The road map of international business incubation performance

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ABSTRACT

The purpose of this paper is to discuss and analyze the best practices of successful incubators program. It will focus on six key performances, namely, 1) incubator goals, 2) incubator types, 3) incubator year of foundation, 4) services offered by the incubation management, 5) client firms, and 6) graduated firms. To achieve the aim, the research methodology used the quantities and qualitative approach consisting of 375 survey and multiple case studies. Specifically, 30 case studies were conducted and data was mainly collected through electronic survey and organisational documents. The five strategic outcomes of the research findings are: 1) entrepreneurial climate (62%), 2) commercialization technologies (55.5%), 3) employment (51.6%), 4) innovation (46.1%), and 5) diversifying local economies (46.1%). The research adds value to current literature on sustainability of incubators, and outcomes. This study adds new and useful knowledge for both academics and practitioners who are interested in the incubators best practices.

Keywords: Incubators, Innovation, Sustainability, Employment, Economic development

INTRODUCTION

Incubation originating in the United States over 50 years ago, worldwide incubation programs now includes over 7,000 incubators (Monkman, 2010). "The first business incubator, a privately owned for-profit centre, was started in Batavia, New York in 1959" (Brown, 2000). "The concept of business incubators took off slowly with universities becoming the breeding ground for such development for the next twenty years" (Smilor and Gill, 1986).

The goals of business incubation program are (quoted from NBIA, 2006; Al-Mubaraki, and Busler, 2011a):

1) economic development,
2) innovation,
3) venture creation,
4) technology transfer,
5) technology commercialization,
6) increases in new firm formation,
7) creation of new and sustainable jobs,
8) acceleration of business growth/development of fast-track companies,
9) reduction in the failure rate of new enterprises,
10) creating value for stakeholders,
11) empowerment/opportunities for specific groups of entrepreneurs, and
12) development of an entrepreneurial culture

The objective of this paper is to discuss and analyze the best practices of successful implementation of incubator program. It will focus on six key performances, namely, 1) incubator goals, 2) incubator types, 3) incubator year of foundation, 4) services offered by the incubation management, 5) client firms, and 6) graduated companies.

The paper is structured as follows: Section 2 provides a thorough review of the literature on incubator best practice, and section 3 includes research methodology. In section 4 the authors provide the survey results and in section 5 briefly discuss the 30 successful case studies to illustrate different key performance such as value added incubators. Section 6 concludes with implications of the incubators outcomes from successful countries.

LITERATURE REVIEW RELATED TO INCUBATION BEST PRACTICE

"An incubator is a place where the incubation activities are carried out, and where the would-be entrepreneurs and the existing SMEs find a suitable place, in terms of facilities and expertise, to address their needs and develop their business ideas, and transforms them into sustainable realities" (http://www.gnss-in-eu-regions.info). Business incubation outcomes can be identified as follows: (1) jobs creation as effective tools for creating self-employment and used to develop innovation, transfer technology, and impart an entrepreneurial spirit (Allen and Levine, 1986; Mian, 1997; Thierstein and Wilhelm, 2001; Roper, 1999; Al-Mubaraki, 2008). (2) Fostering a community's entrepreneurial climate for flexibility and adaptability in a wide range of contexts networks and places of communication to making them effective in numerous renewals (Allen and Rahman, 1985; Smilor and Gill, 1986; Allen and McCluskey, 1990; Mian, 1996). (3) Business creation and retention also can be used to develop international networks of small and medium-sized

companies (Campbell, 1989; Petree, 1997). (4) Financial model used for economic development this measured by the number of job created per year and the number of companies in the market.

Although, National Business Incubation Association (NBIA, 2010) estimates that there are now more than 7,000 business incubators worldwide and it is expected that number will grow as other nations also are looking in to business incubators as a way to stimulate economic growth (Monkman, 2010). There are more than 1000 incubators in Asia (European Commission Enterprise Directorate General, 2002; Lalkaka and Bishop, 1996; Lalkaka, 2003).

In Europe, many organizations are playing significant role in supporting business incubators, for example, United Kingdom Business Incubation (UKBI). There are more than 300 business incubation programs operated in UK and directly support 12,000 companies while 40,000 additional firms experience indirect benefits from this support (NESTA, 2010). In addition, the business incubators in the UK creating more than 50,000 jobs (NESTA 2010). Furthermore, the German Incubation Association of Technology (ADT, 2010) reveals that Germany currently has approximately 7,500 clients companies within its approximately 350 incubators. These firms have created about 56,000 jobs. Germany's 9,000 graduate firms also employ 90,000 people – not including people hired after these firms have graduated from the incubator programs (ADT, 2010).

In United States, White House (2010) indicated that 21st century will be shaped and built by technologies and innovation because the innovation will create new jobs and catalyze broadly shared economic growth. The strategy for American innovation consists of three parts: (1) to invest in the building blocks of American innovation and to ensure that the economic tools for successful innovation from research and development to transfer of those innovations, (2) to promote competitive markets that spur productive entrepreneurship to allow companies to be internationally competitive in innovation, and (3) to catalyze breakthroughs for national priorities. This is evidence that innovation and technology transfer are the goals of business incubation programs.

Al-Mubaraki and Busler (2010) discussed the comparative study between USA and UK using the identification of the strength, weakness, opportunity, and treat (S.W.O.T) analysis of three practical European business incubations on their adoption as case study, for example, the United Kingdom, France, and Germany. The finding of the study states the 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 commercialization of new technologies, jobs creation, and wealth building. In another study, Al-Mubaraki and Busler, (2011b) presents the identification of the strengths, weaknesses, opportunities and threats of business incubators in European countries. Al-Mubaraki and Busler (2011c) indicated the business incubation is value added and powerful tool for economic development business incubation supporting services and business assistance, e.g. the quality of technology support, range of business assistance, training of interveners, and access to capital also, business incubation provides entrepreneurs with expertise, networks and tools that they need to make their ventures successful.

Al-Mubaraki and Wong (2011) presented the examination of the accomplishment of ten incubators using four indicators cited by researchers and incubator managers as important measures of incubator performance. Also, discussed the several reasons about some incubators perform better than others. Al-Mubaraki and Busler (2011d) examined 10 case studies of incubators in developing countries. "The findings of this study indicate the incubators are an effective and innovative tool in supporting the startup businesses". In another study finding, Al-Mubaraki and Busler (2011e) indicated that the business incubation is tool for economic

development based on the authors' economic indicator from incubation outcomes such as 1) entrepreneurs, 2) companies created, 3) jobs created, and 4) incubator companies.

Al-Mubaraki and Schrödl (2011) discussed the effectiveness of business incubators individually and as an industry. The study findings present the recommendation for future implementation from different perspectives. Al-Mubaraki and Busler (2011f) have highlighted the importance of incubators as the innovation, entrepreneurship, job creation are based on the incubators and success tool of economic development and also, identified the guidelines from best practice of differences countries. Al-Mubaraki and Busler (2011g) critically reviews, identifies and analyzes the literature related to the strategic benefits of business incubators (BI), the examination of the importance and the benefits of BI are 1) economic development, 2) technology commercialization, 3) entrepreneurship, 4) job creation, and 5) the pace of innovation. The findings indicate that the potential applications of business incubators include promoting the establishment and long term survival of new ventures that will likely lead to a significant increase in job creation as well as promoting a climate of innovation and entrepreneurial spirit.

RESEARCH METHODOLOGIES

This study concentrates on a specific context, i.e. the incubators best practice, making the case study method most appropriate. The investigation and analysis of literature is an accepted form of desk based research that compares the works of different authors (Hart, 1998). This type of approach is closely linked to mixed methods approach quantitative (survey) and qualitative (multi-case studies, literature review). This approach allows a broader assessment of a particular and real situation (Yin, 2004). "The case study allows researchers to gain an in-depth understanding of the phenomenon under investigation" (Yin, 2009). "Furthermore, it provides both an understanding of the research context and a rich insight into the issue being examined" (Eisenhardt, 1989; Yin, 1994).

SURVEY RESULTS

The survey questionnaire was intended to provide quantifiable information on the characteristics of business incubators around the world, including age of incubators, client catchment areas and location of incubators, primary functions and priority goals, sponsoring entities and stakeholders and client performance. The case studies were intended to collect more in-depth information about the operation and incubator outcomes such as innovation, entrepreneurship and job creation by drawing on the views and experiences of best practice. Of the 375 survey invitations that were emailed to NBIA members and nonmembers with total number of survey responses was 131, representing a response rate of about 35 percent. The descriptive analysis was used to analysis suvey qustion.

The incubators year of foundation result presented that the total of 128 respondents provided information on the time period when their incubator was founded. More than half (68%) had been founded in the period since 2001 to 2010 and less than half (22.7%) founded between 1991 and 2000. The percent of incubators founded before year 1990 (10.2%). The results indicated that the highest number of incubators is well established in between 2001 to 2010. See figure 1 (Appendix I).

Incubators type result presented that the highest percentage of business incubation type is technology incubators (58.6%), the percentage of mixed used incubators (44.5%), and less than quarter (6.3%) presented the type of service and manufacturing incubators. However, very few 3.9% indicated other incubators. Overall, the highest incubators type was technology which leads to technology commercialization and transfer. See figure 2 (Appendix II).

Incubators size result indicated the total of 127 respondents answered this question, of which present less than half (48%) were the incubators size between 10,000 to 39,000 square feet, less than 9999 square feet (35%), and few (11%) indicated the incubators size between 40,000-50,000. The results indicated medium size of incubators (10,000-39,000) square feet will be the appropriate size in most of incubation programs. See figure 3 (Appendix III).

Incubators goals result indicated that more than half (62%) indicated that the primary incubators goal was entrepreneurial climate. This is followed by commercialization technologies (55.5%), employment (51.6%), and innovation and diversifying local economies (46.1%). Overall, the highest incubators goals were entrepreneurial climate which effect on the smart growth. See figure 4 (Appendix IV).

Incubators ranking result presented the total of 128 respondents answered this question. Less than half (47%) indicated medium known incubators ranking, 33.6% presented well known incubators ranking, and (19.5%) less known incubators ranking. Overall, the result of incubators ranking which reflect the value of incubators as a tool for economic development supporting the jobs creation per year. See figure 5 (Appendix V).

CASE STUDY RESULTS

Table 1 shows the key performance variable of the case studies included country case with the many six key performance variables such as 1) incubator goals, 2) incubator types, 3) incubator year of foundation, 4) services offered by the incubation management, 5) client firms, and 6) graduated firms. The countries case studies presented here underscore the gools of the incubators in entrepreneurship, job creation, commercializing technology and technology transfer. In addition, many services offered by the incubators such as facility, finance, advisory services, mentoring, networking, strategic partners, technology transfer and commercializing technology. Overall, the incubators can be act as a tool for economic growth based on the number of graduated and client firm per year.

Table 1: Key performance variable of the case studies
(Source: Al-Mubaraki and Wong, 2011; IDISC, 2011)

Countries	Key performance (KP)					
	KP1	KP2	KP3	KP4	KP5	KP6
	Goals	Types	Services	Found-ation	No. of Client Firms	No. of Graduate Firms
USA	– Entrepreneur-ship awareness – Job creation – Commerc-	- Mixed technology - Academic - Private sector	-Incubators offered Facilities -Incubators offered Finance -Incubators	1998	99	32
UK				1994	105	111
France				1999	11	75
Germany				2002	10	6
Spain				1993	39	110

Portugal	ializing technology – Technology transfer – Export revenues – Profitable enterprises – Policy impact – Research commerc-ialization – Income generation – Entrepreneur-ship education	- Technology - Government - NGO	offered advisory services -Incubators offered mentoring or coaching -Incubation offered other international services -Incubators offered networking -Incubators offered technology transfer -Incubators offered commercializing technology	2005	17	2
Italy				1990	42	62
Netherland				2002	23	63
Luxemburg				1987	13	12
Belgium				2005	45	174
Sweden				2001	14	64
Poland				2001	15	5
Austria				1981	170	404
Bahrain				2003	35	30
Saudi Arabia 1				2009	6	0
Saudi Arabia 2				2008	12	0
United Arab Emirates 1				2010	0	0
United Arab Emirates 2				2009	0	0
Qatar				2008	0	0
Jordan				2004	6	3
Morocco				2005	8	4
Egypt 1				2003	90	0
Egypt 2				2006	10	0
Libyan Arab Jamahiriya				2008	0	0
Syrian Arabic Republic				2006	7	6
Iran 1				2008	75	0
Iran 2				2003	0	0
Iran 3				2004	31	10
Iran 4				2003	7	2
Iran 5				2004	129	1

CONCLUSIONS AND REFLECTION

It is well known that the business incubation program as a physical place for incubation activities are carried out and interaction of entrepreneurs in terms of valuable services to address their needs and develop their business ideas, and transform them into graduated companies. Business incubation outcomes have been identified from best practice of international countries which may include 1) jobs creation, 2) fostering a community's entrepreneurial climate, 3) business creation and retention, and 4) financial model. The authors in this paper have highlighted the importance of incubators best practices as a tool of the economic development.

This paper's results indicated that the adaption of incubators worldwide lead to five strategic outcomes such as 1) entrepreneurial climate 62%, 2) commercialization technologies 55.5%, 3) employment 51.6%, 4) innovation 46.1%, and, 5) diversifying local economies 46.1%.

In conclusion, the incubators are a vital tool for economic growth by supporting client and graduate firms as well as jobs creation. This is evident in developed and developing countries. In the future the authors are planning to comparative study between developed and developing countries.

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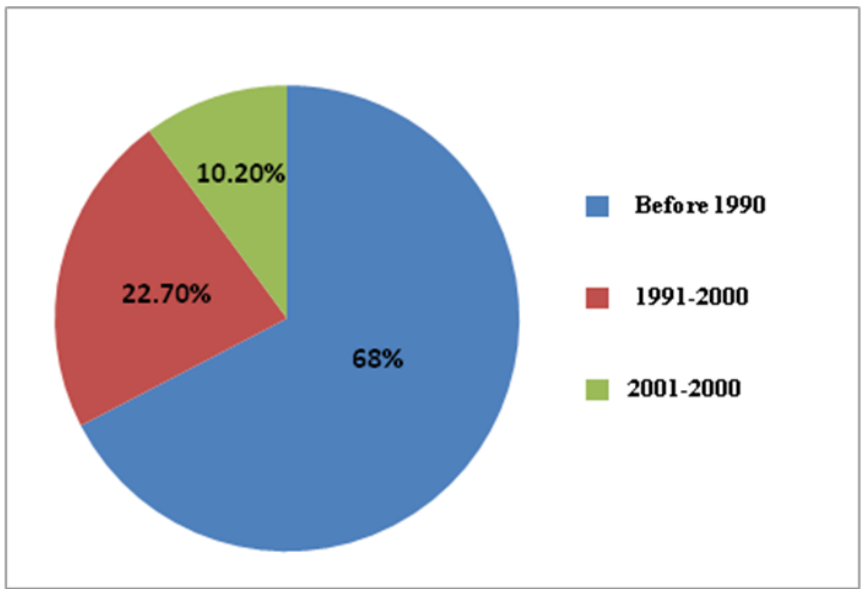
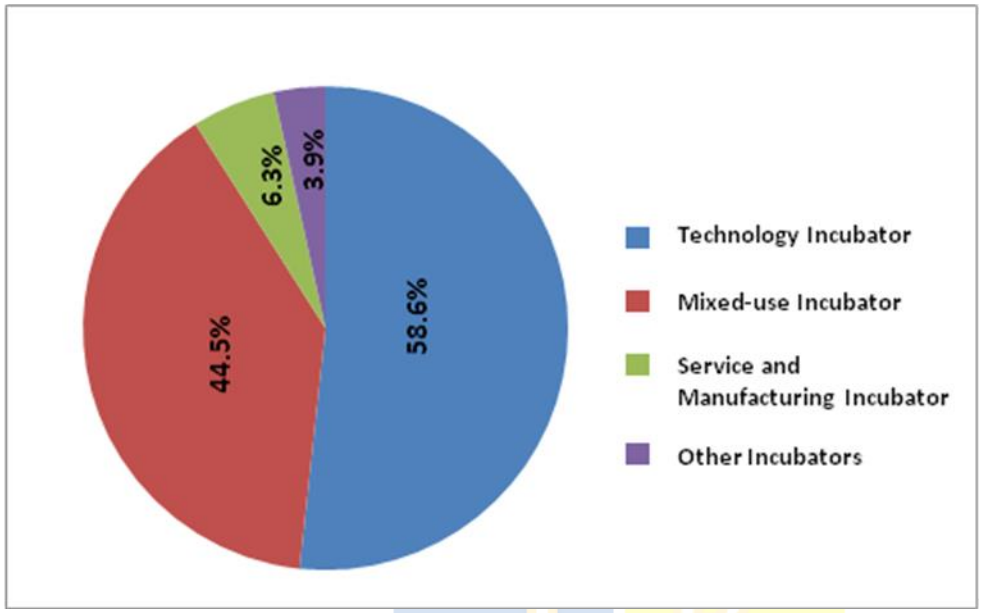
Appendix I

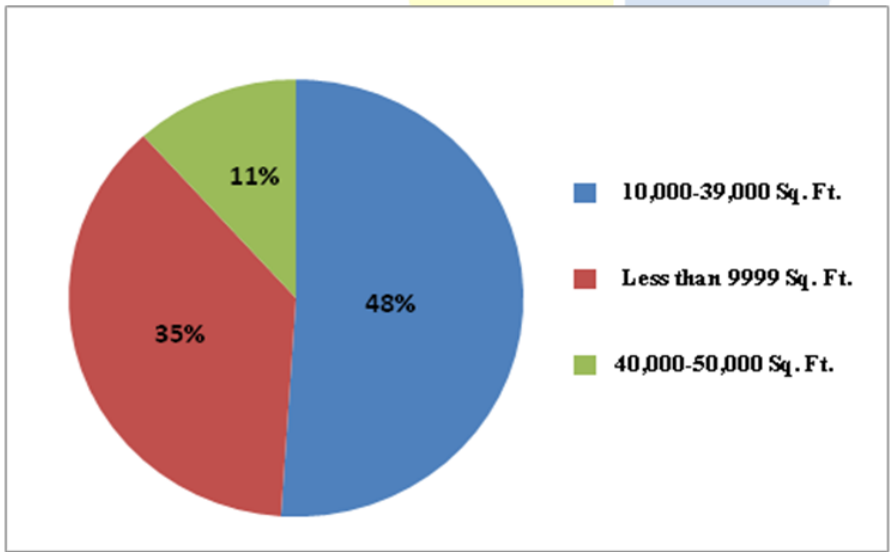
Figure 1: Age of Incubators



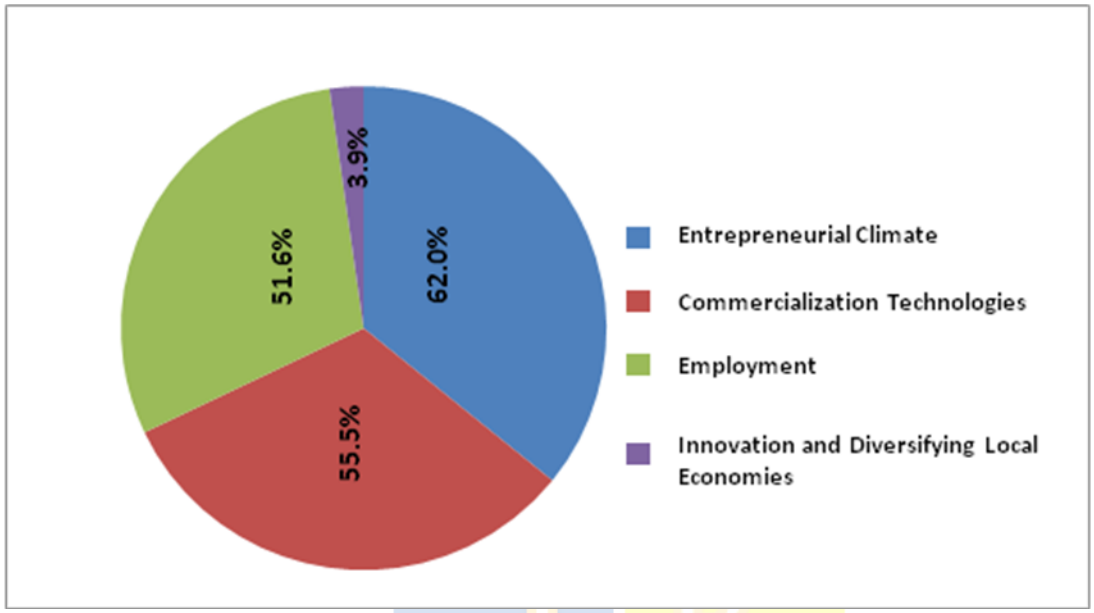
Appendix II
Figure 2: Type of Incubators



Appendix III
Figure 3: Size of Incubators



Appendix IV
Figure 4: Goals of Incubators



Appendix V
Figure 5: Rank of Incubators