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Business Incubator, an ever changing process, and its definitions

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Abstract: The paper examines the definitions of business incubator in the context of both the scientific literature and institutional documentation. The objective being the attempt to identify a definition that could encapsulate the present (and possibly future) meaning, objective and overall structure so as to inform and guide the design of a functional model that could be used to assess efficiency and effectiveness of the incubation process from a management perspective rather than a socio-economic one.

Keywords: *Business Incubator, definitions.*

Introduction

The concept of Business Incubation appears to be a consolidated part on the economy development as demonstrated by the number of incubators presently existing, and the reported positive impacts achieved as evidenced by the University Business Incubator World Benchmark Study 2017-8 with over 70K jobs created and sustained, over 14.5K entrepreneurs graduated in the 2012-2016 period, over \$3.2B sales revenues and over \$4.7B attracted investment (UBI, 2019).

However, Business Incubation dates back to 1959 when Joseph Mancuso opened the Batavia Industrial Centre (Lewis et al., 2011). Since then several definitions have been used (as well as different models and processes described) and what is more interesting to notice is the evolution and interconnection with other phenomena.

Additionally, there is a further difference in the naming convention between what we could define as the “western” and “eastern” blocks as what in the UK, USA and EU is defined as Business Incubator is defined as Accelerator in the CSI and vice versa (Bone et al. 2017; RVC, 2017). Furthermore, business incubators (as well accelerators) may be part of a technology-park (UNESCO, 2017) further blurring the line between what is what.

In this paper we address the issues concerning the definition of business incubator from three perspectives as can be understood by examining the related literature, professional association reports, best-practices, guidelines, and implementation manuals. In details we examined the definition in terms of entity and process, purpose and business model underpinning it. The aim of this exercise was to identify a definition that could encapsulate the present (and possibly future) meaning, objective and overall structure so as to inform and guide the design of a functional model that could be used to assess efficiency and effectiveness of the incubation process from a management perspective rather than a socio-economic one.

The relevance of the resources invested in business incubation is clear, as per (UBI, 2019), however, the result provided while mention the number of jobs created and sustained do not point out what is the cost associated to the generation of a new job. The UK Regional Growth Fund in 2012 invested 1.4bn GBP thus assuring 328K jobs could be created or safeguarded in total of which 41K more full-time-equivalent jobs could be created or safeguarded than without the Regional Growth Fund (NAO, 2012). All this with an average cost of each full-time-

equivalent job of 33K GBP. This is aligned with the findings of the Homes and Community Agency (HCA) which estimates that the gross cost per net additional job ranges from 28.7K to 51K GBP depending on the development of employment space with the lower-end being where there is high private sector investment, while the higher cost occurs in areas where there is low private sector investment (HCA, 2015).

These costs are justified by the difficulties embedded in the process of generating new jobs and the context, as one of the main objectives and metrics used to assess the success of business incubation is the number of jobs (or job equivalent) created, it is of paramount importance to analyse in detail the process and see if there is room for improvement, however, this also implies to formulate a viable definition that can then be used for discriminating across institution and focus only on those that do match the definition.

According to A O2-Telefonica report the survival rate for start-ups reached almost 92%, compared to a two-year survival rate of 75.6% for all small businesses (O2, 2014), when taking into account that the average acceptance rate in a business incubator is around 1% (Ryzhonkov, 2014), then it is legitimate to wonder why despite such a hard selection still there is a 8% failure within 2 years from graduation and furthermore what is the actual efficiency and effectiveness of the process. The analysis of the definition and purpose of business incubator operation is the best starting point.

Analysis of the definitions as per literature

The evolution of the phenomenon of business incubation is clearly reflected in its history as well as in the changes in definition and expected scope and offerings as very clearly described by (Ryzhonkov, 2012) in his summary of the evolution of business incubation's value proposition as reported by (Bruneel et al., 2012), (NBIA, 2012), and (Lalkaka, 2002) which shows that:

- 1) In the period 1950s-1980s, the focus has been on the infrastructure, the rationale the economies of scale, and the offering focused on office space and shared resources.
- 2) In the mid 1980s up to the mid 1990s, the focus has shifted to business support, the rationale being to accelerate the learning curve, and the offering has added - and prioritised - coaching and training.
- 3) From the mid 1990s up to the 2000s, the focus has further shifted towards the aspects of networking intended as the possibility to facilitate the access to external resources, knowledge and the legitimacy

However, in the 2000s a new phenomenon started emerging with the appearance of the Internet / Networked incubators (Hansen et al., 2000) that has led to the “*virtual business incubator*” where the aspect that was common to all previous generations - the co-working space and shared physical resources - is replaced by a cloud based set of services, mentoring and support all integrated into a specifically devoted platform.

As a first note, it is worth pointing out that from 1950 up to the first part of the 1980s the phenomenon has been growing, gaining attention but not adequately studied. According to (Allen and Rahman, 1985), a “*business incubator is a facility that aids the early-stage growth of companies by providing rental space, share office services and business consulting assistance*”. Given the time and context it is clear that in this definition, flexibility is not stressed yet is crucial as each entrepreneur and business idea is different. Business development processes include training, coaching, mentoring and as such is more than consulting assistance. Supporting by giving space (rented) and office services does not cover all needs of start-ups, especially high-tech ones and unless it is flexible, some resources and help will not allow to survive once completed the period of tenancy. At the same time it is worth noting that (Allen and Rahman, 1985) say that “*The universal purpose of a business incubator is to increase the chances of a firm surviving its formative years, but the business incubator also adds value by maximizing the firms' growth potential*”. However, Allen has also provided a further definition

in (Plosila and Allen, 1985) saying that a “*business incubator is a facility which promotes the early stage development of a for-profit enterprise*”. This definition is once more consistent with the mindset of the times and therefore limiting as it may be possible to incubate social enterprises as well as non-for-profit ones - see (UBI, 2019); additionally, it does not provide any indication of what is available (People, sources, resources, spaces, courses, Mentors, funds, etc.).

Just one year later (Brooks, 1986) defines Business Incubator as “*A multi-tenant facility which provides entrepreneurs with: (1) flexible leases on small amounts of inexpensive space; (2) a pool of shared support services to reduce overhead costs; (3) some form of professional and managerial assistance; and (4) access to or assistance in acquiring seed capital*”. This definition provides a clear list of the essential resources and services required for residents company and in particular it points out the fact that while seed capital is important, flexible lease, inexpensive work-space and professional and managerial support are also important. At the same time it does not mention training or other forms of personal/professional development although the focus on accelerating the learning curve is emerging.

Albert (1986) states that an “enterprise incubator is a collective and temporary place for accommodating companies which offer space, assistance and services suited to the needs of companies being launched or recently founded”. This definition is very interesting as it points to a very specific kind of incubator that is owned by a corporate - i.e. private - and that potentially may accommodate both spin-offs of the corporate (just as it happens to the University-linked incubators) or accept externals (just like Google and Telefonica do in London) with the option to acquire the successful start-ups incubated.

According to (Udell, 1990), in the same year Brooks provided the aforementioned definition, (SBA, 1986) states that a business incubators are “*Buildings in which a number of new or growing businesses can locate and operate at much lower costs than in conventional space where market rates prevail. Incubator facilities are characterized by access to shared, centralized facilities such as clerical and administrative help, receiving and shipping facilities, conference rooms, computers, and word processors, and other business assistance*”. This definition stresses the aspects of co-working space and access to low-cost centralised services which are suitable for newly started companies. As such it does not mention the provision of supportive training resources and funds and shows that the transition from the 1st generation to the 2nd has been gradual.

In the same year, (Smilor and Gill, 1986) explain that “*By controlling [four types of resources: secretarial support, administrative assistance, facilities support, and business expertise including management, marketing, accounting, and finance ...] the business incubator seeks to effectively link talent, technology, capital, and know-how in order to leverage entrepreneurial talent and to accelerate the development of new companies.*” This description provides also a clear definition of what is and what does a business incubator. The main limitation is that it focuses on connecting “*talent, technology, capital, and know-how*” but seems to forget about creativity and innovation which should complement “*talent*”.

A focus on the expected outcome in terms of “*Reducing the rate of failure in small business by assistance in the critical stage of business development—the early years*” characterises (Kuratko and LaFollette, 1987) definition; this definition, however, does not indicate what kind of assistance and support should be provided to the business incubator resident companies. Similarly, (Smilor, 1987) points out that a “*business incubator is an innovative system designed to assist entrepreneurs, particularly technical entrepreneurs, in the development of new firms*”. It is interesting to notice that towards the end of the 1980s, business incubation was still considered *innovative* despite almost 30 years of operation. Smilor’s definition does not focus on the process or structure but rather on the aim, additionally, and it seems to suggest that business incubation should be mostly focused on technical firms.

On a similar line, although much more restrictive in terms of focus, (Campbell and Allen, 1987) describe a business incubator as a “*building, section of a building, or adjacent buildings that provide a nurturing environment to . . . assist in the growth and development of new enterprises*”. Their definition focuses only on space (“*building or adjacent buildings*”) that can be used by residents for the development of new enterprises but does not elaborate on what is a “*favourable environment*” nor the availability of support from people, courses, sources, services, tutors, access to funds.

Just like Smilor the definition given by (Fry, 1987), reflects the idea of a business incubator as “*a new concept in entrepreneurship and economic development which utilizes large, often old, building to house new small businesses. The unique aspect of incubators is that the businesses share administrative services in addition to renting space in the building. Typically, the incubator provides clerical and receptionist staff, computer and copying equipment, accounting/bookkeeping help, and conference rooms. Management assistance is generally provided by either the incubator staff or outside consultants, and financing is often available*”. Despite covering a few relevant aspects of service and support provision, this definition is still mostly centred on the availability of cheap working space, shared services, while training and personal/professional development aspects are not addressed. This confirms the fact that almost 30 years after the initial appearance of the phenomenon in 1959 when Mancuso opened the Batavia Industrial Center in a warehouse to save property taxation, the approach has only partially evolved and there was still little understanding of the full potential.

Merrifield, (1987) refers to business incubators saying that “*they provide secure, affordable, flexible, well equipped space in which the entrepreneur can work (often day and night). They provide readily accessible support services (receptionist, clerical, data processing, copying, legal, accounting, machine shop, conference, fast food and other capabilities). They provide professional business management and technical consulting, together with access to seed and working capital, state and federal grants, loan financing, venture capital and R&D Limited Partnership (RDLP) funding, public and private stock offerings, and state equity financing. They often are associated with a university that can provide additional access to highly specialized analytical, computing and test facilities in an array of disciplines. They create an interactive community of entrepreneurs; academic and business interests that stimulate and encourage the sometimes fragile business incubation process. They often operate as a communications bridge with the community, and established enterprises that seek a window on emerging technologies and may provide growth capital for equity participation.*” This definition covers all aspects of providing start-up and entrepreneurs with space for work, easily accessible support services, as well as professional and technical advice, access to capital and financing. In addition, the definition gives a picture of a business incubator within the university with the possibility of using special equipment, laboratories and alumni. The vision of the business incubator as “*a link with the community and create enterprises that are looking for a window for new technologies and can provide capital growth for participation in equity*” is clearly presented.

Surprisingly, (Allen, 1988) says that a “*business incubator is defined as a facility that provides affordable rent to new and small firms, shared office and logistical services, and arranges business management and financial assistance*”. This definition is more restrictive than the other the same author has provided just a few years before. Here the “*creation of added-value*” is dropped and the focus is concentrated on infrastructure and services supposedly because Allen is focusing here on the life-cycle of the business incubator.

According to (Lumpkin and Ireland, 1988), “*Business incubation is an organized effort to bring together new and emerging businesses in a controlled environment.*” “*The main objective of a business incubator is to facilitate development of conditions and support systems that will ensure successful business operations*”. This definition clearly explains the concept

(in terms of purpose) of a business incubator as an organization undertaking efforts to support and merge new enterprises with the provision of favourable conditions and the support system needed for a successful outcome which is a shift from previous definitions and a hint towards the networking and cooperation aspects. (Hisrich, 1988) states that *“by providing a variety of services and support to start-up and emerging companies, the incubator seeks to effectively link talent, technology, capital, and know-how to leverage entrepreneurial talent, accelerate the development of new companies, and thus speed up the commercialization of technology”*. Here the concept of a business incubator is clearly expanded, and the focus is moving away from infrastructure to the *“linking”* of very valuable aspects of a successful business as a way to *“leverage entrepreneurial talent, accelerate the development of new companies, and thus speed up the commercialization of technology”*. This shows the transition towards the *“networking”* aspect but at the same time, the limit of this definition is that it focuses substantially on technology only as a business remit.

In (Campbell, 1989) definition, *“Business incubators are ‘change agents’ in the transformation of our economy from one that is based on large manufacturers to one with many new, small ‘information age’ firms. Business incubators address many of the failures of the marketplace—information costs, restricted capital flows, lack of services, business assistance and financing to new and small businesses”*. The focus is on what a business incubator supposedly helps solving, although not all research on this aspect is in agreement.

Allen and Bazan (1990) say that an *“incubator is a network or organisation providing skills, knowledge and motivation, real estate experience, provision of business and shared services”*. This definition starts opening the scene to the vision of a business incubator as a network and stresses the provision of knowledge and motivation which are essential to the effective development of a new enterprise. The other aspects of this definition are in line with the other definitions seen so far. Allen and McCluskey (1990) say that an *“incubator is a facility that provides affordable space, shared office services and business development assistance in an environment conducive to new venture creation, survival and early stage growth”*, additionally, they remark that *“what is new and distinct about incubators is that these features of entrepreneurship [multi-tenancy, shared office services, business counseling] occur at one location”*.

Swierczek, (1992) defines business incubators as a *“strategy whose focus is understood in relation to science parks and innovation centers and as a function of emphasis on business development and research development”*. While *“business incubator’s strategic focus is on business development with low involvement in research development.*

A science park’s strategic focus is on research development with little concern for business development. An innovation center’s strategic focus represents a happy medium of business and research development”. Here we have a combination of definitions where business incubator, science park, and innovation centres are covered. The author operates a distinction among the three based on their goals and functions. The interesting aspect of this approach is that it allows and encourages the design of a new entity the *“innovation centre”* as a hybrid between business incubation and science park, this in turn opens the possibility to have business incubations aspects within a science park and therefore the two can coexist (which opens the possibility to design rather interesting business models for universities and companies the like). Mian, (1994) views business incubators as *mechanisms for community’s to collaborate and to promote the development of technology-based firms*. If we approach the understanding of business incubators from the point of view of community cooperation, then this is undoubtedly present in the form of mentoring and financial support for entrepreneurs. At the same time, there is no concept of a business incubator as an organization with certain functions (supporting start-up entrepreneurs - courses, resources, providing a place to work) and goals (such as launching a company that has got on its feet in the world of business). Similarly, the (Markley

and McNamara, 1995) definition: “A *business incubator [is] a locally based institution created to encourage and support new business development*”, is very vague and could be applied also to an investment fund or any other initiative encouraging and supporting the development of a new business.

Just a couple of year later his previous definition (Mian, 1996) points out that “*The university technology business incubator (UTBI) is a modern enterprise development tool employed by some entrepreneurial universities to provide support for nurturing new technology-based firms*”. This is an important observation as some of the most successful results in terms of business incubation come from those business incubators that are connected with universities, as clearly pointed out in the (UBI, 2019) report.

Greene and Butler (1996) point out that the “*purpose of a business incubator is to provide some combination of necessary resources in order to nurture a new and/or growing business to some level of maturity*”, while (Sherman, 1999; Sherman and Chappell, 1998) say that “*one popular vehicle to encourage new businesses in local economies is the business incubation program . . . [one of] a number of federal, state, and local government-sponsored intervention programs . . . introduced to facilitate the creation and growth of small start-up businesses*”. In both cases the focus is more on the purpose than on the process and in Sherman is clear the role of the government programs. In this respect is important to note that not only in the USA incubators have been often state sponsored.

According to (Ryzhonkov, 2012), a different tone can be seen in (Dulf, 1999) when saying that a “*business incubator may be defined as an organization which offers a range of business developments services and access to small space on flexible terms, to meet the needs of new firms. The package of services offered by a business incubator is designed to enhance the success and growth rates of new enterprises thus maximizing their impact on economic development*”. This is a fairly broad definition, covering all aspects of the role and functions of a business incubator and even though it does not mention explicitly training or professional development activities, still it refers to a “*package of services ... designed to enhance the success and growth rates of new enterprises*”. Similarly, (Roper, 1999) points out that “*Business incubators provide one mechanism by which start-up businesses with high growth potential can be helped to succeed*”. This statement points to one of the major issues of business incubation that is the selection of the applicants. As clearly pointed out in (Ryzhonkov, 2014), in the traditional business incubation approach out of 10k applicants per year only 20-40 manage to get accepted. The percentage of rejected entrepreneurs is roughly 99% and this is also due to the limits imposed by the physical infrastructure while in the emerging model of virtual business incubators this problem is overcome and the rejection rates drops dramatically.

Hansen et al., (2000) clearly pointed out the resource-connected aspect of business incubation when saying that they “*nurture and grow start-ups in the Internet economy. They offer fledgling companies... office space, funding, and basic services such as recruiting, accounting, and legal - usually in exchange for equity stakes*”.

Hughes, Ireland and Morgan (2007: 155) say that a business incubator “*is a facility that houses young, small firms to help them develop quickly into competitive business.*”

Eshun (2009: 156), instead, that a “*business incubator is an environment formally designed to stimulate the growth and development of new and early stage firms by improving their opportunities for the acquisition of resources aimed at facilitating the development and commercialisation of new products, new technologies and new business models. Business incubation is also a social and managerial process aimed at supporting the development and commercialisation of new products, new technologies and new business models*”.

Chinsomboon (2000) derives his definition from an interesting comparison of a business incubator with a real incubator and says that a business incubator can be seen as a “*controlled*

environment that fosters the care, growth, and protection of a new venture at an early stage before it is ready for traditional means of self-sustaining operation. In today's world, where information technology and the Internet are normal parts of the business environment, the term "controlled environment" could be either physical (real estate and office facilities) or virtual (networks)".

According to (Ryzhonkov, 2012) and (Bem Machado, 2018), an interesting turn is given in 2000 by Lepeak (cited in Ryzhonkov, 2012) when saying that an eBusiness incubator is *a service organization (individual or virtual) that provides a full-services range to design, deploy, and potentially operate an eBusiness, offering post-incubation... some of the services offered include advisory, funding, design, construction, and operations. The ultimate goal is to build an entity that can take an idea and rapidly (within weeks) develop it into a deployed initiative.* The emergence of eCommerce and eBusiness as experienced leading to and then after the so called "*Dot-com bubble*" has clearly affected also the approach to business incubation and paved the way to approaches where the boundary between accelerator and incubator is blurred and presently a number of Accelerators offer a 2-3 weeks crash programme. This clearly shows the progressive and constant evolution of the business incubation phenomenon.

According to (Ryzhonkov, 2012), a fairly complete definition of a business incubator has been given in 2001 by Gonzalez and Lucea (cited in Ryzhonkov, 2012) when saying that a business incubator is *"... a controlled environment -physical or virtual - that cares, and helps new ventures at an early stage until they are able to sell-sustain through traditional means..."*. Here the emphasis is on an environment which is conducive to development and innovation and the support required until the venture becomes self-sustaining, while (Roussel, 2001) provides a fairly restrictive definition focusing only on high-tech firms even though it covers all relevant aspects of what a business incubator can presently offer to its residents: *"the term incubator is used to describe high-tech business clusters, the role of which is to pool resources to provide "brick and mortar" facilities, hands-on help, personal connections and expertise These clusters sometimes provide the seed funding needed for early stage start-ups"*. Rice (2002) claims that a *"business incubator - in collaboration with the community in which it operates - is a producer of business assistance programs"*. The reference to the community, stresses the fact that a business incubator is part of a local ecosystem, however, this may be both an advantage or a disadvantage. For example in Belarus, the largest business incubator in Minsk is state own and the manager explained during the interview that they *"focus exclusively on IT/ICT because this is what the country is strong at"*. On the one hand this ensures a constant influx of funding, attention from venture capitalist and business angels as well as a stream of project requests for the residents from foreign companies willing to find quality - yet economically convenient - ways to develop new products. On the other hand this limits substantially the opportunities for innovative ideas coming from other domains to be accepted and therefore creates (indirectly) a number of missed opportunities.

Lalkaka, R. (2002), says that business incubators *"provide affordable work space as well as shared facilities, counselling, training, information and access to external networks for entrepreneurial groups. This focused help to selected firms has been shown to increase manifold their chances of survival; the evidence also indicates that the initial subsidy provided by the state is returned as taxes to the exchequer, in addition to other social benefits such as stimulating entrepreneurship and cultural change"*. This definition provides not only a clear vision of what business incubators are but also why they are used and have delivered some excellent results.

Hackett and Dilts (2004a/b) define a business incubator as *"a shared office space facility... that seeks to provide... a strategic, value adding intervention system of monitoring and business assistance... with the objective of facilitating the successful new venturing development while*

simultaneously containing the cost of their potential failure... It is important to keep in mind the totality of the incubator... It is a network of individuals and organizations". This definition considers a business incubator as a single strategic system for the successful development of new enterprises, it stresses the strategic and value-adding purpose however, it seems to limit the focus to "*venturing developments*".

Aernoudt, (2004) states that *incubation should be considered as an interactive and dynamic new firm creation process with the purpose of stimulating people to start their own business and supporting start up enterprises in the development of innovative products. A real incubator it is not an office space with a desk. It should offer management services, financial assistance, juridical support, operational know-how and access to new markets, which can be done both in a physical or virtual space.* Aernoudt explanation of the very concept of business incubation is very interesting, it focuses on the purpose of the incubation process and explains what would be needed in order to achieve its ultimate purpose. This approach leads to think in terms of facilitation process, however, it does not address the issue of ideas selection which is crucial as resources available are limited and therefore not all ideas can be supported (especially when the incubator is privately owned).

According to (Hamdani, 2006), a "*useful definition that covers almost all of the common elements of a vast majority of views is provided by (Hackett and Dilts, 2004a/b)*", while a good description of activities the incubators perform is provided in (Merrifield,1987). Overall, for (Hamdani, 2006) business incubation can be described as an innovative, evolving organizational form to create value by combining the entrepreneurial drive of a start-up with resources generally available to large or medium-sized firms. Business incubators nurture young firms during their formative years when they are most vulnerable, helping them to survive and grow into viable commercial enterprises. The main value of this approach is in its reckoning that business incubation is an "*evolving organizational form*" as this captures one of the main issues in the analysis and understanding of this phenomenon. The process is evolving and adapting to local as well as global socio-economic context and therefore requires a different approach to both its definition and modelling, something that accounts for its constant evolution and adaptation.

Analysis of the definitions as per institutional definitions

The National Business Incubation Association states that "*business incubation is a business support process that accelerates the successful development of start-up and fledgling companies by providing entrepreneurs with an array of targeted resources and services. These services are usually developed or orchestrated by incubator management and offered both in the business incubator and through its network of contacts*" (NBIA, 2010). This is a fairly complete definition which - once again - blurs the boundary between business incubation and acceleration. It is not restrictive in terms of residents as it simply mention "*entrepreneurs*" and does not specify the range of services offered while it points out that these could be "*developed or orchestrated by incubator management and offered both in the business incubator and through its network of contacts*". Yet, NBIA on their website states that a "*business incubator is an economic development tool designed to accelerate the growth and success of entrepreneurial companies through an array of business support resources and services*". It is interesting to note that this second definition of incubation relates to "*acceleration*"; this means that in the INBIA approach the distinction between Business Incubator and Accelerator is progressively vanishing. Additionally, the focus is only on economy thus ignoring social entrepreneurship which is on the other hand growing and leading in sectors such as the circular economy, the sharing economy and other aspects of innovation. Finally, NBIA also states that "*business incubator's main goal is to produce successful firms that will leave the program financially viable and freestanding*" thus also providing a description of business incubator's purpose.

At the same time, the United Kingdom Business Incubation states that “*business incubation is a unique and highly flexible combination of business development processes, infrastructure and people, designed to nurture and grow new and small businesses by supporting them through the early stages of development and change*” (UKBI, 2007).

The European Commission view is that *the term ‘business incubator’ is in its generic sense often used to describe a wide range of organizations that in one way or another help entrepreneurs develop their ideas from inception through to commercialization and the launching of a new enterprise. ... A business incubator is an organization that accelerates and systematizes the process of creating successful enterprises by providing them with a comprehensive and integrated range of support, including: Incubator space, business support services, and clustering and networking opportunities* (EU-CEDG, 2002). The European Commission definition is sufficiently general to cover most aspects of business incubation, yet is also fairly bureaucratic especially when referring to the “*systematize*” aspect. It also uses the term “*accelerates*” thus showing the progressive loss of distinction between incubators and accelerators.

Conclusion

The subject of Business Incubation is still very relevant and actual despite almost 60 years - hence the interest in studying it - and has many facets as we could note during the interviews conducted and the analysis of a number of best-practices, reports, guidelines and manuals for the implementation and management of business incubation.

This pushed us to conduct a specific analysis of the evolution of business incubation definition and implementation model in order to identify a definition of business incubator that could be profitably used to describe adequately the range of institutions examined and the outcomes of the interviews conducted as well as inform the design of a functional model that could better assess the business incubation process efficiency and effectiveness given the fact that most - if not all - the analysis of business incubation effects is focusing on the economic side of the process and too little to the process itself.

Overall, there is agreement that business incubators provide a set of services and a supportive infrastructure to the residents. It is also clear that the concept and rationale for business incubation has evolved and is significantly influenced by the context of operation. It also points out that the several definitions and interpretation of the phenomenon imply also different expectations and motivations for implementing business incubation.

We also found is that most definition were rather too prescriptive in terms of nature of the incubated businesses. We also experienced that the vision in countries such as the CSI and ex USSR republic now independent is somehow different from the one of the UK and USA. We also could see that the proposed models and implementation guidelines tend to converge towards a blueprint that could be well described by the EU definition.

Therefore we adopted the definition coming from the Diogene Business Incubator (reported hereafter) which is a high-technology business incubator resulting from the partnering of the National Business Incubator Association (NBIA), the United Kingdom Business Incubator Association (UKBI), Cyprus Business Incubator Association (CyBIA), and the Cyprus Chamber of Commerce and Industry (CCCI) and aiming to commercialize R&D results by creating business value. This partnership covers a wide range of perspectives and therefore has produced a well balanced definition that - not surprisingly - has large similarities with those of NBIA and UKBI: “*Business Incubation is a unique and highly flexible combination of business development processes, infrastructure and people designed to nurture new and small businesses by helping them to survive and grow through the difficult and vulnerable early stages of development*” (DBI, 2011)

This definition has the great advantage that is flexible enough to accommodate a large number of institutions (traditional as well as virtual business incubator as well as accelerators), is not

restrictive in terms of applicants or sector of application. Additionally, given the fact it talks about surviving and grow “*through the difficult and vulnerable early stages of development*” it is applicable both to start-ups as well as to companies with the potential to experience exponential growth as for both the transition phase is critical and could lead to failure.

From this definition we started the analysis of the business models underpinning business incubation in order to derive a functional model and metrics that could facilitate the efficiency and effectiveness analysis of the process itself and not only of its results.

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