

The Key Successes of Incubators in Developed Countries: Comparative Study

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Abstract

The purpose of this paper is to describe and compare key dimension of the business incubation landscape in the United States. The comparison will focused on the five key dimensions which include incubators services provided by incubators to client firms, strategic goals, incubators' sponsors, incubators age and incubators focus. The nature of this research is mainly qualitative. This investigation uses two semi-structured interviews based in the United States and organizational documents. The research findings suggest that there are three keys. The authors believe that, this paper presents an added value to the current literature on the key dimension of business incubation in the United States. Also the research will support the academia and practitioner for successful implementations and follow-up.

Keywords: Jobs creation, technology commercialization, entrepreneurship, incubators, economic growth.

1. Introduction

The National Business Incubation Association (NBIA) estimates that approximately 1,400 business incubation programs were operating in North America in 2011, up from 1,100 in 2006. United States has the oldest and largest incubation programs worldwide with dynamic focuses from public to private incubators. Mixed-use incubation programs continue to be the most type of incubator (54%) of North American incubators (NBIA, 2012). The importance of incubators in fostering young companies through weak phase (Aernoudt, 2002; Kuratko and LaFollette, 1986), employment creation and economic development strategy (Al-Mubarak and Busler, 2012a). The government is the main party in United States in supporting the incubators through the state economic development agencies and capital funds from the state's legislative allocation (Knopp, 2007).

The objectives of this paper is to describe and compare key dimension of the business incubation landscape in the United States the comparison will focused on the five key dimensions which include incubators services provided by incubators to client firms, strategic goals, incubators sponsors, incubators age and incubators focus. The structure of this paper is as follows: Section 2 provides a literature review of the business incubation (BI). In section 3, the research methodology included the evidence from the literature review and real two interview of business incubation program located in New York and New Jersey based in the United States. In section 4, the authors briefly discuss the finding of the study drawn from qualitative approaches of incubators. Section 5 concludes with implications of the incubators in developed countries.

2. Related Literature Review of Business Incubation

Many scholars' study discussed the incubators in Unites States. Allen and Rahman (1985) present the descriptive analysis about incubators physical services and survival rate 87%. In US, Fry (1987) discussed descriptive analysis of most incubators provide services and the incubator managers participate in the planning of the tenants. Allen and McCluskey (1990) present regression analysis about incubators significant impact on jobs created and firms graduated. Mian (1996a) indicated incubator services have added value contributions, and Mian (1996b) presents that the university incubator services have positive impact on growth and survival of tenant firms. Mian (1997) describes qualitative study indicated that the firm's survival and growth contributions to universities firms in all incubators. Peters, Rice and Sundararajan (2004) indicated the Graduation rates are higher in incubators that offer coaching and that provide an accessible networking. Rothaermel and Thursby (2005a) present the effect of a university link reduces the failure of start-up and extent the incubation period. Rothaermel and Thursby's (2005b) study finding state holding a license is important for firm survival but no contribution on other performance indicators.

Additionally, many comparative studies were done with respect to United States. Lee and Osteryoung (2004) present a study to compare between US and Korea. The difference between US and Korea in the role of incubators strategy and on the performance of the incubator. Studdard (2006) describes in the US and Finland, the effect of incubator manager interacting with new product development and technological competence. Gassmann and Becker (2006) indicate that in US and Europe the main benefits at the corporation of second phase from intangible and tacit knowledge coming from profit company support. Chandra (2007) presents a

study to compare between US, China and Brazil. The author indicated the strategic focus in US on the economic development, technology transfer and commercialization; China focused on the social mission and economic development with high technology focus; and Brazil focused on foster entrepreneurship, economic development, job creation, and technology commercialization.

Al-Mubarak and Busler (2010) indicated the SWOT analysis of each case study reflects the numerous strengths of each of the programs studied, while complying with the mission and objectives of the program, and shows great opportunity with the future plans and performance. The study finding that the incubator is part of a wider business economic development activity to be applied worldwide with great success. Business incubators are being used as economic development tools by nearly every country. The adaptation of business incubation leads to diverse economies, the commercialization of new technologies and jobs creation and wealth building.

Further study, Al-Mubarak and Busler (2012b) compared study between US and Brazil. The authors indicated six key dimensions of incubation models in the U.S. and Brazil: 1) Strategic focus: economic development, technology transfer, jobs creation, 2) Entrepreneurship: very active in both the U.S. and Brazil, 3) Incubators funding: the stakeholders are mainly the government, businesses and universities, 4) Incubators services: both countries provide tangible and intangible services, 5) Culture: in U.S. it is risk-taking whereas Brazil is risk-averse, and 6) Innovation: very active in both the U.S. and Brazil.

Additionally, Al-Mubarak and Wong (2012) discussed the twelve international case studies include US indicate that in order for business incubator to obtain sustainability of graduation companies are reliant upon: 1) clear incubator objectives, 2) incubators age, 3) ratio of client and graduate companies, and 4) employment rate. When accomplished, this can lead to a 90% survival rate of companies and reflects sustainability in the market. Therefore, incubators are an active tool for economic development, job creation, technology transfer and sustainable graduation success of entrepreneurs as well as expansion of existing companies.

3. Research Methodology

The United States sample included 2 incubators in 2 cities located in New Jersey and New York. Interviews were conducted with incubator managers and government representative in 2011. The interview instrument for the semi-structured, in-depth interviews was developed after a thorough literature review and revised after pilot interviews with incubators in the United States. The pilot interviews served as a pre-test for instrument validation and changes were made to the interview instrument based on the findings and comments. Two incubators in the United States were interviewed to serve as a baseline for the comparison provides for focused and systematic information collection, while allowing the interviewee to provide relevant contextual information appropriate to each case. For each incubator visited, the president, vice president, or director/manager was interviewed.

The United States interview design is based on the Radar Chart which consists of five dimensions: 1) incubators services, 2) strategic goals, 3) incubators sponsors, 4) incubators age, and 5) incubators focus. In addition, each group is measured by variables and each variable is rank-order independent variable [e.g., low (L, 60%), moderate (M, 80%), and high (H, 100%)].

4. Findings and Discussion

From the current literature, it is evident (see section 2 above) that the business incubation program as an active role in the employment to support the economic growth (Allen and Levine, 1986; Mian, 1997; Thierstein and Wilhelm, 2001; Roper, 1999) and technology commercialization and transfer (Mian, 1994; Phillips, 2002; McAdam and McAdam, 2008).

Chart 1 shows distribution of respondents by incubation manager. The results of four key dimensions are high 100%. However, sponsors of key dimension are described as medium dimension, 60%. Overall, the average of five key dimensions 92% this percentage indicated the positive impact of incubators in economic development and technology transfer. See Table 1.

The Chart 2, Rutgers University Food Innovation Centre shows the responses of interview. The four key dimensions include incubators goals, services, incubators age and incubators focuses are high dimension 100%. Only the incubators' sponsors described medium dimension 80%. The average of five key dimensions 96%. This interview indicated that incubators are tools for economic development and technology transfer and commercialization. See Table 2.

Table 3 summarizes the differences between incubators programs based on five key dimensions. The two interviews are same in the key dimensions: 1) incubators services are tangible and intangible, 2) incubators goals includes creating jobs for local community, fostering community's entrepreneurial climate, accelerating growth of local industry, diversifying local economies and commercializing technology, 3) incubators sponsored by governments, 4) old establishment for incubators as an age, and 5) incubators focus on the transfer of technology and economic development.

5. Conclusion and Reflection

The following general conclusions can be drawn from the previous overview of the findings:

- 1- Incubators' services: both incubators programs provide tangible and intangible services.
- 2- Incubators' goals: both incubators programs objectives are creating jobs for local community, fostering community's entrepreneurial climate, accelerating growth of local industry, diversifying local economies and commercializing technology.
- 3- Incubators sponsored: both incubators programs sponsors by governments.
- 4- Incubators' Age: both incubators programs are old establishment for incubators.
- 5- Incubators' focus: both incubators programs are focuses on the transfer of technology and economic development.

In conclusion, incubators play an active role in supporting the economic growth and technology commercialization and transfer. Authors aim to conduct future research analysing incubators case studies from developed and developing countries for policy implication worldwide.

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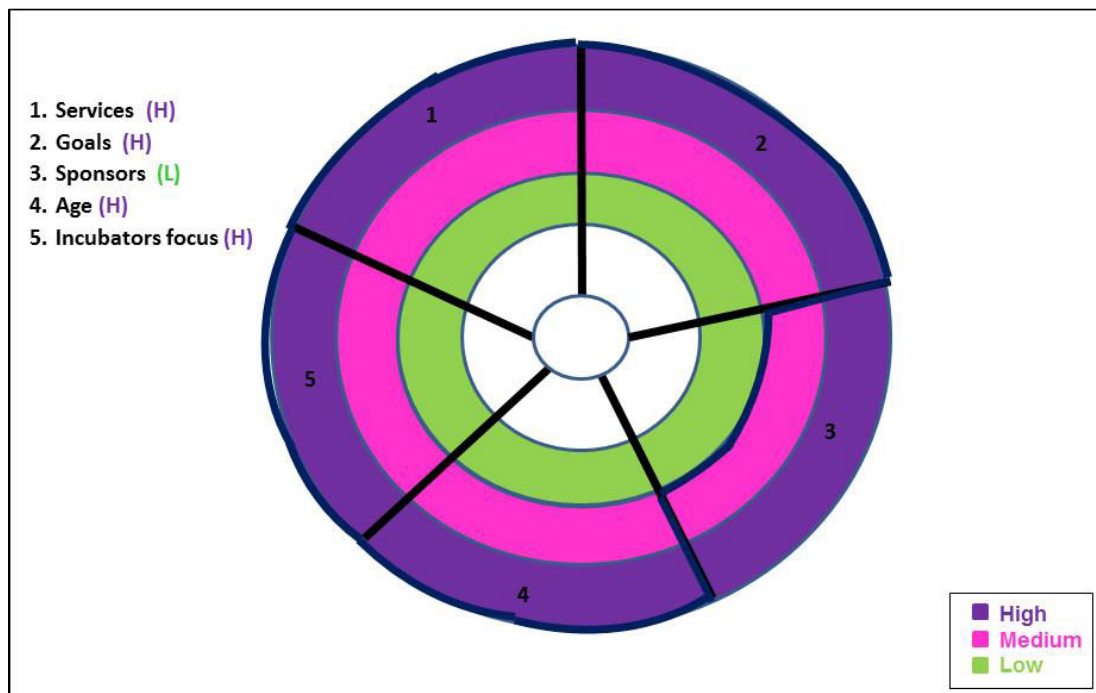


Chart 1: Radar chart of Long Island High Technology Incubator, NY, US

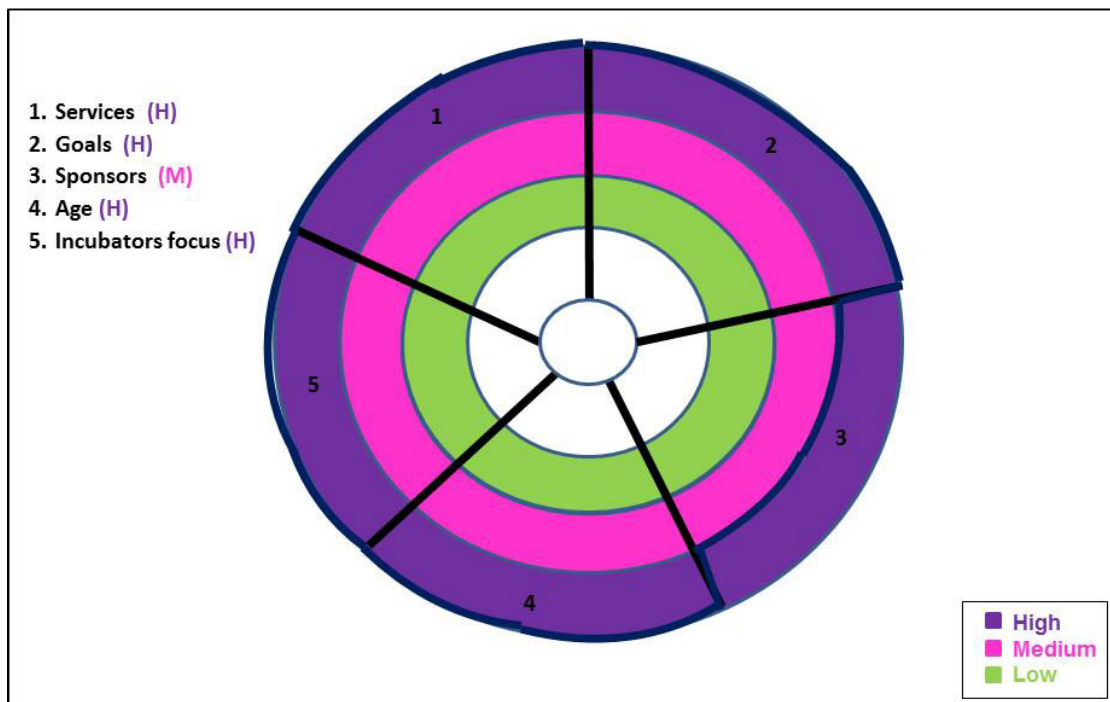


Chart 2: Radar chart of Rutgers University Food Innovation Centre, NJ, USA

Table 1. Interview results of Long Island High Technology Incubator, NY, US

Key indicators	High (100%)	Medium (80%)	Low (60%)
1. Services (H)	100		
2. Goals (H)	100		
3. Sponsors (L)			60
4. Age (H)	100		
5. Incubators focus (H)	100		
Average	92%		

Table 2. Interview results of Rutgers University Food Innovation Centre, NJ, US

Key indicators	High (100%)	Medium (80%)	Low (60%)
1. Services (H)	100		
2. Goals (H)	100		
3. Sponsors (M)		80	
4. Age (H)	100		
5. Incubators focus (H)	100		
Average	96 %		

Table 3. Summary of comparison between two incubators programs

Key indicators	Case 1	Case 2
Services	Tangible and intangible	Tangible and intangible
Goals	Creating jobs for local community, fostering community's entrepreneurial climate, accelerating growth of local industry, diversifying local economies, commercializing technologies	Creating jobs for local community, fostering community's entrepreneurial climate, accelerating growth of local industry, diversifying local economies, commercializing technologies
Sponsors	Governments	Governments
Age	Old establishment	Old establishment
Incubators focus	Transfer of technology, economic development	Transfer of technology, economic development

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