



APPLICATION OF BUSINESS INCUBATORS IN EUROPE: A SWOT ANALYSIS

Hanadi Mubarak Al-Mubarak¹ Kuwait University, Kuwait

Michael Busler² Richard Stockton College, USA

Abstract This research identifies the strengths, weaknesses, opportunities and threats business incubators in Europe face. These identifications are based on examinations of international case studies in the United Kingdom, France, and Germany. These three countries contain approximately 83% of all the incubators located throughout Europe today, with a survival rate of 90%. There are approximately 300 incubators in the UK, 150 in France, and 300 in Germany with a cumulative total of more than 900 throughout Europe. Business incubators can contribute to the international economy and play a vital role not only in the economic recovery but also in economic development. Business incubators are physical locations that provide a defined set of services to individuals that include specific types of office space, flexible lease terms, access to technology, financing, and technical assistance. Today in the United States, there are 1800 business incubation programs known as business innovation centres. The National Business Incubation Association (NBIA) estimates that there are more than 7000 business incubators worldwide. Additionally, INFODEV—an arm of the World Bank Group—currently supports the work of 40 incubators with a success rate of 75-81 percent for companies, and the United Nations Industrial Development (UNDIO) oversees more than 500 incubator projects in developing and transitioning economies. Therefore, incubators play a critical role in promoting knowledge transfer, innovation, entrepreneurialism, employment, wealth creation, and economic development. The paper's conclusion provides guidance, suggestions and recommendations for business incubators to be successful in Europe based on S.W.O.T. analysis. This is the first time a S.W.O.T. analysis has been adapted for application of business incubations in Europe.

Keywords: *Business Incubators, Economic Development, Entrepreneurial, United Kingdom, France, Germany*

¹Email: pro5383526@yahoo.com

²Email: Michael.busler@stockton.edu

INTRODUCTION

Information for Development Program (Info Dev) (2009a), an arm of the World Bank Group, defines an incubator as a physical location that provides a defined set of services to individuals or small companies. This may include specific types of office space, flexible lease terms, access to technology, financing, and technical assistance, such as marketing, legal, finance, HR, and other business development services. By locating similar or complementary entities in proximity to each other, the incubator may also play a critical role in promoting knowledge transfer, both formally and informally.

Business incubation formally began in the US in the 1960s and later developed in the UK and Europe through various related forms, e.g. Innovation Centres, Technology/Science Parks. The use of business incubation has been recognized as a way of meeting a variety of economic and socio-economic policy needs which may include but are not necessarily limited to employment and wealth creation, support for small firms with high growth potential, transfer of technology, promotion of innovation,

enhancing relationships between universities, research institutions and the business community, industry cluster development, and assessment of a company's risk potential.

An Info Dev (2009b) report by the US Small Business Administration showed that 66 percent of new establishments in the US were still in existence 2 years after their birth, and 44 percent were still in existence 4 years after. Other analysts claim failure rates as high as 60 percent in the first five years and some suggest it may reach up to 80 percent. Although these rates remain controversial, it's broadly accepted that incubation programs can increase survival rates dramatically when programs are well-run and startups pay for services

Monkman (2010), President & CEO of NBIA, has been examining the best way to create new jobs to help turn around the struggling US economy. He believes that the most attractive option to create jobs in the US is through business incubators. He maintains that through incubators, entrepreneurs will be able to turn their ideas into viable businesses, promote innovation, and create jobs primarily because of

the business support services and resources tailored to increase young firms' chances to succeed.

NBIA (2010) defines business incubators as a way to nurture development of entrepreneurial companies, helping them survive and grow during the start-up period, when they are most vulnerable to failure. These programs provide their client companies with business support services and resources tailored to young firms. The most common goals of incubation programs are job creation in the community, enhancement of the community's entrepreneurial climate, retention of businesses, building or accelerating growth in a specific local industry, and economic diversification

Monkman (2010) has observed that (globally) entrepreneurs are playing an increasingly important role in transforming economies. Rather than relying solely on efforts to attract existing businesses from other locations, many communities are recognizing the need to help local residents build new businesses from the ground up assisted by business incubators. By focusing on developing a new generation of entrepreneurs, most of whom have ties to the local area, communities are

helping to build companies that will create jobs and spark economic growth in their region for years to come.

NBIA (2010) has identified three characteristics that distinguish a business incubator: (1) the program must have a mission to provide business assistance to early-stage companies; (2) it must have a staff that delivers and/or coordinates business assistance to client companies; and (3) it must be designed to lead companies to self-sufficiency. Companies usually stay in an incubation program for two to three years, although biotech firms, which often have a longer research and development cycle, sometimes spend more time in an incubator. Afterward, incubator clients graduate and move out of the incubator facility and, in many cases, into other local facilities which they lease, purchase, or build. To operate successful programs, the incubator's staff must expel clients that do not achieve specific benchmarks or who fail to meet other graduation criteria.

Thornton (2008) conducted a study for the US EDA which told a similar story about the success of business incubation programs as a means of creating jobs. The

report, "Construction Grants Program Impact Assessment Report," found that business incubators are an effective public-private approach that produces new jobs at a low cost. According to the study, for every \$10,000 in EDA funds invested in business incubation programs, an estimated 47 to 69 local jobs are generated. As a result, business incubators create jobs at a far lower cost than other EDA investments, such as roads and bridges, industrial parks, commercial buildings, and sewer and water projects. The Thornton study found that incubators provide up to 20 times more jobs than community infrastructure projects (e.g. water and sewer projects) at a federal cost per job of between \$126 and \$144, compared with between \$744 and \$6,972 for other infrastructure projects.

A recent Info Dev (2009b) report stated that the incubation concept has continued to produce companies that survive their first five years of operation in surprisingly high numbers (85%+). It continues to draw enthusiastic support from the economic development community and has been tested and found effective. Based on reports by the international incubator community, NBIA believes there are over

7,000 incubators worldwide.

The purpose of this paper is to identify the strengths, weaknesses, opportunities and threats business incubators in Europe face. These identifications are based on examinations of international case studies in the United Kingdom, France, and Germany.

The structure of the paper is as follows. Section 2 provides a thorough review of the literature on the European Model of business incubators and focuses on the UK, France, and Germany. These three countries contain approximately 83% of all the incubators located throughout Europe, with a survival rate of 90%. There are approximately 300 incubators in the UK, 150 in France, and 300 in Germany with a cumulative total of more than 900 throughout Europe. In Section 3, the Methodology uses three criteria to evaluate the European case studies: (1) the key measures of the nature of incubator financing, (2) incubator mission and strategy, and (3) graduation in-turn offers the incubator clients. In Section 4, S.W.O.T. Analysis of European Case Studies is done. Section 5 contains Guidelines and Recommendations based on the S.W.O.T. analysis for future

implantation of business incubations in Europe. Section 6 lists the Conclusions drawn after intensive S.W.O.T. analysis of European case studies.

EUROPEAN MODEL

Western Europe has a wide range of incubator models at varying stages in the process of developing networks within countries. The European Commission's Enterprise Directorate General undertook a mapping exercise with benchmarking of Business Incubators and compiled a database of all incubators in the EU Member States. There are currently thought to be about 900 business incubators (NBIA, 2010). A summary, Business Incubators in EU Member States is shown below in Table 1.

In Europe (CSES, 2002; Aernoudt, 2004), the business

incubation concept evolved gradually. The United Kingdom was one of the first countries to set up incubators in Europe. In 1975, British Steel formed a subsidiary, the British Steel Industry (BSI), to create jobs in steel closure areas. In Germany, the University of Berlin established the first incubator in 1983, aimed at facilitating the transfer of research findings to specific industries, and in 1985, France created its first incubator focusing on local economic development.

The first French incubator was set up in Evry in 1985. Its mission was to meet the physical needs of entrepreneurs as they launched their ventures. Over the next decade as the concept of incubators in France evolved, so did their management. Incubators are now headed by recognized and experienced professionals. At present, the Agence pour la Création

Table 1: Business Incubators in EU Member States

Country	Number	Country	Number
Austria	63	Italy	45
Belgium	13	Luxembourg	2
Denmark	7	Netherlands	6
France	192	Portugal	23
Finland	26	Sweden	39
Germany	300	Spain	38
Greece	7	United Kingdom	144
Ireland	6	TOTAL	911

source: CSES -2002

d'Entreprises (Agency for Enterprise Creation/APCE) accommodates an average of 3,200 companies for three-and-a half years. Approximately 900 companies are accommodated each year. Five years after having been launched, 10 percent of the companies have several employees. Today, incubators throughout the country service a broad range of projects from revitalizing urban environments to both low and high technology-oriented companies. Strategic analysis has shown that private and corporate investors in new incubators accounted for 30 percent of the market in 2005, indicating positive value added for the future when compared to 2000, when such investments were nonexistent (Albert, P., Bernasconi, M., & Gaynor, L., 2004).

In Germany, the Association of Technology and Business Incubator Centre estimates that there are over 300 innovation centres today (Aernoudt, 2004; EBN, 2009). They use the term "innovation centres" collectively to include business incubators as well as technology and innovation centres. As entities, they offer start-up advice, office space, technical and technologically-oriented services. Their mission is to support regional economic development contributing

to the revitalization of neglected areas; to help unemployed people foster entrepreneurship, and to promote the transfer of technology. Given these objectives, the incubators are non-profit centres. However, technology-oriented start-ups account for 77% of all companies in business incubators. Business incubation centres support approximately 1000 start-ups per year, with the average incubation period being 3 to 7 years. Additionally, the survival rate of graduates is reported to be 90%, which indicates a very high success rate.

France has 21% of the incubators in the EU Member States. However, only 50 of the 192 programs meet the 'minimum standard' (CSES, 2002). Germany has 33% of the incubators in the EU Member States and has Europe's largest business incubator association. Approximately 300 of the first technology centers were set up in the Western part of Germany during the early 1980s. The feature of German incubators is that they are linked mostly with universities and R&D institutes (CSES, 2002). UK has just 33% of the total with about 300 business incubation programs (EBN, 2009).

Concerning the European Business and Innovation Centre

Network (EBN, 2008, 2009), Business Incubation Centre (BIC) Observatory reports demonstrate the European model for all member levels. The network experienced an increase in the number of BICs which shows that the business and innovation support model is highly relevant, efficient, and always more embedded in the strategies of local economic development. The core focus is on all types of innovation, and BICs have demonstrated a high capability for adapting their models and their activities to them.

In the European model, with 25 years experience, the Business Innovation Center (BIC) (EBN, 2009) has become increasingly adequate and flexible enough to adapt itself to the changing surroundings while retaining the capability to remain up-front on the sphere of innovation. It is not by coincidence that large companies are showing more and more interest in the BIC model and are getting in touch with the network as a viable source of innovation detection. The average survival rate in Europe is 90%. The ratio between the number of tenant companies and total employment by tenants is approximately 1 to 6. In 2008, the average number of tenant companies in incubators

operated by BIC was 30 while the average employment within incubators was 155.

BIC (2009) reported in 2008 that the cost per job created, with BIC support was €10,839.59, which has doubled since 2005. Other value for money averages reflected in €100,000 to programs with BIC support for start-ups was 202; number of jobs created from BIC income was 963 and companies assisted with BIC income was 1028. The numbers also indicated an increase so that BICs are allocating more energy to high-tech sectors, such as energy, environment, and advanced materials.

Value for Money 2005 2006
2007 2008

According to NESTA (2010), more than 300 business incubation programs operate in the United Kingdom today. These programs directly support 12,000 companies while 40,000 additional firms experience indirect benefits from this support. Business incubators in the UK are credited with creating more than 50,000 jobs. Monkman (2010) has presented the figures for Germany from ADT, the German incubation association. The figures

reveal that Germany currently has approximately 7,500 clients within its approximate 300 incubators. These firms have created about 56,000 jobs. Germany's 9,000 graduate firms also employ 90,000 - not including people hired after these firms graduated from the incubator.

METHODOLOGY

The entire planning process follows a model cycle as a way of learning to conduct a case study more effectively. This cycle begins with (a) goals and objectives, (b) translating these goals and objectives into specific key success indicators, (c) assessing present and existing internal strengths and weaknesses, (d) assessing external opportunities and threats in relation to the goals and objectives, (e) providing guidelines and recommendation as a result of these

evaluations which again will reflect on the goals and objectives. To reinforce this cycle, the following diagram was frequently used:

Based on the planning cycle diagram of the research, we will demonstrate the goals and objectives of three case studies: UK, France, and Germany. Three criteria were used to evaluate the international case studies: (1) the key measures of the nature of incubator financing, (2) incubator mission and strategy, and (3) graduation in-turn offers its incubatee clients. All the criteria is dependent on the economic development of European countries. A S.W.O.T analysis will be used to analyze each case study depicting its strengths, weaknesses, opportunities, and threats. In conclusion, the S.W.O.T. analysis led to Guidelines & Recommendations for successful implementation.

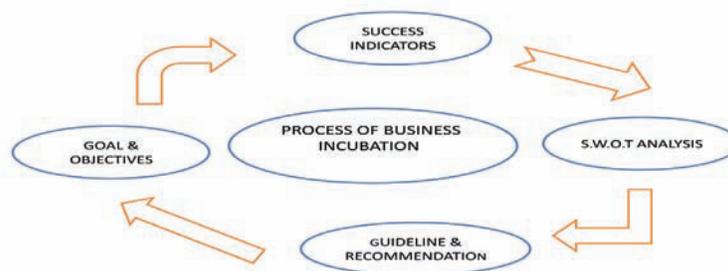


Figure 1: The planning cycle diagram of case studies was conducted over the two worldwide case studies: US & UK

Data was collected through structured interviews with incubator managing directors and case studies. The first case study was conducted at Coventry University Enterprise (CUE) in the United Kingdom, the largest university enterprise organization in Europe. The second case study is based on Promotech in France, and the third case study concentrates on Anwendungszentrum GmbH Oberpfaffenhofen (AZO) in Germany. As noted above, the criteria of evaluation in each case study are (a) incubator mission and strategic planning, (b) incubator finances, and (c) incubator graduation. Detail designed questions in each interview with the managing director of each program in the UK, France, and Germany as key personnel were used. Finally, a S.W.O.T analysis was done based on the interviews and case studies.

S.W.O.T. ANALYSIS OF EUROPEAN CASE STUDIES (UK, FRANCE, AND GERMANY)

United Kingdom Case Study: Coventry University Enterprise (CUE) Coventry University Enterprise's vision for business incubation is to encourage and promote innovation and entrepreneurship within a supportive environment and to create

opportunities for business development and high growth. CUEs mission states "We are a dynamic, enterprising and creative university committed to providing an excellent education enriched by our focus in applied research" (Winters, 2010a). As members of the European Business & Innovation Centres Network (EBN), it also provides opportunities for trans-national collaboration for the benefit of small and medium-sized companies.

The report of EBN - BIC observatory (2009) presents the case study of Coventry University Enterprise (CUE) as one of the largest university enterprise organizations in Europe and an owned subsidiary of Coventry University, employing over 140 people directly within the field of business support, business incubation and technology transfer. CUE delivers business support to over 5000 businesses per year, offering an activity portfolio covering a broad spectrum from pre-incubation and incubation through to spin-out company formation and development, including internationalization business advice. From its base at Coventry University Technology Park (CUTP), CUE offers a full and progressive package of office

space and specialist facilities to new and growing businesses, having provided incubation support for the past 10 years.

CUE is seen as a market leader in much of its delivery activity, including its renowned mentoring, advice and specialist support programs for young entrepreneurs, SMEs and large corporations on a regional, national and international basis. Due to its close association with the University, CUE is highly experienced in the field of commercialization of university research and the development of intellectual property portfolios, maintaining a focus on high technology and high-growth potential enterprises. CUEs people are, therefore, selected for their business experience and track record in enterprise, innovation and entrepreneurship, their ability to work and respond to a fast-changing and challenging business environment focused on clients' needs, and development potential. CUE is also home to the University's Institute of Applied Entrepreneurship (IAE) office, through which much of the business incubation activity is carried out.

FRANCE CASE STUDY

In France, Promotech was founded in 1980 by two faculty members

as a spin-off from the Department of Innovation Management of the National Polytechnical Institute in Lorraine with the objective to promote and transfer technology from the University towards industry by creation of new companies or diversification of regional SME. Their target market is mainly students and young graduates in the Nancy catchment area. Since 1985, Promotech has been associated with BIC in a not-for-profit status. Lorraine's GDP as of 2007 was €44b, and its major city Nancy had a population of 105,100 with an unemployment rate of 6.9%. There were 23,600 companies at that time with 2,100 new companies being established per year (EBN, 2010).

Since 1988, Promotech has carried on its activity within the framework of the Nancy Brabois Science Park. The Park is home to 2,500 researchers, 100 laboratories, 17,000 university students and 200 companies. Its incubation space involves 2000m² of office space and workshops and is headed by seven team members. In total, nearly 300 establishments employ just over 15,000 people. More than 25 years later, Promotech has become a common initiative of the local government, the Chamber of Commerce

and private companies, offering services oriented towards entrepreneurs-to-be, research units and companies. Additionally, Promotech is recognized both in and outside the region of Lorraine. Therefore, it can be said that Promotech is located where things are happening in France (EBN, 2010).

Promotech has become a large and multidisciplinary network built up over more than 25 years. Network relationship building is considered the most important value-added component of the incubation process. Networks play a central role in the business incubation process, helping entrepreneurs to turn their ideas into viable and successful businesses. Current literature suggests that the development of such networks enhances the probability of survival over time maintaining that in the early stages of new firm creation, these networks represent an important resource for the entrepreneurial firm and access to them can help the small entrepreneurial firm to overcome the liabilities associated with newness and smallness (McAdam and McAdam, 2006).

Results confirmed that incubator programs in France in 2007 assisted 176 entrepreneurs and since the start of BIC, 2500. In

2007, 38 companies were formed creating 80 jobs; cumulatively 460 companies were created with BIC support generating 1200 jobs. The number of companies in the incubator in 2007 was 34 which created 110 jobs and graduated 164 companies with 250 being created in the market (EBN, 2008; 2009).

GERMANY CASE STUDY

Anwendungszentrum GmbH Oberpfaffenhofen (AZO) incubation centre is located in Bavaria in Oberpfaffenhofen, near Munich. The region has a population of 12,520,000 and approximately 560,000 companies. Anwendungszentrum GmbH Oberpfaffenhofen - AZO has helped found 38 companies and create 650 new jobs since 2002. Phase I ran as a German Aerospace Center (DLR) project between 2002 and 2005 and was one of the most successful business incubators in the European aviation industry. The AZO Incubation Centre accepts ten incubatees per year for duration of four years until 2013. Their 2005-2009 funding was €1,842,000 (EURP, 2010).

AZOs close ties with the community of Oberpfaffenhofen and the ambitions of DLR - particularly in positioning their common

location to play a major role in the implementation of the Galileo satellite navigation system with the support of the Free State of Bavaria – have helped bring about a number of successes in recent years. The fourth ESA Business Incubation Centre (BIC) has existed since August 2009 and has funding of €300,000 until 2013. ESA BIC Oberpfaffenhofen's mission is to expand AZOs current start-up portfolio to include all areas of the aviation industry, as well as the transfer of technology to other branches of industry (EURP, 2010).

Key Performance Indicators of 2009 showed that the number of tenants in incubators was 3 employing a total of 16. The number of start-ups created in 2009 was 6; however, figures for jobs created are not available. The number of jobs created in SMEs (client companies of BICs) was 16 with Enterprise Survival Rate of 100%. Six enterprise creation projects were developed and 10 existing SMEs were supported during 2009 (EBN, 2008; 2009).

S.W.O.T ANALYSIS OF CASE STUDIES

Strengths

1. **Economic Development:** To

support economic development by creating new jobs.

2. **Great Potential for Innovation:** High technology innovation to accelerate the modernization and diversification of the region's economy.

3. **Enterprise Development:** To foster and support enterprises that create the best environment for businesses to start-up.

4. **Long-Term Strategic:** Investing time and effort to strengthen the relationships between academia and industry.

5. **Industry Networking:** Networking between the academia and industry to collaborate for mutual benefit.

6. **Value Added:** Commercialize the knowledge and relationships built gives value added to new economy.

Opportunities

1. **Investment:** Money invested in incubators can produce high rate of return on the investment.

2. **Strategies Innovation:** Short- and long-term projects offer new innovative perspectives

for products, processes and business strategies. Through commercial partnerships, the university builds up a strong network of clients and gains a reputation for providing real business solutions, while taking a pioneering and enterprising approach to today's changing business environment (Winters, 2010a).

3. **Research and Knowledge Transfer:** Focuses on the application of research and knowledge transfer activities, starting from the idea inside the incubator, converting it to innovation and from innovation to commercialization.
4. **Weakness & Threats:** The threats and the weaknesses are the hardest to explore in some respects. This is due to the fact that the incubator is part of wider business development activity aligned to the applied research agenda of the university.
5. **Recommendation and Guidelines** From the results of the analysis of the case studies, business incubation seems act as a powerful tool that has a highly positive impact on the economic development of a region. Our key activities for inclusion of business

incubation are the following:

1. **Long-term Strategies for Economic Development:** It becomes a long-term strategic economic development tool for the community helping to diversify the economy, and increase tax revenue.
2. **Incubators Suitability:** The suitability of a new small or medium-sized firm for survival.
3. **Dynamic Model:** It is a dynamic model of self-sustainable, efficient business.
4. **Jobs creation:** It helps generate jobs and income beyond those directly employed and paid through the incubator's tenants.
5. **Platform for Policy Decisions:** To provide a platform for joint cross-partner policy decisions.
6. **Fostering and Supporting Enterprise and Innovation:** Helping to create the best environment for businesses to start-up and grow.
7. **High Value-Added Businesses:** By developing the region's science parks and R&D centres and improving collaboration between universities and

supporting business investment and growth.

8. **Risk-Taking:** It can help change attitudes towards personal initiative, innovation, risk-taking and entrepreneurship.
9. **Entrepreneurship:** It helps entrepreneurs to start their own businesses and gives them an advantage over new no-incubator firms.

CONCLUSION

Three practical Business incubation European models have been discussed based on their adoption as case study examples: the United Kingdom, France, and Germany. These three countries contain approximately 83% of all the incubators located throughout Europe today. This study has focused on (1) the nature of incubator financing, (2) the incubator's mission and strategy, and (3) graduation it in turn offers its incubatee clients. The S.W.O.T analysis of each case study reflects the strengths of each program and complies with its mission and objectives showing great opportunity with the future plans and performance of each program.

The study identifies the Strengths of the European case

studies as (a) to support economic development by creating new jobs; (b) to accelerate the modernization and diversification of the region's economy; (c) to foster and support enterprise that creates the best environment for businesses to start-up; (d) to invest time and effort long-term to strengthen the relationships between academia and industry; (e) to provide networking opportunities between academia and industry to collaborate for mutual benefit; and (f) to commercialize knowledge and build relationships build that gives value added to new economy.

The study identifies the Opportunities of the European case studies as (a) money invested in incubators can gain a high rate of return; (b) short- and long-term projects offer new innovative perspectives for products, processes and business strategies; (c) focuses on the application of research and knowledge transfer activities, starting from the idea inside the incubator, converting it to innovation and from innovation to commercialization.

The Threats and the Weaknesses are the hardest to explore and identify in some respects. This is due to the fact that the incubator is part of the wider business economic

development activity aligned to the university that will be applied worldwide with great success.

In conclusion, 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. In addition, more than 7000 incubation programs worldwide are engaged in supporting the development of new high-growth businesses. Today, Europe has funding in incubators with the goal of job creation and economic recovery.

BIOGRAPHY

Dr. Hanadi Mubarak Al-Mubarak is assistant professor in Kuwait University. she teaches undergraduate and graduate courses in project management and civil engineering . further more, she teaches undergraduate courses in business schools such as management .she has been published in different academic journals,book and has presented his research in many countries in addition, .She prepares feasibility studies of many projects and formulates the aspects of

research and development proposals for improving costs, monitoring projects and assuring quality developments in Kuwait University. Dr. Al-Mubarak worked as financial analyst and project engineer in MPW Turner International, Kuwait. Finally, She earned intensive training program in gleeds international U.K as jounierenginner.shee-earnedher doctorate from Washington International University.

Dr. Michael Busler is an Associate Professor of Finance, Finance Track Coordinator and a Fellow at The William J, Hughes Center for Public Policy at Richard Stockton College. He teaches undergraduate courses in Finance and Game Theory as well as Managerial Economics and Corporate Finance in the MBA Program. He has been published in eight different academic journals and has presented his research in ten countries In addition he has worked as a Financial Analyst for Ford Motor Company and FMC Corporation and has been an entrepreneur having owned several businesses mostly in the Real Estate development field. He earned his Doctorate at Drexel University.

REFERENCES

Aernoudt, R. (2004). Incubators: Tool for

- Entrepreneurship? *Small Business Economics*, 23(2), 127-135. Retrieved July 12, 2010, from ABI/INFORM Global. (Document ID: 642290171).
- Albert, P., Bernasconi, M., & Gaynor, L. (2004). *Incubation in Evolution: Strategies and Lessons Learned in Four Countries*. Athens, Ohio: NBIA Publications.
- Centre for Strategy & Evaluation Services (CSES) (2002). *Final Report*. Benchmarking of Business Incubators, for European Commission Enterprise Directorate - General.
- Davenport, T. H., Prusak, L. & Wilson, H. J. (2003). Who's bringing you hot ideas and how are you responding? *Harvard Business Review*, Vol. 81.2: 58-64.
- Eshun, J. P. (2009). Business incubation as strategy. *Business Strategy Series*, 10(3), 156-166. Retrieved May 18, 2010, from ABI/INFORM Global. (Document ID: 188277971).
- European Business & Innovation Center Network (EBN). (2010). Case study - Promotech. Retrieved June 1, 2010, from <http://www.promotech.fr/index.php?nav=70-108-108&idpage=210>.
- European Business and Innovation Centre Network. (EBN). (2008). BIC Observatory Facts and Figures.
- European Business and Innovation Centre Network (EBN). (2009). BIC Observatory Facts and Figures.
- European Commission. (2000). Best practices for support for the creation of an enterprise.
- European Commission. (2002). Business Innovation Centres, an instrument for regional development and for the enterprises.
- European Union Regional Policy (EURP). (2010). The smart guide to innovation based incubators. Retrieved July 5, 2010 from http://www.ebn.eu/assets/assets/pdf/news/final_case-studies-nma-07042010.pdf.
- Hackett, S. M., & Dilts, D. M. (2004a). A real options-driven theory of business

- incubation. *The Journal of Technology Transfer*, 29(1), 41-54.
- Hackett, S. M., & Dilts, D. M. (2004b). A systematic review of business incubation research. *The Journal of Technology Transfer*, 29(1), 55-82.
- Info Dev. (2009a). *Mixed-use Incubator Handbook: A Start-up Guide for Incubator Developers*. Retrieved July 5, 2010, from <http://www.infodev.org/en/Publication.733.html>.
- Info Dev. (2009b) *A Model for Sustainable and Replicable ICT Incubators in Sub-Saharan Africa*. Retrieved July 5, 2010, from <http://www.infodev.org/en/Publication.733.html>.
- Knopp, L. (2007). Across State Lines: US incubators report how state governments support business incubation. *NBIA Review*, 23(4), 6-9.
- Lalkaka, R. (2000). Emerging Incubation Models for the New Economy, Workshop on New Economy and Entrepreneurial Business Creation in Mediterranean Countries', *International Center for Science, Trieste*.
- Lalkaka, R. (2001). Best Practices in Business Incubation: Lessons (yet to be) Learned, Business & Technology Development Strategies LLC', New York, Brussels,(14 November 2001).
- McAdam, M. and McAdam, R. (2008). 'High Tech Start-ups in University Science Park Incubators: The Relationship Between The Start-Up's Life-cycle Progression and Use of The Incubator's Resources'. *Technovation*, 28 (5): 277-90.
- Monkman, D. (2010). Business Incubators and Their Role in Job Creation. President & CEO National Business Incubation Association (NBIA), Athens, Ohio. Retrieved June 30, 2010, from www.nbia.org.
- NBIA (National Business Incubator Association). (2010). Retrieved May 26, 2010, from http://www.nbia.org/resource_library/faq/#13.
- NBIA (National Business Incubator Association). (2002). *State of the business incubation industry*. Athens, OH: NBIA Publications.

- NESTA . (2010). Business Incubation in Challenging Times. NESTA Policy Briefing, BI/29 (2008). Retrieved May 7, 2010, from <http://www.nesta.org.uk/library/documents/Business-incubators.pdf>.
- Patton, D., Warren, L., & Bream, D. (2009). Elements that underpin high-tech business incubation processes. *Journal of Technology Transfer*, 34(6), 621-636. Retrieved May 20, 2010, from ABI/INFORM Global. (Document ID: 1879815231).
- Peters, L., Rice, M. P., & Sundarajan, M. (2004). The role of incubators in the entrepreneurial process. *Journal of Technology Transfer*, 29(1), 83-91.
- Rice, M. P., & Matthews, J. (1995). *Growing new ventures, creating new jobs: Principles and practices of successful business incubation*. Westport, CT: Quorum Books.
- Sherman, H. (1999). Assessing the intervention effectiveness of business incubation programs on new business start-ups. *Journal of Developmental Entrepreneurship*, 4(2), 117-133.
- Thornton, G. (in conjunction with the U.S. Department of Commerce Economic Development Administration). *Construction Grants Program Impact Assessment Report*. Sept. 30, 2008. (Available for download at www.eda.gov/PDF/EDAConsImpactStudyVolume1FINAL.pdf) accessed May 7, 2007.
- Voisey, P., Gornall, L., Jones, P., & Thomas, B. (2006). The measurement of success in a business incubation project. *Journal of Small Business and Enterprise Development*, 13(3), 454-468. Retrieved May 20, 2010, from ABI/INFORM Global. (Document ID: 1105634131).
- Wiggins, J., & Gibson D. V. (2003). Overview of US incubators and the case of the Austin Technology Incubator. *International Journal of Entrepreneurship and Innovation Management*, 3(1, 2), 56-66. Retrieved May 20, 2010, from ABI/INFORM Global. (Document ID: 332621431).
- Winters, C. (2010a). The Role of Universities in Urban Poles a Pre-Visit View of Coventry.

United Kingdom. Retrieved
June 1, 2010, from [http://
www.visitcoventry.co.uk/](http://www.visitcoventry.co.uk/).

Winters, C., Assistant Director,
(2010b). Coventry University
Enterprises Ltd. The Techno

Centre Coventry University
Technology Park, Coventry.
[Archives]. Discussion. Re-
trieved June 1, 2010, from
[http://www.visitcoventry.
co.uk/](http://www.visitcoventry.co.uk/).