

Categories of incubator success: a case study of three New York incubator programmes

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Abstract

Purpose – The purpose of this paper is to investigate and identify three categories of incubators in the USA located in New York (NY). The incubator categories are: technology commercialisation; economic development; and entrepreneurship.

Design/methodology/approach – The study uses a qualitative approach based on interviews concerning three incubator programmes selected for their successful outcomes.

Findings – The research findings suggest four priorities for incubators: to be dynamic models of self-sustainable, efficient business development; to provide helpful tools for generating jobs; to foster and support enterprise and innovation to create the best environment for the start-up and smart growth of businesses; and to support value-added businesses through various means, such as developing the region's science parks and R&D centres, improving collaboration between universities, and supporting business investment and growth.

Originality/value – The research adds value to academicians and practitioners such as government, funded organisations, institutions and policy makers.

Keywords Economic development, Entrepreneurship, Incubators, Technology commercialization, New York, Business growth

Paper type Research paper

Introduction

In developed and developing countries, there are more than 7,000 incubation programmes worldwide engaged in supporting the development of new high-growth businesses (EDA, 2011; Monkman, 2010). Several research studies on incubators have been undertaken, particularly in the USA and other countries worldwide (Temali and Campbell, 1984; Allen and Rahman, 1985; Plosila and Allen, 1985; Campbell *et al.*, 1985; Brooks, 1986; Fry, 1987; Merrifield, 1987; Smilor, 1987; Hisrich, 1988; Campbell, 1989; Allen and McCluskey, 1990; Mian, 1994b; Culp, 1996; Mian, 1996a, b, 1997; Autio and

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Kloftsen, 1998; Thierstein and Wilhelm, 2001; Colombo and Delmastro, 2002; Hsu *et al.*, 2003; Abetti, 2004; Pena, 2004; Lee and Osteryoung, 2004; Peters *et al.*, 2004; Rothschild and Darr, 2005; Etzkowitz *et al.*, 2005; Totterman and Sten, 2005; Chan and Lau, 2005; Rothaermel and Thursby, 2005a,b; Wynarczyk and Raine, 2005; von Zedwitz and Grimaldi, 2006; Kim and Ames, 2006; Studdard, 2006; Gassmann and Becker, 2006; Chandra *et al.*, 2007; Aerts *et al.*, 2007; Hytti and Maki, 2007; Hughes *et al.*, 2007; McAdam and Marlow, 2007; Akçomak and Taymaz, 2007; McAdam and McAdam, 2008; Schwartz and Hornych, 2008; Chandra and Fealey, 2009; Akçomak, 2009; Atherton and Hannon, 2006; Schwartz, 2009; Voisey *et al.*, 2006; Monkman, 2010; Al-Mubarakhi and Busler, 2012a, b, c, d, e; Al-Mubarakhi *et al.*, 2014; Al-Mubarakhi and Schrödl, 2012a, b). Business incubators act as an economic strategy to develop new and emerging social and economic opportunities in the growth and commercialisation of new products, new processes and new business models. The strategic benefits and objectives lead to several elements such as creativity, innovation and entrepreneurship with respect to business incubation models (Joseph, 2009; Allen and Levine, 1986; Roper, 1999). Furthermore, many studies have identified the successes of incubators and the fact that they support new venture creation and add value (Culp, 1996; Lumpkin and Ireland, 1988; Merrifield, 1987; Kuratko and LaFollette, 1987; Bearse, 1998; Mian, 1994a, 1997; Phillips, 2002; McAdam and McAdam, 2008).

This paper is structured as follows: the next section provides a thorough review of the literature on the details of incubators. The research methodology section follows, including the successful interviews describing three categories of incubators in the USA: economy development, technology commercialisation and entrepreneurship. This is followed by a brief discussion of the findings of the study drawn from the analysis of US incubator programmes. The final section presents a conclusion based on the study's discussion and results.

Review of the literature

Al-Mubarakhi and Busler (2010a) indicated that business incubators contribute to the international economy and play a vital role not only in the economic recovery but also in economic development. International adaptation leads to the support of diverse economies, the commercialisation of new technologies, jobs creation and wealth building. Al-Mubarakhi and Busler (2010b) stated that business incubators are being used as economic development tools by nearly every country. This study identified the strengths, weaknesses, opportunities and threats (see Figure 1).

Al-Mubarakhi and Busler (2011a) indicated four priorities; first, business and technological incubators have considerable potential for contributing to economic development, as demonstrated by evidence of job creation, enhanced firm survival rates and increased technological innovation. Second, apart from the role of the impact of business incubators, contextual factors may also play an important role. From the studies conducted in the USA, it can be argued that business incubation may only have a significant impact on economic development if it occurs in the context of broader economic reforms and investment in infrastructure, led by governments. Third, some of the aspects and activities of business and technology incubators can hinder rather than promote economic development, for example, by promoting an approach which is too academic, or by creating industrial or geographical clusters of firms rather than the diversification which may be needed for healthy economic growth. Fourth, the role of business and technology incubators in generating social and intellectual capital and the impact of these forms of capital on economic development are hard to measure, largely

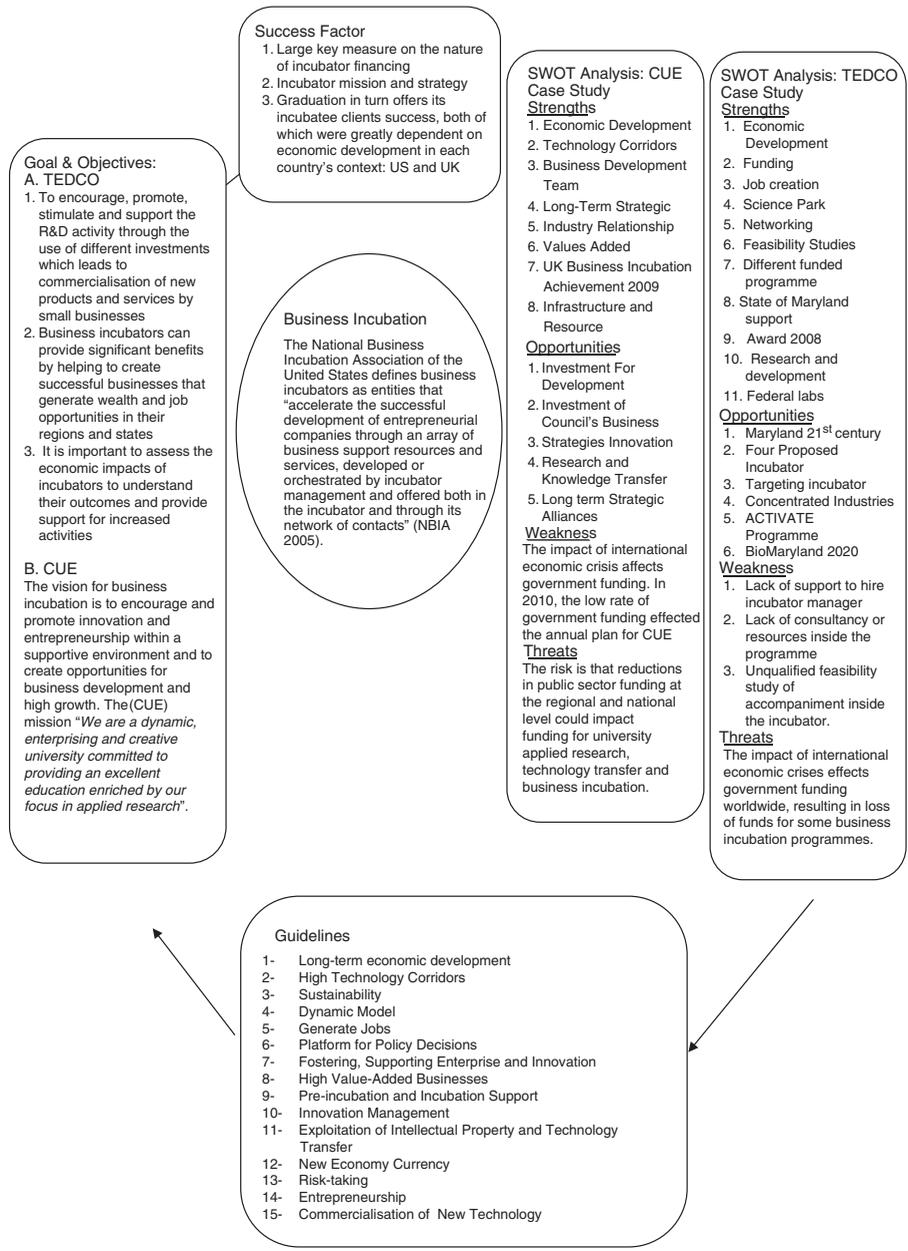


Figure 1.
SWOT result

due to the difficulties of even defining these forms of capital; moreover, the available research evidence in this area is very limited.

Another study by Al-Mubarak and Busler (2011b) identifies the strengths of the European case studies as: to support economic development by creating new jobs; to accelerate the modernisation and diversification of the region's economy; to foster and

support enterprise that creates the best environment for businesses to start up; to invest time and effort long-term to strengthen the relationships between academia and industry; to provide networking opportunities between academia and industry to collaborate for mutual benefit; and to commercialise knowledge and build relationships that give value to new economies.

In their study, Al-Mubarak and Schrödl (2012b) proposed a measurement model concerning the international context. The four measured indicators are: graduation of businesses incubated, success of businesses incubated, jobs created by incubation and salaries paid by incubator clients. The recommendations from the study could be of help in developing business incubation guidelines for best practice in GCC, which leads the economic development worldwide. Al-Mubarak and Busler (2012a) concluded that incubators or innovations are a vital tool for technology transfer, jobs creation, entrepreneurship and the commercialisation of technology.

Recently, Al-Mubarak and Busler (2013) discussed a best-practice model based on the lessons learned from quantitative and qualitative approaches of incubators, including five international case studies and survey findings indicating that in order for business incubators to be inclusive and create smart, sustainable growth, they should follow certain criteria:

- (1) clear incubator goals can increase the rate of graduation companies from incubation programmes;
- (2) high survival rate of companies ranged at 81-90 per cent; this percentage leads to the sustainability of companies in the market;
- (3) high rate of employment creation leads to economic development; and
- (4) active role of cooperation of R&D contributes positively on technology transfer and increment in the rate of patents.

Methodology

The research was undertaken using an in-depth literature review and interview as part of a qualitative research strategy. The three interviews were undertaken with the directors of each incubation programme as listed in Table I, which includes the location of the incubators in New York City, USA. In addition, the in-depth interview used a radar chart including three categories: technology commercialisation, economic development and entrepreneurship. Each category was measured on three key

| No. | Institute | Web site | Contact details |
|-----|--|---|---|
| 1 | Entrepreneurship Space-Mi Kitchen es su Kitchen | www.mikitchenessukitchen.com | Kathrine Gregory founder and director, Mi Kitchen es su Kitchen, NY, USA |
| 2 | New York University (NYU) Incubator | http://w4.stern.nyu.edu/berkley/student.cfm?doc_id=2494 | Micah Kotch Director of Operations, NYU Incubator, Brooklyn, NY, USA |
| 3 | Stony Brook University Office of the VP for Research | www.lihti.org/ | Dr Ann-Marie Scheidt Stony Chair, Tenant Selection Committee Brook Univ Office of the VP for Research, Stony Brook, NY, USA |

Table I.
US interview
developed by
the author

indicators, and each indicator is a rank-order independent variable (e.g. low (L, 60 per cent), moderate (M, 80 per cent), and high (H, 100 per cent)).

During the interview with the director of the first case: “Entrepreneurship Space-Mi Kitchen es su Kitchen”, the answer for categories included the following: technology commercialisation – high; economic development – high; entrepreneurship – high (see Figure 2). The second interview, with the director of “New York University (NYU) Incubator”, produced high answers for the three categories (see Figure 2). Finally, the third interview, with the vice president of “Stony Brook University”, produced high answers for three categories (see Figure 2).

Findings

According to Table II, the scales of the three categories were high (H) 100 per cent for technology commercialisation, economic development and entrepreneurship. The results of average indicators of entrepreneurship for Space-Mi Kitchen es su Kitchen, NY, USA, were high (H).

In Table III, the scales of technology commercialisation, economic development and entrepreneurship were high (H), 100 per cent. The results of the average indicators of Stony Brook University, NY, USA were high (H).

As shown in Table IV, the scales of three categories were high (H) 100 per cent, including technology commercialisation, economic development and entrepreneurship. The results of average indicators for NYU Incubator, NY, USA, were high (H).

These findings show the positive outcomes from incubators as value added to the USA, specifically to New York.

Summary and conclusions

The following general conclusions can be drawn from the an overview of the findings of three US interviews concerning business incubation programmes including

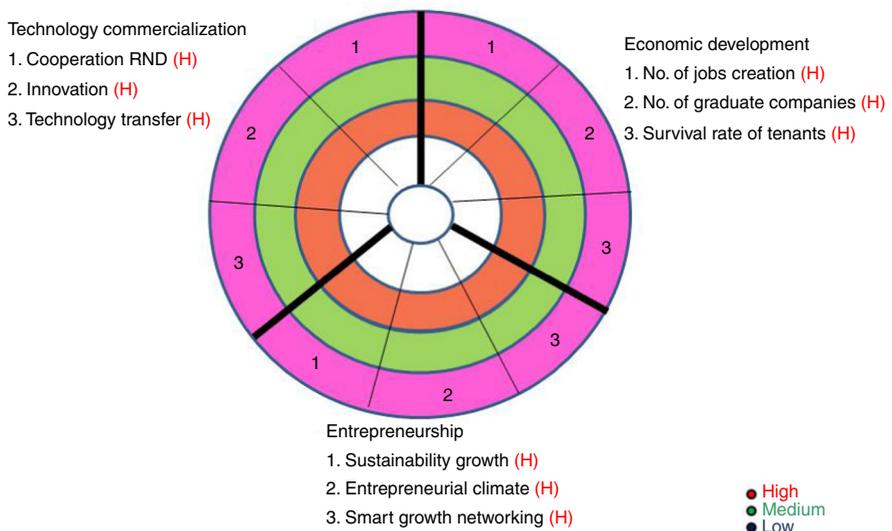


Figure 2. Radar chart of Entrepreneurship Space-Mi Kitchen es su Kitchen; NYU Incubator; and Story Brook University office of the VP for research, NY, USA

Table II.
Result of average
indicators of
Entrepreneurship
Space-Mi Kitchen
es su Kitchen, NY,
USA

| Key indicators | Categories | Scale | | | Indicators (%) | Average (%) ^a |
|---------------------------|-------------------|----------------|-----------------|--------------|-------------------|-----------------------------|
| | | High (100%) | Medium (80%) | Low (60%) | | |
| Cooperation RND | Technology | 100 | | | 100 | |
| Innovation | commercialisation | 100 | | | 100 | 100 |
| Technology transfer | | 100 | | | 100 | |
| No. of jobs creation | Economic | 100 | | | 100 | |
| No. of graduate companies | development | 100 | | | 100 | 100 |
| Survival rate of tenants | | 100 | | | 100 | |
| Sustainability growth | Entrepreneurship | 100 | | | 100 | 100 |
| Entrepreneurial climate | | 100 | | | 100 | |
| Smart growth networking | | 100 | | | 100 | |
| Average ^b | | | H | | | 100 |

Notes: ^aSum of indicators in each categories divided by 3; ^bsum of average categories divided by 3 (key indicators)

| Key indicators | Categories | Scale | | | Indicators (%) | Average (%) ^a |
|---------------------------|-------------------|----------------|-----------------|--------------|-------------------|-----------------------------|
| | | High (100%) | Medium (80%) | Low (60%) | | |
| Cooperation RND | Technology | 100 | | | 100 | 100 |
| Innovation | commercialisation | 100 | | | 100 | |
| Technology transfer | | 100 | | | 100 | |
| No. of jobs creation | Economic | 100 | | | 100 | 100 |
| No. of graduate companies | development | 100 | | | 100 | |
| Survival rate of tenants | | 100 | | | 100 | |
| Sustainability growth | Entrepreneurship | 100 | | | 100 | 100 |
| Entrepreneurial climate | | 100 | | | 100 | |
| Smart growth networking | | 100 | | | 100 | |
| Average ^b | | | H | | | 100 |

Table III.
Result of average
indicators of Stony
Brook University
office of the VP for
research, NY, USA

Notes: ^aSum of indicators in each categories divided by 3; ^bsum of average categories divided by 3 (key indicators)

| Key indicators | Categories | Scale | | | Indicators (%) | Average (%) ^a |
|---------------------------|-------------------|----------------|-----------------|--------------|-------------------|-----------------------------|
| | | High (100%) | Medium (80%) | Low (60%) | | |
| Cooperation RND | Technology | 100 | | | 100 | 100 |
| Innovation | commercialisation | 100 | | | 100 | |
| Technology transfer | | 100 | | | 100 | |
| No. of jobs creation | Economic | 100 | | | 100 | 100 |
| No. of graduate companies | development | 100 | | | 100 | |
| Survival rate of tenants | | 100 | | | 100 | |
| Sustainability growth | Entrepreneurship | 100 | | | 100 | 100 |
| Entrepreneurial climate | | 100 | | | 100 | |
| Smart growth networking | | 100 | | | 100 | |
| Average ^b | | | H | | | 100 |

Table IV.
Result of average
indicators of NYU
Incubator, NY, USA

Notes: ^aSum of indicators in each categories divided by 3; ^bsum of average categories divided by 3 (key indicators)

Entrepreneurship Space-Mi Kitchen es su Kitchen, Stony Brook University and NYU Incubator, located in New York:

- (1) the high economic development indicated a high survival rate of tenants, a high number of jobs created and graduate companies which lead to a positive impact of incubators as a vital tool for economic development;
- (2) the high technological commercialisation indicated high cooperation of research and development, high innovation and successful technology transfer; and
- (3) the high entrepreneurship fosters the entrepreneurial climate, leading to high sustainability and smart growth.

Based on the above, it can be concluded that the average of the three categories, including economic development, technology commercialisation and entrepreneurship indicates that the incubators act as:

- (1) a dynamic model of self-sustainable, efficient business development;
- (2) a helpful tool to generate jobs;
- (3) a method of fostering and supporting enterprise and innovation to create the best environment for the growth of businesses, both at start-up and to accelerate smart growth; and
- (4) high contributors that add value to businesses by developing the region's science parks and R&D centres, improving collaboration between universities and supporting business investment and growth.

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