enterprises of Naples and province.



Stoà Scpa – Business School specialized in reaserch, managerial competencies and consultancy.



AIFI Ricerca e Formazione s.r.l – Society controlled by the Italian Association of Private Equity and Venture Capital, that provides services in the field of financing consultancy.



Redifin Spa – holding company specialized in Private Equity and Venture Capital.



Technova Scarl – operates in the sector of reaserch, innovation and technology transfer to the business world

Source: Incipit Campania web site: <http://www.incipit.campania.it/>

As it is possible to deduce, the greatest contribution that these partners give to the incubatees is that of spreading all their knowledge to them, in order to provide them a 360 degrees view about how to do business. Formally, partners together with the internal team of the incubator provide a free fundamental help in evaluating the market prospect of the project, a continuous advising process in the preliminary phase. In particular, by helping them to prepare an adequate Business Plan that could formalize all the steps from the idea to the final product. In particular for young researchers, the possibility to see with their eyes all the steps from the laboratories to the market. As already repeated many times during this analysis, a good Business Plan is a sort of guarantee for a possible financier that decides to bet in your project.

Often this passage of knowledge comes with the implementation of periodical events, organized within the incubator in both the headquarters. These events, completely informal, include the presence of external guests: well-known entrepreneurs, professors and experts of different sectors. These events are named “*Caffè dell’Innovazione*” and “*Cocktail dell’Innovazione*”. The main topics, according to the words of Mr. Achille Caldara, are to inform young researchers about what the business risk is and how to patent the result of a research. In fact, a research has a value not when it remains on the paper, but when it becomes an asset with an economic value greater than zero. However, these events or seminars have other two main aims:

1. To compose the canvas of relationships among all the actors that participate to these events;

2. To stimulate the connections among the incubatees. Thanks to the creation of a relational network is possible to study complementarities and potential jointed projects for start-ups.

There is no doubt about the fact that key figures within the network, that Incipit Campania has been able to build within a so much restricted time, are the financial actors. They assumes an even important value if it is considered the main community to which the incubator points to. The greatest worry of a researcher in the passage from this status to that of entrepreneur is to risk of losing a stable job position and own moneys for something not really concrete. In fact, it is from the financial point of view that a start-up or an academic spin-off shows the greatest weaknesses: the financial requirement that is necessary to continue the research, to test the product and to build the economical offer brings to an initial expense that is difficult to find in an external financing actor. The absence of an initial cash flow, the low level of capitalisation and the small dimension of the possible future business make the own capital the only form of financing, at the beginning. The importance to include in the network financial entities that are able to sustain gradually the incubatees from an economical point of view has the same importance of educating themselves about how to manage the possible financing sources, according to life cycle of the business. In this sense, a complete formation of the future entrepreneurs for Incipit Campania passes inevitably through an adequate knowledge about who are the financial supporters for the businesses and how a start-up has to interface with them. In the chart (Figure 3.16), it is showed the different phases of business's life cycle, the requirements and the corresponding forms of financing.

Figure 3.16: Life cycle and Financing Requirement for Start-ups

Phase	Conception	Start-up	Maturity	Expansion
Activity	<ul style="list-style-type: none"> - Idea generation - Analysis and evaluations of the idea - Product implementation - Teambuilding - First analysis of the market and clients - Market analysis and research on existing patents 	<ul style="list-style-type: none"> - Constitution of the business - Development of product/services - Patenting activity - Analysis of an adequate management - Hiring of personnel - Research and acquisition of first clients 	<ul style="list-style-type: none"> - Starting of production - Introduction within the market - Improvement of workforce - Management of clients' portfolio - Agreements with the different suppliers 	<ul style="list-style-type: none"> - Extension of production capacity - Extension of sales channels - Evolution in the managing structure

	- Test about product's feasibility - Business Plan	- Development of a marketing strategy - Business Plan update		
Main expenses	- Expenses about the implementation of the product and researches	- Expenses related to the hiring phase and for the marketing & promotion	- Expenses due to the personnel, marketing and production	
Form of financing	- Self financing - Business Angles - Venture capital - Incubators	- Self-financing or Private Equity	- Private Equity - Merchant Bank	
OWN CAPITAL + BORROWED CAPITAL + RISK CAPITAL				

Source: Author's Elaboration

Even if Incipit Campania has succeeded to be an important connecting figure between incubatees and financiers, it is necessary to state how a concrete five-year experience is not enough to build a so extended network that could be solid and efficient. Consequently, more than acting as main channel for the obtainment of financial resources, it tried to provide a first support to the incubatees in approaching to the market and to be inserted into the network of sector's operators.

From this study, what emerges is that the effort put by Incipit Campania during these years has been not completely vain, even if the myriad of problems in trying to implement, in a restricted time, a so complex project, that is creating a structure starting from scratch. It is important to underline again how Incipit Campania can be considered itself a start-up in the incubation context. At the beginning, it was important to understand how to implement the processes and how to build a business model for it. In addition, it acquires an even important relevance if it is considered that all the actors, part of Incipit Campania consortium, had important knowledge in the different branches of incubation processes but they never thought to be able to follow a new business idea from scouting until the obtainment of external financing resources. A so restricted time showed its effects on the impossibility to build a so solid network for its incubatees and in the impossibility to judge its performances through the building of well-defined indicators that could allow the University Business Incubator to improve its strategy during the time. What remains are the good results of this experience that can be summarized in two statistics:

1. All the eight start-ups that were born in the years of most intense activity of the incubator, from 2009 to 2011, are still operating in the market with good results;
2. One of this, Remocean s.r.l, has obtained a strong financial support from a Venture Funds of about one million euro, that has allowed it to improve and to start important collaborations with international clients, but especially to enlarge its workforce and giving the possibility to create new job positions.

These results give a hope for the possible future exit of Incipit Campania from this phase of quiescence. For sure the game is played by the Universities and the local institutions. The former in creating better conditions for the development of a well-structured incubator, and the latter in believing in the enormous potential of an University Business Incubator in creating an ecosystem, formed by actors that can revamp a region that remains an important breeding ground of ideas and innovation.

3.7 The Comparison

The last part of this chapter, as already reminded in the paragraph 3.3, is dedicated to the comparison among the three University Business Incubators included in the sample. The individual study of I3P, Start Cube and Incipit Campania has allowed to have a detailed overview about how they operate on the territory, describing all the processes from the selection of incubatees until their real incubation. Such description has been complemented with some statistics about their performances during the years, focusing on the last one. The choice of implementing a final comparison among them has the main aim of providing a more complete framework on the University Business Incubators in Italy, and such aim can be reached through an analysis of similarities and differences, emerged during the single case. However, it is important to clarify that this cross-comparison is shaped on a total point of view about them and not considering the only numerical results collected. The reason why is dual:

1. Primarily, for the aim of the dissertation: the choice of the three units of analysis to include in the sample has been voluntarily made not from a pure quantitative point of view, but considering all the aspects of the incubators that could include also qualitative aspects (called softer aspects), fundamental to understand their incubation's proposal for the start-ups;
2. Secondary, the impossibility to have access to enough data about the performances of these actors makes the process of a statistical comparison not comprehensive.

In any case, the comparison gives the possibility to examine some other important aspects that fall outside the specific features of these University Business Incubators. In the aim of being coherent with the method of analysis used for the single incubators, even the comparison is implemented by touching point by point all the aspects that concern them. It is important, first of all, to illustrate in a chart all the key factors on which the comparison is going to be built, in order to have a clear picture of the process followed to implement it (Figure 3.17):

Figure 3.17: Comparison Factors

Key Comparison Factor	Description
External environment and cultural background	Comparing the local contexts in which the units of analysis are inserted in. Focus on the role of local public authorities and on the cultural aspect concerning the degree of knowledge about what is an UBI and what is its mission within the referring Universities.
Origin of the Incubatees	Analyzing differences or similarities about the distribution of the start-ups actually incubated, according to their nature/origin.
Incubation Type	Looking at the incubators' policy about the type of incubation path considered for the incubatees and how this aspect is managed.
Incubation Phases	Comparing all the incubation process of the UBIs: number of phases, duration of the incubation process, how each phase is managed by incubators. A particular focus is dedicated in comparing the main channels through which the incubation proposals arrive and how they are skimmed.
Services at disposition of start-ups	Differences and similarities in the traditional and value-added services for the start-ups. A particular focus is made on the network.
KPIs	Analyzing and comparing the main Key Performance Indicators (if they are used) according to the available statistics. In particular comparing: the amount of investments obtained by start-ups and the survival rate estimated by the UBIs

Source: Author's Elaboration

The first factor to consider, that lies the foundations for a first important difference about them, is already present by looking at the external context in which each University Business Incubator is born and it is inserted. The importance about an already existent ecosystem, formed by all the actors that revolve around the incubator and have direct or indirect relationships with it, is fundamental for the life of the University Business Incubator.

Talking about an “already existent ecosystem of actors” means essentially knowing and understanding the role that an University Business Incubator has for the promotion and development of a culture, voted to the innovation and entrepreneurship. In this sense both I3P and Start Cube are born in a context that is surely more advantageous for their development and survival, in respect to Incipit Campania. Two aspects are worth to notice:

1. The cultural aspect.

2. A more concrete aspect that concerns the support of the local institutions.

Referring to the former, it has been showed how for Incipit Campania the first huge criticality has been that of facing with a well-defined cultural clash. An important slice of final clients of the incubator, that consists in all the figures that are close to the University world and that are recognized in students, young researchers and professors, feel as still too much far the distance between the academic world and that of business. Even if this problem is not circumscribed at the only Campania Region, what emerges is that for sure this local context is less ready in respect to the other two, as remarked by Mr. Achille Caldara (Organisational Manager at Incipit Campania) during the interview. Such lack of preparation becomes obvious considering the Federico II University, as main cornerstone together with University of Sannio of Incipit Campania. The fact that up to some years ago, it had not a specific university office dedicated to the technology transfer process, that represents the *next step* from the laboratory to the market and of which the University Business Incubator is the main promoter, is symptomatic of an upstream form of scepticism and of a context that still has difficulty in recognizing the UBI as a bridge for them. It is not a case that Incipit Campania is a pioneer for the region in the creation of an ecosystem voted to development of new businesses through the technology transfer process, by investing financial and not financial resources. Differently, in the cases of Start Cube and I3P, this problem has more and more restricted dimension and it is demonstrated by both the existing numerous UBIs within the regions, Veneto and Piemonte respectively, that constitutes the main competitors for them and the Universities themselves that have been stood out for their efficiency in the realization of projects and researches since years. It is a sign of how the incubation path is seen as an important exit to the start-up's problems, able to bridge the gap between academic and entrepreneurial world and ensuring the innovation and research activity is not relegated within the *academic pillars*.

The second and more concrete aspect concerns the supporting policy of the local institutions to the incubation activity. It has been said many times about the importance of the financial injections of these actors for the birth and survival of University Business Incubators. In fact, in all the three cases they have been crucial for their foundation, especially in the Incipit Campania case where it is born following a ban of *Ministero delle Attività Produttive*. However, while in the Start Cube and I3P cases local authorities still continue to place side by side to the incubators in supporting them financially (constituting on average the 65% of their revenues, despite the State's cuts to the regional funds destined to the UBIs) and with promotional activities, in the last case of Incipit Campania they completely abandoned it after the expiration of the Ministry's project.

The mix of these two aspects have strongly contributed to the actual conditions of Start Cube, I3P and Incipit Campania, so much that the latter lives in a status of inactivity or quiescence, from which it will relieve only through a change in the strategic policy of both Universities and local authorities.

Once clarified this first important difference in the three cases with a little digression, what emerges in the attempt of making a cross-comparison among them is that there is a basis structure, formed by some important characteristics and “iter” of the incubation that is quite similar for all of them. An important similarity concerns the start-ups typologies and how they can be classified, considering the data about the last year of UBIs’ activity. Such analogy is evident by comparing the results of pie charts, showed during the single study of them:

1. For I3P the pie-charts shows: 50% of incubatees belongs to the academic sphere, distinguishing between the Academic Spin-offs and Moral Spin-offs⁴⁹, and the other half is constituted by all the start-ups that are “external”;
2. For Start Cube the percentage of the pie-chart is: 70% Academic Spin-offs and 30% start-ups completely unlinked with the academic world;
3. For Incipit Campania, the distinction is even more clear-cut: 90% Academic Spin-offs and 10% external start-ups.

In general, what these numbers tell is that in all the three cases the link between the incubator and the Universities is really strong. In fact, within each chart, the percentage of incubatees that have a real and direct connection with Universities is high and never falls under the 50% (as in the I3P case). The reason is, more in general, ascribable to the fact that the university context is more prone to the formation of new ideas and projects. In the most of the cases it is within the University’s hallways that innovative ideas are born, as outcome of researches, projects in combine or more simply when a group of students exploit the complementarities of their knowledges to plan the development of a new product/service to launch in the market.

It is clear that also the proximity of UBIs’ offices to the Universities, or as in the case of I3P and Incipit Campania that are located within them, plays an important role in shaping the classification of incubatees according their origin. In the case of Incipit Campania the percentage of Academic Spin-offs on the total incubatees reaches the peak, equal to 90%. Such statistic is justifiable by the specific original intent of this University Incubator: *to value the economic potential that is implicit in the researches’ results.*

⁴⁹ It is important to remind that are considered Moral Spin-offs all those start-ups that from an administrative and legal point of view do not fall under the category of University or Academic Spin-offs, but have an evident and direct academic origin.

If the high percentage of Academic Spin-offs on the total number of incubatees, actually incubated within Start Cube, I3P and Incipit Campania, is a common point for them, the same cannot be said in respect to incubators' policy about the specific market sectors to which the start-ups have to belong, in order to be admitted within them. This aspect is really interesting because underlines an important difference in their Business Models. On one side, there are I3P and Incipit Campania: they decide to bet on projects that have as possible reference market the ICT, internet or the development of new specific technologies. It represents not only a selecting criteria for the candidates, but has a deeper explanation: investing in the excellent innovation, given by new apps or digital products, is not only more remunerative but it allows to reduce the stay within the incubator, in the cases of success. Therefore, the life cycle of the start-ups within the incubator is shorter and at the same time, they have the possibility to increase the turnover rate of start-ups to incubate. However, there is the other side of the coin: the difficulty for external investors in betting in something completely new, with a great potential but without a sure success in the market. This issue assumes an even more relevance considering the Italian context, where the investment rate of Venture Capitalists is the lowest in respect to the other European powers.

The logic of Start Cube is completely different: it decides to reward the pure ideas and the persons that are presenting their project, disregarding from the possible reference market. The solidity and feasibility of the idea together with a well-formed teambuilding are in the most of the case more important than the innovative contents of possible new technologies. Then, according to the words of Ms. Giulia Turra, Business Developer at Start Cube: "Innovation is ok, but not at any risk".

Outlined these two important issues, that tell about the way of operating of incubators, it is possible to continue this cross-analysis by comparing the channels through which the start-ups proposals arrive and what about the selecting criteria used by Start Cube, I3P and Incipit Campania. Even in this case important similarities can be recognized, that denote another recurring feature that could be generalized to the Italian UBIs. Starting from the channels, they can be grouped in two important macro-classes:

1. Formal Channels;
2. Informal Channels.

In turn, it is possible each of them in different micro-classes:

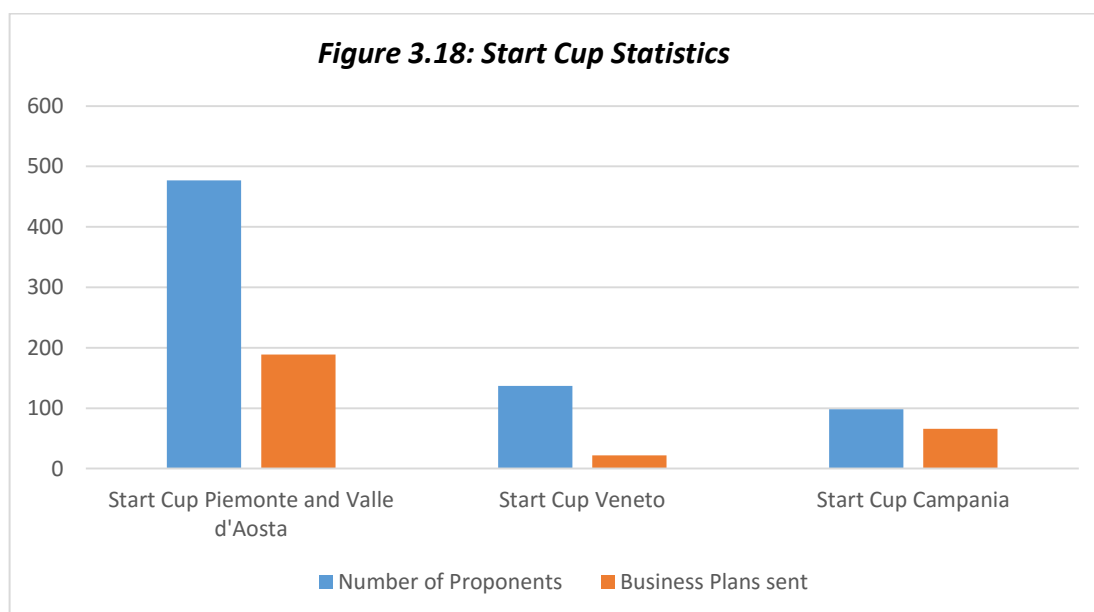
- Formal Channels include: Business Plan Competitions, the local institutions that act as catalyst for new proposals and formal events organized by the single University Business Incubators;
- Informal Channels consider: word of mouth, informal events and Social channels and other informal way of communicating (such as mail list).

What is emerged during the interviews is that for each macro-class, one alternative is strongly prevalent on the others. Looking at the formal channels, Business Plan Competitions represent the main one. This is demonstrated by the statistics about the number of annual participants to the Start Cups, promoted respectively in Veneto, Piemonte and Campania.

Looking at numbers referring to 2015 for I3P and Start Cube and 2011 for Incipit Campania:

- Start Cup Veneto collected 137 proponents, 43 groups and 22 Business Plans sent;
- Start Cup Piemonte and Valle D'Aosta collected 477 proponents (+ 26% in respect to 2014) and 189 Business Plans sent (+ 20% in respect to 2014);
- Start Cup Campania with 98 proponents and 66 Business Plan sent.

These numbers can be easily summarized in the histogram, Figure 3.16:⁵⁰



Source: Author's Elaboration

It is evident the contribution that these events have in the number of proposals that arrive to the incubators, especially in the case of I3P that is the organizer of the event, and so able to attract the greatest part of them. A brief note has been made: for Start Cup Campania, the data refers

⁵⁰ Sources: <http://pnicube.it/start-cup-piemonte-valle-daosta-2015-ecco-i-vincitori/>;
<http://www.ateneapoli.it/news/archivio-storico/start-cup-campania-un-centinaio-i-gruppi-partecipanti>;
<http://www.startcupveneto.it/News/79>

to the 2011, since it represents the last year of real activity of incubator before entering in its actual state of quiescence. Therefore, it is for this year that the statistics have a meaning and an influence for the incubator.

However, what is surprisingly is the role that the word-of-mouth has in the points of view of all the three actors, subjected to the interviews. It is recognized not only as the main mean for the arriving of new proposals but also the most valuable. The one-to-one knowledge that establishes among the persons within the Universities or among investors and entrepreneurs that already know these Universities Business Incubators, not only acts as spreading means but also allows receiving proposals that have a greater substance. In fact, the common belief is that researchers or young students within Universities have a more solid cultural background that influences the success of their project. Within this context, it is easier to find complementarities among persons that succeed in forming and adequate team, with a mix of technical and managerial knowledge.

For all the three cases the social networks, such as Facebook or Twitter for example, present themselves as not fruitful for their contribution in terms of channel for the arrival of new candidatures. This last aspect is surprisingly, likewise. In fact, during the interviews it is emerged that the management of the social pages is not curated formally from one specific employee, but it becomes a secondary activity and with less relevance. It represents a possible weakness for the University Business Incubators, that in this way are ignoring the intrinsic potential that these tools have in the reachness of a large slice of referring population, but also to enlarge the relational network between the incubatees and external environment.

All the proposals that arrive through the different channels, as already showed for each single University Business Incubator, are submitted to a selection process in order to define how many start-ups will pass from the *pre-incubation phase* to the real incubation. There is no doubt that this process constitutes the most critical part for both the start-ups and the incubators itself. On one side, the start-ups have to play all their cards in order to demonstrate the feasibility and the solidity of their business idea for the entrance within the incubator, but on the other side the incubator itself has to make an important choice about what are the start-ups on which betting on. For this reason, the skimming process is particularly curated in all its steps, and this is true for all the three cases of this analysis. The main structure is the same for all the three units of analysis:

1. A very first knowing between the parts;
2. Strong support of the UBIs to the start-ups for the ideas to be presented;

3. The final judge of the Committee.

In relation to the first phase, it is possible to recognize three different approaches for all the cases, respectively. Starting from I3P, it decides to establish always a meeting with the proponents, and in fact all the candidatures that stop to a simple call are rejected immediately. This way of operating shows why within I3P the skimming process is defined maieutic or in process: it is important to seat around a table and discuss about the idea of product or service, about the skills and capabilities of the team of proponents. Only in this way, it is possible to set up the periodical goals that must be achieved to pass the judge of Committee.

Differently Start Cube opts for a different method: all the proponents fill a questionnaire that is composed by very general questions, such as: what about your idea of product/service? In which market segment do you think your product belongs to? How many persons compose the team of your start-up? Then it is possible to state that Start Cube chooses for a first impersonal way of knowing, more general in respect to I3P and less binding for the proponents. I3P, in this sense, uses the first knowing as an already important parameter for the skimming of proposals.

A separated mention is made for Incipit Campania. The fact that it has been the pioneer within the region to create an important structure linked to the University voted to development of new businesses within a particular cultural context, creates the necessity of a push-process for the collection of proposals and so for the first knowing between the parts. For this reason, Incipit Campania, during its years of activity, have created a sort of technological door-to-door scouting called Techno Mining. With this project, the incubator achieves two important goals that are: spreading the notice about the existence of Incipit Campania on the territory, and having a first meeting with group of researchers, students and so on. So, in this case is the team of Incipit Campania to create the premises for a first meeting with them, during which an expert judges about the practical and economic potential of the idea.

The second step/phase is the most crucial one. This phase is characterized by continuous exchanges and cooperation between the incubator and the start-ups. In fact, it is in this precise moment that I3P, Start Cube and Incipit Campania provide their fundamental support to the start-ups, helping them in the building of Business Plan. It constitutes the main parameter the final Committee use to express their judge on the projects/business ideas. During the development of this third chapter, it has been often repeated how in the most of the case the proposals lack in the correct implementation of the Business Plan. Especially in the case of researchers that want to exploit the results of their studies and projects, where they show evident

flaws in terms of economic and entrepreneurial skills, that are fundamental to present a solid BP.⁵¹

I3P, Start Cube and Incipit Campania support them in this phase in a dual way:

1. Either by assigning a tutor for each of team of proponents, that follows them step by step;
2. Organizing periodical meetings with consolidate entrepreneurs or professors, that are part of the network of the UBIs, that provide precious advice. This activity of mentoring and coaching starts already in the pre-incubation phase, but it continues for all the incubation period specified in the contract.

The Committee, that is always composed by internal member of the incubator and external professors and experts, judge about the Business Plans (third and last phase). Only in the case of Start Cube, there is the possibility that are only internal members of the incubator (Ms. Giulia Turra and the manager of incubator Mr. Emiliano Fabris) to make the last decision, but only in the case of smaller projects. In this point, it is useful to make a consideration: even if it is true that it is the Committee to judge the proposals, in any case it is the incubator to have the last word according its precise policy. And in fact:

- Start Cube judges about the solidity of the projects. It decides to reject all the start-ups that present a good idea but that is still not materialized in a final product/service to launch in the market. Good evidence of this is the fact that each start-up has to establish itself within six months from the entrance in Start Cube;
- I3P and Incipit Campania opt for another way: in the case of start-ups that present a not satisfying BP, but the idea is recognized to have a strong economic potential, they can decide to admit them and continue to work on these during the real incubation period.

Looking at the figure 3.8 within the paragraph 3.4, only about 43%, on average, of the total amount of starting proposals arrive in front of Committee, this to underline the “brutality” of the skimming process.

The incubation program structures in three formal phases for Start Cube, I3P and Incipit Campania that are:

1. Pre-Incubation phase or early stage phase, that corresponds to all the period during which the start-ups wait to enter within the incubator officially, after the judge of the Committee (already treated above);

⁵¹ BP stands for Business Plan.

2. Incubation phase;
3. Post-Incubation.

The Incubation phase lasts a minimum of two years, as in the case of Start Cube, until a maximum of three years, for the other two cases and in general for all the models of University Business Incubators. However, in all the three cases it is considered the possibility of renewal after the expiration of the contract. In particular, Start Cube and Incipit Campania opt for a strategy for which the years of contract are not binding, and the incubator together with the single start-up decide at the end of the year if there are the conditions to continue the incubation or to leave them. The main parameter used to take this decision is the annual financial statements.

In any case, as seen during the analysis of the single UBIs, two types of incubation path are proposed:

- *Traditional or physical incubation;*
- *Virtual incubation.*

Even here, it is important to focus on the different strategies followed by the three units of the sample: firstly the case of Incipit Campania that have never projected to create a virtual incubation path for its incubatees. Then the case of Star Cube and I3P, that approaches at this issue in different ways.

The latter includes the virtual incubation as its service at the disposition of the start-ups, but it is both discouraged and not really requested by the start-ups. It is the professor Marco Cantamessa, CEO and Chariman of the board, to explain the reason: *“The ability of I3P during the years to create a real campus for the incubatees, with ample spaces and really connected with the main places of Turin, but also to be inserted in a context full of knowledge and experience such as the Polytechnic, makes the virtual incubation useless for the aim of incubatees to exploit all the advantages of having a physical space within I3P and Polytechnic.”*

On the other hand, Start Cube looks at the virtual incubation as a valid alternative for the start-ups, for two main cases:

1. The first one is in the case in which the start-ups work directly at clients, and so they see the physical incubation only as an added cost;
2. Virtual incubation becomes necessary in the case in which the incubator is “full”, without the possibility to confer to the start-ups a physical space, or when the incubator has not enough space to host that specific start-up, that needs an ample one. In the case

Start Cube is full, it can decide to initiate with the start-up a virtual incubation path for the first months and then to admit it physically. In any case, the main difference with I3P concerns the possibility for the latter of enjoying the presence of a real campus dedicated to its incubatees that Start Cube still has not.

In any case, all the start-ups, that decide to implement a virtual incubation path voluntarily or due to the lack of physical space within the incubator, can have access to all the soft-services of the University Business Incubators. In fact, during the entire dissertation, the services provided to the incubatees have been divided in *traditional services* and *soft-services*. Moreover, it has been clarified how these *soft-services* are generally identified as the value-adding services for the incubatees. Indeed, both during the interviews and during the single close examination of each unit of analysis, the main focus about services of the UBIs has been made on these ones. In particular two of these:

1. The coaching and mentoring services;
2. The network.

The reason why is that the support of the incubator results as essential in respect to the two greater weaknesses of a start-up, that are the lack of knowledge on some important business topics and the impossibility in the start-up phase to be inserted in a well-structured system of connections and relationships with the main actors of the business environment. Also for the attempt of implementing a comparison among the three cases, these services allow to underline some important similarities and differences.

So, first of all, the coaching and mentoring services. These ones show their importance considering that the teambuilding represents a huge criticality, for the most of start-ups. In fact, the difficulty of creating an heterogeneous team of persons, with an adequate knowledge in the different fields pertinent to the business world, makes the support of the incubators fundamental. I3P, Start Cube and Incipit Campania organize periodical meetings with experts, professors and external guests (important entrepreneurs, CEOs of big companies) on the most critical topics: business management, legislative and tax-related issues, how to patent the result of a research and so on.

Experts, professors and external guests are all part of the network that the University Business Incubator is able to create. It is probably the network the main parameter through which judging the resonance of an incubator: the mix of story, experience and ability of organize events on the territory to promote the incubatees to the external context that create the opportunity for them to be part of a vital ecosystem.

For this reason, I3P puts itself in position of relevance in respect to Start Cube and Incipit Campania. It is demonstrated by the numerous awards that it has received during the years from its foundation, inserting itself as one of the most performing UBI in Europe, able to create a nurturing environment for its incubatees. It has launched different projects to promote the *start-up thinking*, and started different international partnerships.

A strong impact, in analysing the network of an incubator, has its ability to put in contact the incubatees with possible financiers (Business Angels, Venture Capitalists and banks according to the specific step of the start-up's life cycle). Even in this case it is possible to observe the great results achieved by I3P in respect to all the other UBIs in Italy: more than 70 million/€ of risk-capital for the incubatees from 2007 to the present, an already notable amount of seed capital collected from financial investors in the first two months of 2016, equal to € 600.000.

Differently, for Start Cube and Incipit Campania the statistics are lower and the number of start-ups that have had access to important form of financing are lower, as well.

Another important aspect that is emerged during this chapter is the importance of stimulating the relationships among all the actors of the three UBIs through the organization of informal events. Called with different names in I3P, Start Cube and Incipit Campania, that are *Pitch on the Beach* or *Caffe dell'Innovazione* for instance, they take on the same resonance and the same aim: to create a collaborative atmosphere within the incubator, fundamental to exploit possible complementarities among incubatees.

The last step of incubation path and the last aspect to consider in this comparison, is the *Post-Incubation phase*. It is not wrong to state that from the incubator point of view, this phase assumes value only for the computing of the mortality rate. This rate, in fact, becomes an important KPI to judge the performance of the UBI and its capability to form start-ups that are ready for the market. I3P, Start Cube and Incipit Campania show important results, in this sense: on average, a mortality rate that never passes the 10%. In particular:

- For I3P, it is equal to 0,25% but considering the total amount of incubatees from its foundation;
- For Start Cube and Incipit Campania, it is equal to 10% but considering the statistics referred to the last year, and in general the lower amount of start-ups that annually are incubated.

These numbers bring to two dual reflections:

1. The great efficiency of all the three UBIs to create a strong basis for the incubatees, once they exit from them;

2. Another reflection that concern the Italian context in general: according to the data⁵² only 59 Innovative Start-ups, as defined from the legislative Decree, on the total amount of them created from the January the 1st until the first semester of 2015 are died. For sure, this number is surprisingly if it is considered that all of them base their products or services on new technologies with a probability of failure that is not properly equal to zero (fail fast market). Also considering the low investment rate from the public and private sector (especially). This aspect opens the door to a new scenario: the low mortality rate should be not seen as good result, in any case. In fact, it can be explained by this hypothesis: a good number of start-ups, exploiting the low entrance costs, is formally active, but they did not get to the heart of operations. Therefore, they represent a sort of “sleeping cell” of entrepreneurship. They did not still compared with the market, so they do not know what about their future.

Before concluding the comparison with the last considerations, it is here re-presented the same figure proposed at the beginning of this paragraph (Figure 3.17), where are summerized all the key factors of the comparison and the results obtained for each unit of analysis. In the chart are present all the Key Comparison Factors with a focus on the quantitative ones, and for this reason the services at disposition of the incubatees are excluded because deeply analyzed from a qualitative point of view during the paragraph.

Figure 3.19: An Overview of the Results obtained with the Comparison

Key Comparison Factor	Start Cube	I3P	Incipit Campania
External Environment and cultural background	Advantageous context, already prepared to the presence of the UBI	The most ready environment and cultural context, really prone to the development of the incubator.	It constitutes a strong problem for the incubator. Both the Universities and the external actors are still not ready to its presence.
Origin of Incubatees (data refers to the last economic year)	19 Start-ups incubated: - 60% Academic Spin offs - 40% External Start-ups	48 Start-ups incubated: - 25% Academic Spin offs. - 25% Moral Spin offs - 25% External Start-ups	8 Start-ups incubated in the last year of real activity (2011): - 90% Academic Spin-offs - 10% External Start-ups
Incubation Type	Both physical and virtual incubation path is available.	Both physical and virtual incubation path is available.	Only physical incubation path is available

⁵² Source: web site http://www.economyup.it/startup/3705_la-verita-vi-prego-sulle-startup-innovative-italiane.htm

Incubation Phases (n. of phases and duration)	Three phases with a duration of two years	Three phases with a duration of three years	Three phases with a duration of three years
KPIs (amount of financing for start-ups and survival rate for the last available year)	- Amount of financing is unknown, but only the 37% of the total number of start-ups have received external investments. - Average Survival rate: 90%	- Amount of financing is equal to 3.200.000 mln/€ in seed capital and 8.900.000 mln/€ as early stage investments. Average Survival rate: 75%	- Amount of financing is equal to 1.000.000 mln/€ for only one incubatees, that is Remocean. Average Survival rate: 100%. All the start-ups are still active in the market.

Source: Author's Elaboration

Therefore, to conclude this analysis, it is possible to state that we are in front of three UBIs examples that through their differences and analogies allow having a more complete overview about the role of the University Business Incubators in Italy. For sure, the prominence of I3P in terms of story, experience and results makes the attempt to compare them statistically useless. Looking at Incipit Campania (especially), that is still living a period of total inactivity, that could lead external observers to think about a case of incubation failure, but in reality it would be more correct to talk about a failure of all surrounding conditions (public institutions). While for Start Cube, it is surely a very promising reality, supported at all the levels from the institutions and inserted in a vital environment for the start-up. Its annexation to the Scientific and Technologic Park Galileo is building the basis for sure improvements during the future years that can create the premises to become a leading actor among the UBIs for the Italian context.

3.8 Appendix to the chapter

The appendix dedicated to this research chapter has the aim of better explaining the way in which all the interviews, conducted with the three representatives of each unit of analysis, have been implemented. As already touched upon in the paragraph 3.3, they are semi-structured interviews that have a basic framework, equal for all the three persons interviewed, and some questions that have been formed according to the specific object of the analysis. The basic framework considers a first part (*hardware part*) that points to ask about the “numbers” or statistics of the University Business Incubator in the last economic year. At the beginning of each interview, it has been asked of summarizing briefly the story of the incubator. Here is described and presented the first part of the interview:

- Story of the UBI, briefly;

- Main data of the incubator in 2015 and their variation in respect to the past: number of incubatees divided according to their origin, number of incubation proposals, number of incubator's employees, data about the amount of investments for the incubatees.
- Most important KPIs used: performance indicators, number of job positions created by the incubators and start-ups, survival rate for the start-ups that leave the incubator.

The second part (*software part*) is dedicated to ask about the organisational and managerial aspects, so:

- Description of the incubation process: selecting criteria for all the proposals and main channels through which they arrive, number and characteristics of incubation phases, services at disposition of the incubatees opportunely divided in traditional and value-added services, how the relationships with the start-ups out of the incubator are managed;
- Strengths and weaknesses for the University Business Incubator;
- Main partners of the incubator and their impact in its life;
- Main external collaborations implemented;
- Main competitors for the incubator;
- Future prospects: internationalization, expansion and possible future collaborations.

Just to be exhaustive, it is important to recall that each interview has had a varying duration from fifty minutes to one hour. The actors interviewed have been:

- Ms. Giulia Turra, Business Developer at *Start Cube*. The interview has been implemented in April the 18th and with a duration of about one hour;
- Professor Marco Cantamessa, Chairman of the board and CEO of *I3P S.c.p.A.* This second interview has been conducted previously in February the 18th with a duration of fifty minutes;
- Mr. Achille Caldara, Organisational Manger at *Incipit Campania*. This interview has been conducted in May the 5th with the same duration as the previous.

Conclusions and future implications

Before discussing about this work of analysis and research, implemented in the previous chapters, in order to deduce the main conclusions, it is correct to make a little digression that summarizes in few lines the starting point of this dissertation and its development.

It started from a fundamental assumption, that is the importance that innovation has in the 21th century for the economy of a nation, so much that we talk about *knowledge based economies*, just to underline how all the knowledge-creation processes have a specific weight in the creation of tangible and intangible values for an entire economic environment. In the same way, it is categorically accepted the hypothesis for which are mainly young companies that contribute the most to the innovation process, through the development of new technologies applicable to products and services. Therefore, it is of interest the study of how start-ups can be active players in the present economic setting, by means of the analysis of their business ecosystem.

Business Incubators represent the main mean thanks to which start-ups are able to overcome different criticalities linked to their low experience in the market, acting as the connecting figure between what is recognized to be a good idea, in something concrete that has an economic value greater than zero.

This work focuses on the role of incubators, deepening their specific features and functions, and directed special attention to a specific type of BIs, namely the University Business Incubators (UBIs).

“Universities are a key player of economic team to win the match of growth through their active participation in managing incubators, research and development, innovation, commercialization and formation of entrepreneurs in both developed and developing countries” (Miner et al., 2001).⁵³

These actors leverage the proximity with the Universities for providing not only traditional BI services, but also more up-graded services that count on the experience and knowledge of the University. The aim has been of verifying the role that these actors have in the Italian context through a research pointed to the analysis of three University Business Incubators: *Start Cube*, *I3P* and *Incipit Campania*. They are respectively the incubators associated to the University of Padua, the Polytechnic of Turin and both the Federico II University and University of Sannio. The thesis work provides a complete screening of their Business Model, accompanied from

⁵³ This definition has been already showed within the second chapter, paragraph 2.2.

some statistics regarding the performances of these UBIs in the last economic year. Moreover, the final comparison had the goal of delineating not only similarities and differences in the services offered by the UBIs, which could be generalized to the entire Italian UBIs' models, but also of pointing on some important problems about the activity of University Business Incubators in Italy.

What is emerged is an environment full of contrasts, characterized by the huge intrinsic potential but that is still not able to create the premises for the transformation of this potential in a consolidate model of success. On the one side, it is impossible to state that Italy has remained stopped in respect to all the other European economic powers in incentivizing a government policy for the support and development of these actors. It is sufficient to look at results and numbers of the UBIs, included in the sample of analysis, to understand how University Business Incubators assisted by local authorities can suggest a growth driven by innovation and start-ups incubated within them. The economic returns are evident not only in the form of incubated start-ups' turnover but in terms of job positions created and financing resources obtained. A good slice of revenues comes from products and solutions that twenty-four months ago did not exist. However, on the other side, there are still remaining problems, some of them generalizable to the entire territory and others that propose again the eternal contrast between the North and the South of Italy.

One important problem that is born upstream and comes before all the other criticalities that will be presented is a cultural one. Such problem can be approached looking to:

1. Universities themselves and their values;
2. All the other actors that revolve around Universities.

Starting from the first point, the cultural problem above mentioned materializes in a not adequate, or to say better not fully exploited, management of the economic potential intrinsic in the research activity within Universities. Issues such as open research, the commitment to a subject that is not commercially viable, pleasure in the knowledge of and for itself constitutes basic values of the Universities. And today more than ever, it is seen as a space that is free from economic paradigms and closed within its *ivory towers*. This clashes with the mission of an University Business Incubator, which is born to promote a culture voted to the entrepreneurship and that looks at the University researches as a possibility to transform a study in something able to create profits. Even though the statistics talk about good results for Italian Universities in terms of quality of the research, and that has in the University of Padua and Polytechnic of

Turin two poles of excellence, as demonstrated by the Figure 3.17 about the scientific production in the years from 2001-2014:⁵⁴

Figure 3.20: Research Activity of Italian Universities in the years from 2001 to 2014

Paese	2001-2003			2004-2010			2011-2014		
	Numero pubblicazioni	Quota mondiale	Crescita media annua	Numero pubblicazioni	Quota mondiale	Crescita media annua	Numero pubblicazioni	Quota mondiale	Crescita media annua
Australia	93.198	2,2	7,5	372.844	2,6	8,3	190.409	2,8	4,8
Brasile	53.115	1,2	10,1	260.866	1,8	11,7	137.995	2,0	4,6
Canada	139.757	3,3	9,2	534.697	3,7	5,9	234.021	3,4	1,8
Cina	209.019	4,9	7,7	1.626.897	11,3	16,9	944.376	13,9	5,1
Francia	192.116	4,5	4,8	634.64	4,4	4,9	283.646	4,2	1,5
Germania	265.788	6,2	4,9	885.602	6,1	4,8	396.376	5,8	1,9
India	83.852	2,0	8,6	377.357	2,6	12,4	246.254	3,6	6,5
ITALIA	141.537	3,3	7,4	504.724	3,5	5,8	235.677	3,5	4,0
Giappone	307.865	7,2	3,1	870.219	6,0	1,9	360.049	5,3	-0,8
Olanda	77.415	1,8	7,2	285.428	2,0	6,5	131.682	1,9	2,4
Russia	103.164	2,4	1,6	259.545	1,8	1,1	130.461	1,9	6,0
Corea Sud	69.549	1,6	10,9	328.655	2,3	9,6	166.446	2,4	4,2
Spagna	101.828	2,4	7,6	403.979	2,8	7,9	197.657	2,9	2,6
Svezia	57.405	1,3	4,6	182.075	1,3	4,4	87.16	1,3	4,1
Svizzera	54.279	1,3	8,2	203.027	1,4	6,0	95.195	1,4	3,2
UK	293.724	6,9	6,1	1.009.609	7,0	5,3	445.593	6,5	1,4
Stati Uniti	1.122.255	26,2	6,3	3.699.098	25,7	3,9	1.590.886	23,4	0,6
BRIC	447.222	10,4	6,6	2.514.582	17,5	13,7	1.451.878	21,3	5,3
UE-15	1.189.072	27,8	5,0	4.029.155	28,0	5,3	1.821.681	26,8	1,8
UE-27	1.288.690	30,1	5,1	4.406.152	30,6	5,6	2.011.252	29,5	2,0
OCSE	2.935.348	68,5	4,9	9.747.751	67,7	4,8	4.345.564	63,8	1,3
Mondo	4.284.251	-	3,6	14.406.931	-	5,9	6.807.893	-	2,2

Source: Seival Scopus (2014)

The point here is the way in which patents and researches' offices are managed. Significant are the words of Giampio Bracchi, chairman of the board of Polytechnic Foundation of Milan:⁵⁵ *“Universities have to understand that patents and researches' offices should be managed according to market criteria, depriving themselves from desire of owning these structures and making them free from the bulk of academic hierarchies”*.

This inadequate management above mentioned, resulted evident in the case of Incipit Campania, where a dedicated researches' office did not even exist at the time of Incipit Campania foundation, and so not able to marry its project. Therefore, the final result is that of an environment not fully ready and prepared to host the UBI's reality.

Such system of values, recognized within Universities, shows its consequences on all the actors that revolve around them and are directly related with the research activity: professors, young students and so on. There is an halo of general scepticism that envelops all these actors that

⁵⁴ Source: Seival Scopus. Available at: <http://www.anvur.org/index.php?lang=it>

⁵⁵ Source: <http://www.ladige.it/news/business/2016/06/05/sostegno-startup-italia-trovi-suo-modello>

have difficulty in recognizing the UBIs as the pass from the academic to the entrepreneurial world. Even in this case Incipit Campania offers the possibility to have a real validation of this problem: Techno Mining, the activity of door-to-door scouting that Incipit Campania has implemented to narrow all the researchers and students to the business world, is a clear proof of how really far is perceived the distance between them, where the Incipit Campania team itself tries to stimulate and spread the mission of the incubator with a marketing strategy that is extremely “push”. Since the scarce resonance of the incubator and its channels to catalyse new candidatures, it is Incipit Campania to make its services known with direct visits to researchers.

Therefore, the cases analysed during the third chapter snap a picture of the current situation: even if this conclusion can be not generalized, they tells about an innovation and entrepreneurship culture that is still polarized on the territory.

The second fundamental aspect concerns more in general the role of the public authorities on shaping the activities of University Business Incubators. However, how can they impact on these actors?

1. Through the implementation of policies voted to the creation of an environment that is firstly inviting for the start-up and consequently for the incubators and all those that want to invest on them;
2. More directly, with greater investments for the UBIs.

Moreover, looking at the specific subject of this dissertation, the number of certified University Business Incubators is really low. Among the total number of certified incubators in the list, which is equal to 32, the only UBIs present are I3P and Poli Hub of Milan. BICs (Business Innovation Centres) and Scientific and Technologic Parks are excluded.

The last aspect to consider is about the economic support of the local authorities to the UBIs that is vital for this specific type of BIs that have as the only form of profits the fees that annually are paid by incubatees. During the dissertation, we have seen the difficulty that each of the unit of analysis have had, due to the cut at funds to be destined to the operative arm of University Business Incubators. For Incipit Campania, it has conducted to its actual quiescence state, while I3P has adopted a new important strategic policy. Since the regional funds, according to the current regulations, are distributed only after an adequate report of the UBI, I3P has been adopting from seven years a new mechanism, defined as “in end”: I3P notifies to the Chamber of Commerce the start-up registration, so it means that the funds are in a certain way constrained to the results of I3P. It contributes to create a working ethics strongly result-oriented.

However, the main problem here is the scarce involvement of the private sector in supporting the activities of UBIs and, more generally, the overall entrepreneurial ecosystem. The scarce investments of the private sector in new ideas and projects are probably due to the low profitability of the Italian humus/ecosystem and to a fiscal policy that is inadequate.

Concluding, policy makers should be more active in stimulating entrepreneurship in general and university entrepreneurship in particular, creating a fertile environment where a network of relationships between university and industry actors might be created and sustained over time.

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