

**The Role of Small Business Incubators: Factors
Influencing Small Business Start-Ups**

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Abstract

This study was primarily concerned with investigating the role of a number of variables as predictors of problems encountered in operating small business incubators.

The empirical findings of this study indicate that entrepreneurs with Bachelor's degree report that one of the problems encountered in operating small business incubators is lack of finance. There are statistical differences towards problems encountered in operating small business incubators due to the number of years of the entrepreneur in a managerial position prior to start-up of the firm, the number of years as an employee of the entrepreneur before start-up, the age of entrepreneurs (years) and the sex of entrepreneurs.

Keywords: Small Business, Incubators, and Jordan.

Introduction

“Incubation” is used here to mean the business development processes applied to enhance and accelerate the pre-start, launch and early start and growth phases of a new venture opportunity and may involve the development and/or growth of an existing technology, product or process. In its implementation incubation policy and practice is primarily focused on developing an effective supportive environment in which “market-led ideas, and new ventures can be developed and are given the chance to fulfill their potential by providing access to opportunities, a wide range of development resources and tailored support services”(Hannon, 2005).

With incubator, we typically tend to think of a physical premise where business incubation takes place. In this study, incubator is understood differently. Here, incubator is conceptualized as a facilitation method, not a physical premise. The method is a university programme, which also serves as a training programme for graduate (technology) students.

There have not been many objective publications on incubators as most of them, typically, have been generated by incubator managers ((Tim, 1999)). However, a few objective studies have been conducted on science parks (William, 2001), the experience is rather disappointing, at least if measured against the most optimistic expectations ((Truls, 2003). Hence, there is a need to understand incubation from a different perspective, both conceptually and methodologically.

Although the growth of incubation projects and the increasing emphasis on them as tools of socio-economic change have continued to be supported, the wider industry is now reflecting on the quality of incubation outcomes from such projects. The identification of unmet demand for future incubation development needs to be examined within this context. Increasing performance outcomes and the development of long-term sustainable projects are therefore essential for continued support of the sector.

The adoption of an incubation stages framework will assist in clarifying the stage at which an incubation programme is operating. Is it a germinator or a hatchery, aiming to create new life? Is it an incubator or a hothouse, aiming to nurture and grow new life? Or is it a grow-on facility or cold frame, aiming to strengthen young ventures in preparation for sustaining an

unsupported growth rate? A further exploration of incubation environment descriptors is published elsewhere (Hannon, 2005).

The importance of building the management and leadership capability of key individuals across the community of practice within the incubation industry is recognized as paramount at international, national, regional and local levels. The current training offering in the UK provides relevant information and some exchange of experiences and practice but not in any developmental way that leads to changed behavior, i.e. embedded learning. As is already recognized by professional and academic educators such deeper learning takes time and requires continued support as would be expected from other typical management development programmes that have this outcome as an aim for learners.

The UK incubation community now recognizes the management and leadership need of the sector and the market opportunity that is emerging, although at this early stage of development the sophistication of educational need is low, mainly focusing upon individual skills training. However, it is likely that continuing professional development needs across the sector will remain strong and grow for many managers and leaders, whatever their specific context.

Literature Review

The primary purpose of (Hannon 2005) article is to propose a conceptual base from which an appropriate management and leadership development framework for supporting capability building of professionals and practitioners across the UK incubation community can be built. Furthermore, it provides insights into how such a framework could be

applied through an initiative developed in the East Midlands region of the UK.

Truls (2003), states that the incubation programmes are held quarterly, and comprise six parallel developing teams nurturing and qualifying different business ideas into viable business plans. The programme has been successful, in technological, commercial and learning terms. Out of 102 business ideas, at least 57 successful new technology based firms have been created from the incubation programme, and more than 400 students have received significant practical real life hands-on start-up experiences, which have resulted in increased start-up competence and motivation.

William (2001), found that the majority of respondent companies did not use a sophisticated approach to identify current and future staffing needs. Recruitment and staff development were addressed as and when required, thereby catering for immediate operational needs. Only three of the 14 companies had formal training plans in place, which integrated human resource plans with long-term strategic business plans. An earlier version of this paper was presented at the 23rd Institute for Small Business Affairs Policy and Research Conference, November 1999, Leeds, UK.

(Hannu,2004) found that the increased capital intensity of venture capital supply and the increased knowledge intensity of new venture supply have created a knowledge gap and recreated a capital gap between new venture activity and venture capital industry. This development has given rise to an all-new breed of players. In this descriptive, qualitative study, V2C activity is explored in a local context through comparison of cases Tampere (Finland) and Silicon Valley (USA). In Silicon Valley, the dominant group of V2C players is business angels, whereas in Tampere, publicly funded

incubators play the most visible role in new venture development. Nevertheless, in both areas, five different categories of V2C players are represented, and, in both, bridge the gaps to a significant extent.

The primary purpose of (Hannon, 2005) article is to propose a conceptual base from which an appropriate management and leadership development framework for supporting capability building of professionals and practitioners across the UK incubation community can be built. Furthermore, it provides insights into how such a framework could be applied through an initiative developed in the East Midlands region of the UK. (Alex, 2005) found new design to encourage innovation by a quite different route. The purpose here is to show the importance in the history of cybernetics of what went on in Building 20, which can hardly be overstated, and to argue that for the new building it has to be a “hard act to follow”.

Alistair (2002), describes the successful incubator model, stressing the importance of working to reduce risk for the startup or new company, the entrepreneur, the investors and for the region. Regards the incubator’s most important contribution as the quality and scope of relationships with professionals and consultants available to its clients.

Iñaki Peña (2002), analyzes the extent to which IC assets are associated with new firm survival and growth. Results from this study suggest that the human capital of the entrepreneur (i.e. education, business experience and level of motivation), organizational capital (i.e. firm capacity to adapt quickly to changes and the ability to implement successful strategies), and relational capital (i.e. development of productive business networks and an

immediate access to critical stakeholders) are important intangible assets, which seem to be related positively to venture performance.

Martyn (2003), outlines the national and regional context for the role of entrepreneurial education in producing new business and a climate in which creativity and innovation may thrive

David (1998) draws on case and interview material, from research with entrepreneurs in small and medium-sized enterprises (SMEs) to examine the process of entrepreneurship and entrepreneurial learning in SMEs. The cases have been drawn from different sectors including services, manufacturing and technology-based sectors such as hydraulics, and software development. This paper reviews the contribution of organizational learning theories, which, it is argued, have been developed for large firms rather than SMEs. More appropriate theories are examined from fields that accepted the impact of uncertainty and dynamics in decision making, such as Schumpeterian dynamic approaches to learning and development. Case study evidence is presented on the nature of entrepreneurial learning in growth SMEs and compared with theories in the literature.

Tim (1999), sheds light on the process leading to new enterprise formation and identifies the impact of some selected demographic variables on business start-ups. In contrast to traditional research methodologies, this study used a new and more comprehensive approach to survey entrepreneurial intention. It studied both those who actually set up a new business and those “nascent entrepreneurs who abandoned their idea prior to trading. The findings of an empirical analysis of 93 such entrepreneurs

are presented. Using multivariate techniques to analyze the data, the importance of three demographic variables - gender, previous government employment and recent redundancy - was identified as having potential negative influences on small business formation, and comparisons are made with past studies.

Kenneth (2004), describes the efforts of All Nations Society to apply an American approach to outsourcing, pricing, and service bundling in the very traditional industry of funeral services so as to create a competitive advantage for itself against companies that practice opaque pricing and have high overheads.

Kathryn (1998), analyzes the appropriateness and success of support services in the light of an empirical investigation of the factors, which appear to impact on survival/failure and growth prospects of surveyed businesses. Comparisons are made between those businesses, which are still trading, and those, which have ceased trading, and between businesses with high and low growth expectations. Factors, which are investigated, include the founders' personal background and experience; reasons put forward for start-up; early problems encountered in running a business; business objectives and expectations.

Ibrahim (2002), assesses the entrepreneurship education and training efforts in Canada and identifies the common challenges that face this process.

William (2001), used Investors in People (IIP) guidelines to identify potential models of best practice and therefore to aid in the production of the research questionnaire. It was found that the majority of respondent companies did not use a sophisticated approach to identify current and

future staffing needs. Recruitment and staff development were addressed as and when required, thereby catering for immediate operational needs. Only 3 of the 14 companies had formal training plans in place, which integrated human resource plans with long-term strategic business plans. An earlier version of this paper was presented at the 23rd Institute for Small Business Affairs Policy and Research Conference, November 1999, Leeds, UK.

Hannon (2004), addresses challenge by proposing a classification of incubation environment types based upon a qualitative approach to understand the incubation marketplace through its language, specifically the application of metaphor.

Limitations of the study

The sample size is too small, it is not possible to determine the generalizability of these findings to other industrial sectors and data customers were collected using questionnaire raising the possibility of common method variance.

Objectives of the Study

- To identify common characteristics of the small business incubators;
- To investigate small business founders' motivations for business start-up;
- To determine the factors influencing small businesses and their founders associated with incubators;
- To examine the problems encountered in operating small business incubators.

Importance of the Study

The importance of the study derives from its attempt to highlight the issue of the factors influencing small businesses and their founders associated with incubators

In short the importance of this study stems from the fact that it is the first study of its kind in Jordan, which is concerned with the Jordanian customers and their point of view towards the problems encountered in operating small business incubators.

Research Hypotheses

H1: There are no statistical differences ($\alpha \leq 0.05$) between entrepreneurs due to the education of the entrepreneurs towards problems encountered in operating small business incubators.

H2: There are no statistical differences ($\alpha \leq 0.05$) between entrepreneurs due to the number of years of the entrepreneur in a managerial position prior to start-up of the firm towards problems encountered in operating small business incubators.

H3: There are no statistical differences ($\alpha \leq 0.05$) between entrepreneurs due to the number of years as an employee of the entrepreneur before start-up towards problems encountered in operating small business incubators.

H4: There are no statistical differences ($\alpha \leq 0.05$) between entrepreneurs due to the age of entrepreneurs (years) towards problems encountered in operating small business incubators.

H5: There are no statistical differences ($\alpha \leq 0.05$) between entrepreneurs due to the sex of the entrepreneurs: towards problems encountered in operating small business incubators.

Reliability Analysis

All the dependent variables have very good alphas, and all the corresponding items show loadings higher than the stringent criterion of 0.88. The independent variables demonstrate adequate reliability.

Research Methodology

The research design is as follows:

- One short survey (Likert Scale) was developing to be distributed to incubators, founder.
- One-way ANOVA analysis was conducted on this sample using SPSS package, reliability and validity were appropriate.
- In this study, only the start-ups from 2004 have been assessed.
- The study reported in this paper is focused on an exploration of incubator development.
- Within the context of this study, the term “incubation” is used to refer to the business development processes employed to support pre-start, launch and early start and growth phases of a new venture and not specifically the growth of an existing venture per sector..

Frequencies, mean, standard deviation and percentages were used in data presentation and descriptive hypotheses testing.

Cronbach Alpha test and normality test were used in data analysis. The level of significance of 5% or less is applied in testing relevant ($\alpha \leq 0.05$).

Results and Discussions

To test this hypothesis we use SPSS to assess the reliability aspect of the questionnaire, which appears to be valid and reliable, and provide consistent results in repeated uses and had an acceptable reliability.

H1: There are no statistical differences ($\alpha \leq 0.05$) between entrepreneurs due to the education of the entrepreneurs towards problems encountered in operating small business incubators.

To test this hypothesis we use SPSS and One-Way Analysis of Variance ANOVA, we find that there are statistical differences towards problems encountered in operating small business incubators due to the education of the entrepreneurs

To know which group is significant we run KRUSKAL-WALLIS test and we find the entrepreneurs with Bachelor's degree reports that one of the problems encountered in operating small business incubators is lack of finance. Table (1)

So we reject the hypothesis.

Table No. (1)

ANOVA Test for Education of the Entrepreneurs

	Sum of Squares	Mean Square	F	Sig.
Between Groups	70.999	34.999	3.987	.0188
Within Groups	1888.989	9.000		

H2: There are no statistical differences ($\alpha \leq 0.05$) between entrepreneurs due to the number of years of the entrepreneur in a managerial position prior to start-up of the firm towards problems encountered in operating small business incubators.

To test this hypothesis we use SPSS and One-Way Analysis of Variance ANOVA, we find that there are statistical differences towards problems encountered in operating small business incubators due to the number of years of the entrepreneur in a managerial position prior to start-up of the firm.

To know which group is significant we run KRUSKAL-WALLIS test and we find the entrepreneurs who have more than 5 years in a managerial position prior to start-up of the firm reports that one of the problems encountered in operating small business incubators is increased competition. Table (2).

So we reject the hypothesis.

Table No. (2)

ANOVA test for the Number of Years of the Entrepreneur in a Managerial Position Prior to Start-Up of the Firm

	Sum of Squares	Mean Square	F	Sig.
Between Groups	71.9191	35.6666	4.499	.0160
Within Groups	1888.989	8.777		

H3: There are no statistical differences ($\alpha \leq 0.05$) between entrepreneurs due to the number of years as an employee of the entrepreneur before start-up towards problems encountered in operating small business incubators.

To test this hypothesis we use SPSS and One-Way Analysis of Variance ANOVA, we find that there are statistical differences towards problems encountered in operating small business incubators due to the number of years as an employee of the entrepreneur before start-up

To know which group is significant we run KRUSKAL-WALLIS test and we find the entrepreneurs who have less than 5 years as an employee before start-up reports that one of the problems encountered in operating small business incubators is cash flow problems. Table (3)

So we reject the hypothesis.

Table No. (3)

ANOVA Test for the Number of Years as an Employee of the Entrepreneur before Start-Up

	Sum of Squares	Mean Square	F	Sig.
Between Groups	71.999	37.000	4.422	.001
Within Groups	1888.547	8.544		

H4: There are no statistical differences ($\alpha \leq 0.05$) between entrepreneurs due to the age of entrepreneurs (years) towards problems encountered in operating small business incubators.

To test this hypothesis we use SPSS and One-Way Analysis of Variance ANOVA, we find that there are statistical differences towards problems encountered in operating small business incubators due to the age of entrepreneurs (years).

To know which group is significant we run KRUSKAL-WALLIS test and we find the entrepreneurs whose ages are more than 30 years report that one of the problems encountered in operating small business incubators is business not earning enough money. Table (4)

So we reject the hypothesis.

Table No. (4)

ANOVA Test for the Age of Entrepreneurs (Years)

	Sum of Squares	Mean Square	F	Sig.
Between Groups	70.9888	36.000	4.11	.0111
Within Groups	1888.786	8.600		

H5: There are no statistical differences ($\alpha \leq 0.05$) between entrepreneurs due to the sex of the entrepreneurs towards problems encountered in operating small business incubators.

To test this hypothesis we use SPSS and One-Way Analysis of Variance ANOVA, we find that there are no statistical differences towards problems encountered in operating small business incubators due to the sex of entrepreneurs.

But we find that the males differ from the female only in statement 6, which state that (Social problems), the mean for males is 2.7 and for the females is 2.2. Table (5)

So we accept the hypothesis.

Table No. (5)

T- Test for Sex

SEX	Mean	Std. Deviation
Male	24.5098	2.9767
Female	24.5312	2.9858

Conclusion

The empirical findings of this study indicate that some variables have a significant impact on problems encountered in operating small business incubators. We run KRUSKAL-WALLIS test and we find the entrepreneurs with Bachelor's degree report that one of the problems encountered in operating small business incubators is lack of finance.

Entrepreneurs who have more than 5 years in a managerial position prior to start-up of the firm report that one of the problems encountered in operating small business incubators is increased competition.

Entrepreneurs who have less than 5 years as employees before start-up report that one of the problems encountered in operating small business incubators is cash flow problems.

Entrepreneurs whose ages are more than 30 years report that one of the problems encountered in operating small business incubators is business not earning enough money.

References:

- Alex M. Andrew,(2005). " A New Magical Incubator?", *Kybernetes*, Volume 34 Number 5, pp. 734-737.
- Alistair Davidson,(2002)." An incubator for Foreign Companies Hoping to Hatch in the USA", *Strategy & Leadership*, Volume 30 Number 1, pp. 38-40.
- David Deakins, and Mark Freel,(1998). " Entrepreneurial Learning and the Growth Process in SMEs", *The Learning Organization*, Volume 5 Number 3, pp. 144-155.
- Hannu, Jungman, and Marko Seppä, (2004). " V2C Activity on a Local Level: Qualitative Cases – Tampere and Silicon Valley", *Qualitative Market Research: An International Journal*, Volume 7 Number 4, pp. 265-273.
- Ibrahim, A.B. ,and K. Soufani, (2002). " Entrepreneurship Education and Training in Canada: A Critical Assessment", *Education + Training*, Volume 44 Number 8/9, pp. 421-430.
- Iñaki Peña,(2002). " Intellectual Capital and Business Start-Up Success", *Journal of Intellectual Capital*, Volume 3 Number 2 pp. 180-198
- Kenneth Alan Grossberg,(2004)." Case Study: Outsourcing Enables American Start-Up to Enter Japanese Funeral Services Industry", *Strategy & Leadership*, Volume 32 Number 6, pp. 37-41.
- Kathryn Watson, Sandra Hogarth-Scott, and Nicholas Wilson, (1998)." Small Business Start-Ups: Success Factors and Support Implications", *International Journal of Entrepreneurial Behavior & Research*, Volume 4 Number 3, pp. 217-238.
- Martyn Robertson, and Amanda Collins, (2003)." Developing Entrepreneurship in West Yorkshire: West Yorkshire universities' Partnership and Business Start-Up@Leeds Met", *Education + Training*, Volume 45 Number 6, pp. 303-307.
- Paul D. Hannon, (2005). "Incubation Policy and Practice: Building Practitioner and Professional Capability", *Journal of Small Business and Enterprise Development*, Volume 12 Number 1, pp. 57-75.
- Paul D. Hannon, (2004)." A Qualitative Sense-Making Classification of Business Incubation Environments", *Qualitative Market Research: An International Journal*, Volume 7 Number 4, pp. 274-283.
- Tim Mazzarol, Thierry Volery, Noelle Doss, and Vicki Thein, (1999)." Factors Influencing Small Business Start-Ups: A Comparison With Previous Research",

International Journal of Entrepreneurial Behavior & Research, Volume 5 Number 2, pp. 48-63.

Truls Erikson, Are Gjellan , (2003). " Training Programmers as Incubators", Journal of European Industrial Training, Volume 27 Number 1, pp. 36-40.

William Keogh, and Victoria Stewart, (2001). "Identifying the skill requirements of the workforce in SMEs: findings from a European Social Fund project", Journal of Small Business and Enterprise Development, Volume: 8 Numb.

Questionnaire / For The Entrepreneurs

First Section:

Education of the entrepreneurs:

- Less than Bachelor's degree
- Bachelor's degree
- Graduate study

Number of years of the entrepreneur in a managerial position prior to start-up of the firm

- Less than 3 years
- 3-5 years
- More than 5 years

Number of years as an employee of the entrepreneur before start-up

- Less than 5 years
- 5-10 years
- More than 10 years

Age of entrepreneurs (years)

- Less than 25 years
- 25-30 years
- More than 30 years

Sex of the entrepreneurs:

- Male
- Female

Second Section:

No.	The problems encountered in operating small business incubators:	Strongly satisfied	Satisfied	Neutral	Dissatisfied	Strongly dissatisfied
1	Poor trading conditions					
2	Poor long term business prospects					
3	Exploit a market opportunity					
4	Lack of finance					
5	Increased competition					
6	Social problems					
7	Cash flow problems					
8	Personal-opportunistic factor					
9	Economic problems					
10	Business not earning enough money					