

The Islamic University of Gaza

Deanship of Postgraduate Studies

Faculty of Commerce

Business Administration Department



**The Role of Business Incubators in Achieving the
Sustainable Development in the Gaza Strip
Case Study: The Business and Technology Incubator at IUG**

**دور حاضنات الأعمال في تحقيق التنمية المستدامة في قطاع غزة
دراسة حالة (حاضنة الأعمال والتكنولوجيا بالجامعة الإسلامية بغزة)**

**Prepared By
Mohammed Z. Skaik**

**Supervisor
Dr. Wasim Al-Habil**

A Thesis Submitted in Partial Fulfillment of the Requirements for the
Degree of Master in Business Administration

2013



نتيجة الحكم على أطروحة ماجستير

بناءً على موافقة عمادة الدراسات العليا بالجامعة الإسلامية بغزة على تشكيل لجنة الحكم على أطروحة الباحث/ محمد زكريا إبراهيم سكيك لنيل درجة الماجستير في كلية التجارة/ قسم إدارة الأعمال - إدارة موارد بشرية وموضوعها:

دور حاضنات الأعمال في تحقيق التنمية المستدامة في قطاع غزة

دراسة حالة (حاضنة الأعمال والتكنولوجيا بالجامعة الإسلامية بغزة)

The Role of Business Incubators in Achieving the Sustainable Development in the Gaza Strip

Case Study: The Business and Technology Incubator at IUG

وبعد المناقشة التي تمت اليوم السبت 05 ربيع آخر 1434 هـ، الموافق 2013/02/16 الساعة العاشرة صباحاً، اجتمعت لجنة الحكم على الأطروحة والمكونة من:

| | | |
|-------|-----------------|-------------------------|
| | مشرفاً ورئيساً | د. وسيم إسماعيل الهابيل |
| | مناقشاً داخلياً | أ.د. ماجد محمد الفراء |
| | مناقشاً خارجياً | د. أيمن أحمد أبو سمرة |

وبعد المداولة أوصت اللجنة بمنح الباحث درجة الماجستير في كلية التجارة/ قسم إدارة الأعمال إدارة موارد بشرية.

واللجنة إذ تمنحه هذه الدرجة فإنها توصيه بتقوى الله ولزوم طاعته وأن يسخر علمه في خدمة دينه ووطنه.

والله ولي التوفيق ،،،

عميد الدراسات العليا

.....

أ.د. فؤاد علي العاجز



Dedication

To my dear great parents,

**To the spirit of my affectionate father, to whom I ask
God's forgiveness and mercy,**

To my dear beloved mother,

To my dear wife,

To my brothers and sisters,

To my friends and colleagues,

To all of you I dedicate this work.

Acknowledgement

It gives me great pleasure to express my deep gratitude to Dr. Wasim Al-Habil, the supervisor, for his continuous follow up and support to develop this great research.

The researcher would like to express his special thanks to the discussion committee, questionnaire judges, Business and Technology Incubator team, academic staff, and all participants in the research.

Finally, to the family, I would say: without you this great work could not complete. Many thanks for you all.

The Researcher

Mohammed Z. Skaik

Table of Contents

| | |
|---|------|
| Dedication..... | II |
| Acknowledgment..... | III |
| Table of Contents | IV |
| List of Acronyms: | IIIX |
| List of Tables | X |
| List of Figures..... | XI |
| Abstract..... | XII |
| Arabic Abstract..... | XIII |
| | |
| Chapter 1: General Framework | 1 |
| 1.1 Introduction | 2 |
| 1.2 Study Problem | 4 |
| 1.3 Study Objectives..... | 4 |
| 1.4 Study Importance..... | 5 |
| 1.4.1 Palestinian National Economy: | 5 |
| 1.4.2 Small and Medium Enterprises and start-ups: | 5 |
| 1.4.3 Entrepreneurs and Innovators:..... | 5 |
| 1.4.4 Business and Technology Incubator (BTI):..... | 6 |
| 1.4.5 Higher Education Sector: | 6 |
| 1.5 Study Parameters: | 6 |
| 1.6 Study Variables | 7 |
| 1.6.1 Independent Variable..... | 7 |
| 1.6.2 Dependent Variable | 7 |
| 1.7 Study Hypothesis..... | 7 |
| 1.8 Data Sources | 8 |
| 1.9 Research Structure..... | 9 |
| | |
| Chapter 2: Business Incubators | 10 |
| 2.1 Introduction | 11 |
| 2.2 Business Incubators Definitions: | 11 |
| 2.3 Emergence and Evolution of Business Incubators: | 13 |
| 2.4 Types of Business Incubators | 14 |
| 2.4.1 First Generation Incubators | 15 |
| 2.4.2 University Incubators | 16 |

| | |
|--|----|
| 2.4.3 Virtual Incubators | 16 |
| 2.4.4 International Enterprise Centers – International Business Incubators | 17 |
| 2.4.5 Incubator Networks | 17 |
| 2.4.6 Dot.Com Incubators | 17 |
| 2.5 Incubation Process | 18 |
| 2.6 Incubator Services/Financial Services | 22 |
| 2.7 Incubator Leadership and Management | 23 |
| 2.8 Supportive Mechanisms of an Incubator | 24 |
| 2.9 Introducing Sustainable Development in BIs | 25 |
| 2.10 Small Businesses as a Tool towards Sustainable Development: | 26 |
| 2.11 The Role of Universities in Business Incubators | 27 |
| 2.12 Incubator Trends | 29 |
| 2.13 Objectives of Incubation | 29 |
| 2.14 Challenges Facing Incubators | 32 |
| 2.15 Evaluating Business Incubator Services and Impacts | 32 |
| 2.15.1 Performance Indicators for Business incubation | 34 |
| 2.16 Technology Incubators | 36 |
| 2.16.1 Objectives of Technology Incubators | 37 |
| 2.16.2 Benefits of Technology Incubators | 37 |
| 2.17 Success Factors of Business Incubators | 38 |
| 2.17.1 Setting up and Operating Incubators | 39 |
| 2.17.2 Key Incubator Functions, Management and Promotion | 40 |
| 2.17.3 Evaluation of Incubator Services and Impacts | 40 |
| 2.18 Incubation Development Phases | 41 |
| 2.18.1 Foundation Phase | 41 |
| 2.18.2 Development Phase | 41 |
| 2.18.3 Mature Incubation Phase | 41 |
| 2.19 Science and Technology Parks | 42 |
| | |
| Chapter 3: The Business and Technology Incubator at IUG | 43 |
| 3.1 Introduction | 44 |
| 3.2 Background about Business and Technology Incubator | 44 |
| 3.3 BTI Emergence and Achievements | 45 |
| 3.4 Strategy of BTI | 46 |
| 3.4.1 Mission of BTI | 46 |
| 3.4.2 Strategic Objective | 46 |

| | |
|---|----|
| 3.4.3 Objectives of BTI | 46 |
| 3.5 Services..... | 47 |
| 3.6 Target Groups | 48 |
| 3.7 Networking Strategies | 49 |
| 3.8 Incubation Stages within BTI..... | 50 |
| 3.9 Description of BTI's Current Facility | 51 |
| 3.10 Success Stories | 52 |
| | |
| Chapter 4: Previous Studies..... | 55 |
| 4.1 Introduction | 56 |
| 4.2 Foreign Studies | 56 |
| 4.2.1 M'Chirgui, 2012. | 56 |
| 4.2.2 Abdul Khalid et al., 2012. | 57 |
| 4.2.3 Lesáková, 2012..... | 58 |
| 4.2.4 Dee et al., 2011..... | 59 |
| 4.2.5 Smith, 2010. | 59 |
| 4.2.6 InfoDev, 2010..... | 60 |
| 4.2.7 Akçomak, 2009..... | 61 |
| 4.2.8 Robinson, 2008..... | 62 |
| 4.2.9 Ratinho et al., 2008..... | 62 |
| 4.2.10 Lee and Hunt, 2008. | 63 |
| 4.2.11 Blankenship, 2007. | 64 |
| 4.2.12 Der Zee, 2007. | 65 |
| 4.2.13 Voisey et al., 2006. | 65 |
| 4.2.14 Johnsrud, 2004..... | 66 |
| 4.2.15 Wilber and Dixon, 2003 | 67 |
| 4.2.16 Costa-David et al., 2002. | 68 |
| 4.2.17 Scott, 2000..... | 69 |
| 4.2.18 Vanderstraeten and Matthyssens, 2000. | 69 |
| 4.3 Arabic and Local Studies..... | 70 |
| 4.3.1 Jbouri, 2011. | 70 |
| 4.3.2 Qawasmi, 2010. | 70 |
| 4.3.3 Dahleez, 2009. | 71 |
| 4.3.4 ALmushtary, 2007. | 73 |
| 4.3.5 Kasem, 2007. | 73 |
| 4.3.6 AKhmais, 2006. | 74 |

| | |
|---|-----|
| 4.3.7 Sakit, 2005..... | 74 |
| 4.3.8 Masoud, 2005..... | 75 |
| 4.3.9 Jabah, 2000..... | 76 |
| 4.4 Comments on Previous Studies..... | 76 |
| | |
| Chapter 5: Study Methodology..... | 99 |
| 5.1 Introduction..... | 83 |
| 5.2 Research Method..... | 83 |
| 5.3 Data Collection Method..... | 83 |
| 5.4 Study Population..... | 83 |
| 5.5 Research Design..... | 84 |
| 5.6 Judging the Questionnaire..... | 85 |
| 5.7 Data Measurement..... | 86 |
| 5.8 Test of Normality for Each Field..... | 86 |
| 5.9 Statistical analysis Tools..... | 87 |
| 5.10 Validity of Questionnaire..... | 88 |
| 5.10.1 Internal Validity..... | 88 |
| 5.10.2 Structure Validity of the Questionnaire..... | 96 |
| 5.11 Reliability of the Research..... | 97 |
| 5.11.1 Cronbach’s Coefficient Alpha..... | 97 |
| | |
| Chapter 6: Data Analysis and Discussion..... | 99 |
| 6.1 Introduction..... | 100 |
| 6.2 Personal Data..... | 100 |
| 6.2.1 Age..... | 100 |
| 6.2.2 Gender..... | 101 |
| 6.2.3 Education..... | 101 |
| 6.2.4 Years of Experience in the Field of Entrepreneurship and Start-ups..... | 101 |
| 6.2.5 Year of Establishment..... | 102 |
| 6.2.6 Legal Status..... | 102 |
| 6.2.7 Number of employees in the business..... | 103 |
| 6.2.8 Incubation period of the company..... | 103 |
| 6.2.9 Origin of the Business Idea..... | 104 |
| 6.2.10 Did you prepare a Feasibility Study before Starting your..... | 104 |
| 6.2.11 Did you Prepare a Written Business Plan for Your Business?..... | 104 |
| 6.2.12 Did you Get a Package of Business Development Services in the BTI? .. | 105 |

| | |
|---|-----|
| 6.2.13 To What Extent Did the BTI Assist you to Optimal Utilization of the Available Resources? | 106 |
| 6.3 Testing Thesis Hypotheses: | 107 |
| 6.3.1 Hypothesis No. 1 | 108 |
| 6.3.2 Hypothesis No. 2 | 110 |
| 6.3.3 Hypothesis No. 3 | 112 |
| 6.3.4 Hypothesis No. 4 | 114 |
| 6.3.5 Hypothesis No. 5 | 116 |
| 6.3.6 Hypothesis No. 6 | 118 |
| 6.3.7 Hypothesis No. 7 | 120 |
| 6.3.8 Hypothesis No. 8 | 122 |
| | |
| Chapter 7: Conclusions and Recommendations | 126 |
| 7.1 Introduction | 127 |
| 7.2 Conclusions | 127 |
| 7.3 Recommendations | 130 |
| 7.3.1 General Recommendations..... | 130 |
| 7.3.2 Proposed Incubator Activities Framework..... | 132 |
| 7.3.3 Incubator Evaluation Criteria | 135 |
| 7.4 Future Studies and Trends | 137 |
| | |
| Resources..... | 138 |
| Books..... | 138 |
| Theses..... | 139 |
| Articles and Papers | 141 |
| Reports and Documents..... | 141 |
| Websites References..... | 142 |
| Appendix 1 – Questionnaire judging Committee | 143 |
| Appendix 2 – Questionnaire Arabic Version | 144 |
| Appendix 3 – Questionnaire English Version | 152 |

List of Acronyms

| | |
|---------|--|
| SMEs | Small & Medium Enterprises |
| IMF | International Monetary Fund |
| GDP | Gross Domestic Product |
| OECD | Organization for Economic Co-operation and Development |
| UNDP | United Nations Development Program |
| BTI | The Business & Technology Incubator |
| SPSS | Statistical Package for Social Science |
| NBIA | National Business Incubation Association |
| ICT | Information & Communication Technology |
| R&D | Research & Development |
| IUG | The Islamic University of Gaza |
| QIF | Quality Improvement Fund |
| UNIDO | United Nations for Industrial Development Organization |
| SSD | Strategic Sustainable Development |
| UW | University of Washington |
| BI | Business Incubators |
| GTi | Graduate Teleworking Initiative |
| InfoDev | Information for Development Program – The World Bank. |
| UK | United Kingdom |
| CSES | Center for Strategy & Evaluation Services |
| US | United States |
| PM | Performance Measures |
| PMS | Performance Measurement System |
| NGO | Non-Governmental Organization |

List of Tables

| | |
|--|-----|
| TABLE 2.1: Objectives of Incubation through its Different Phases..... | 30 |
| TABLE 4.2: Overview of Previous Academic Literature on Business Incubation..... | 80 |
| TABLE 5.3: The Distribution of Study Population..... | 84 |
| TABLE 5.4: Characteristics of the Study Population..... | 84 |
| TABLE 5.5: Likert Scale..... | 86 |
| TABLE 5.6: Kolmogorov-Smirnov test..... | 86 |
| TABLE 5.7: Correlation coeff. of each paragraph of "the field no. 1" and the total of this field..... | 89 |
| TABLE 5.8: Correlation coeff. of each paragraph of "the field no. 2" and the total of this field..... | 90 |
| TABLE 5.9: Correlation coeff. of each paragraph of "the field no. 3." and the total of this field..... | 91 |
| TABLE 5.10: Correlation coeff. of each paragraph of "the field no. 4" and the total of this field..... | 92 |
| TABLE 5.11: Correlation coeff. of each paragraph of "the field no. 5" and the total of this field..... | 93 |
| TABLE 5.12: Correlation coeff. of each paragraph of "the field no. 6" and the total of this field..... | 94 |
| TABLE 5.13: Correlation coeff. of each paragraph of "the field no. 7" and the total of this field..... | 95 |
| TABLE 5.14: Correlation coefficient of Each Field and the Whole of Questionnaire..... | 96 |
| TABLE 5.15: Cronbach's Alpha for Each Field of the Questionnaire..... | 98 |
| TABLE 6.16: Age Classification of Respondents..... | 100 |
| TABLE 6.17: Gender Classification..... | 101 |
| TABLE 6.18: Education..... | 101 |
| TABLE 6.19: Experience..... | 102 |
| TABLE 6.20: Establishment..... | 102 |
| TABLE 6.21: Legal Status..... | 102 |
| TABLE 6.22: No. of Employees..... | 103 |
| TABLE 6.23: Incubation Duration..... | 103 |
| TABLE 6.24: Origin of the Business Idea..... | 104 |
| TABLE 6.25: Feasibility Study Preparation..... | 104 |
| TABLE 6.26: Business Plan Preparation..... | 105 |
| TABLE 6.27: Business Plan Duration..... | 105 |
| TABLE 6.28: Business Development Services..... | 105 |
| TABLE 6.29: Services Perceived from BTI..... | 106 |
| TABLE 6.30: BTI Assistance in the Optimal Utilization of Available Resources..... | 106 |
| TABLE 6.31: Means and Test values for "The field no. 1"..... | 109 |
| TABLE 6.32: Means and Test values for "The field no.2"..... | 111 |
| TABLE 6.33: Means and Test values for "The field no. 3"..... | 113 |
| TABLE 6.34: Means and Test values for "The field no. 4"..... | 115 |
| TABLE 6.35: Means and Test values for "The field no. 5"..... | 117 |
| TABLE 6.36: Means and Test values for "The field no. 6"..... | 119 |
| TABLE 6.37: Means and Test values for "The field no. 7"..... | 121 |
| TABLE 6.38: ANOVA Test of the Fields and their p-values for Age..... | 122 |
| TABLE 6.39: Independent Samples T-Test of the Fields and their p-values for Gender..... | 123 |
| TABLE 6.40: ANOVA Test of the Fields and their p-values for Qualifications..... | 124 |
| TABLE 6.41: ANOVA Test of the Fields and their p-values for Years of Experience..... | 125 |

List of Figures

| | |
|--|-----|
| FIGURE 1.1: Data Sources..... | 8 |
| FIGURE 2.2: Evolution of the Business Incubator Model..... | 14 |
| FIGURE 2.3: Business Incubation Model | 18 |
| FIGURE 2.4: Agents of the Incubation Process..... | 20 |
| FIGURE 2.5: Incubation Program Aspects..... | 22 |
| FIGURE 2.6: Financing Chain for a New Venture | 23 |
| FIGURE 2.7: The Five Level Framework for Strategic Sustainable Development (FSSD)..... | 26 |
| FIGURE 2.8: Economic Development Strategies | 28 |
| FIGURE 3.9: Business and Technology Incubator over Years | 45 |
| FIGURE 3.10: Business Incubation Stages..... | 50 |
| FIGURE 5.11: The Methodology Flow Chart..... | 85 |
| FIGURE 5.12: Graphical Depiction of the Definition of a (one-sided) <i>P</i> value | 88 |
| FIGURE 7.13 Proposed Incubation Framework..... | 134 |

Abstract

This study investigates the role of business incubators in achieving the sustainable development in the Gaza Strip as an important part of Palestine through studying a case study of the Business and Technology Incubator at IUG. It aims at exploring the barriers facing the startups and entrepreneurs in the Gaza Strip; identifying the business incubators and its services offered to start ups; studying the reasons of success and failure of incubated and graduated companies in business incubators, clarifying the role of business incubators in linking academic institutions with the industrial sectors, and then investigating the role of business incubators in the overall economic development in Palestine.

The population of the study was the incubated and graduated small start-ups, staff, trainers, and mentors. The study has adopted the descriptive analysis approach using the performance indicators concluded from a wide research among the literature. The study was implemented as a comprehensive survey where the population was 80 participants. Seventy-one of those were respondents to the questionnaire.

The study has concluded that business incubators are a key driver of sustainable development through enhancing the overall social and economic development. The respondents have agreed that the services they receive from business incubators serving them to optimal utilization of the resources, helping in transforming the innovative ideas into successful business, leading to generating more jobs, increasing the marketing potential, supporting innovative graduation projects, and bridging the gap between industry and academic institutions.

The Study recommends that: Business Incubators should focus on providing the required facilities for incubated SMEs to ensure its success. In addition to that, Business Incubators should follow a more systematic approach in their selection processes in order to recruit the most innovative ideas. Thus, policy and decision makers should support such initiatives in order to increase employment and then reduce poverty rates. Finally, the researcher has proposed a frame work for the activities of the business incubator in order to achieve better results and has suggested more indicators for evaluating the overall operations in business incubators in order to achieve the success that will lead to enhance the sustainable development.

Arabic Abstract

الملخص

تسعى هذه الدراسة إلى قياس دور حاضنات الأعمال في تحقيق التنمية المستدامة في قطاع غزة كجزء هام من فلسطين من خلال دراسة حالة حاضنة الأعمال والتكنولوجيا بالجامعة الإسلامية بغزة، وتهدف من خلال ذلك إلى استكشاف المشكلات التي تواجه رواد الأعمال والشركات الناشئة في قطاع غزة، بالإضافة إلى تحديد الخدمات التي تقدمها حاضنات الأعمال، ودراسة أسباب الفشل والنجاح للشركات المحتضنة والمتخرجة مبرزة دور حاضنات الأعمال في دفع عجلة التنمية الاقتصادية في فلسطين.

مجتمع الدراسة يتكون من الشركات المحتضنة والمتخرجة، وطاقم حاضنة الأعمال والتكنولوجيا، والمدرّبين، والخبراء، والمرشدين لرواد الأعمال، وقد تبنت الدراسة منهج التحليل الوصفي من خلال الاعتماد على المؤشرات التي استخلصها الباحث من الدراسات السابقة، فيما نفذت الدراسة باستخدام المسح الشامل لمجتمع الدراسة الذي بلغ 80 مشاركاً، فيما استجاب منهم 71 مشاركاً.

وقد خلصت الدراسة إلى مجموعة من النتائج أهمها أن حاضنات الأعمال تعتبر محركاً أساسياً في عملية التنمية المستدامة من خلال تعزيز جوانب التنمية الاقتصادية والاجتماعية، المشاركون وافقوا على أن حاضنات الأعمال قد ساعدتهم في الاستغلال الأمثل للموارد المتاحة، كما ساعدت الحاضنات المشاركين في تحويل أفكارهم الإبداعية والريادية إلى شركات ناشئة وناجحة، وقد أدى هذا إلى توفير فرص عمل مستدامة، وزيادة الفرصة التسويقية لهذه الشركات، كما كان للحاضنة دور بارز في دعم ورعاية مشاريع التخرج المتميزة عبر تحويلها إلى أفكار شركات ناجحة، وأخيراً فقد وافق المشاركون على أن الحاضنة ساعدت وبشكل جيد في ربط المؤسسات الأكاديمية بالقطاع الخاص والصناعي.

وقدمت الدراسة مجموعة من التوصيات الهامة منها: أن حاضنات الأعمال يجب أن تركز على توفير الموارد الكافية للشركات المحتضنة ومساعدتها في الاستغلال الأمثل لهذه الموارد، بالإضافة إلى ضرورة اتباع منهجية نظامية في اختيار الأفكار الإبداعية لزيادة نسب وفرص النجاح، وأوصت الدراسة بضرورة دعم حاضنات الأعمال لما لها من دور واضح في توفير فرص العمل ومحاربة الفقر.

وأخيراً فقد اقترحت الدراسة إطار عمل لاحتضان الأفكار الريادية والإبداعية من أجل تحقيق نتائج أفضل، بالإضافة إلى اقتراح مجموعة متكاملة من مؤشرات ومعايير التقييم من أجل عملية تقييم شاملة للخدمات والعمليات التي تجري في حاضنات الأعمال ووصولاً إلى تحقيق النجاح المنشود الذي سيؤدي حتماً إلى تعزيز التنمية المستدامة.

Chapter 1

General Framework

Chapter 1: General Framework

1.1 Introduction

In both developed and developing economies, policies supporting small and medium enterprises (SMEs) are widely promoted as their role for economic and social development is universally recognized. In most developing countries, although figures may vary considerably across countries and over time, micro- and small-scale enterprises account for the majority of firms and a relevant share of employment, and play a crucial role for economic growth (Scaramuzzi, 2002).

Micro, small, and medium-sized enterprises (MSMEs) perform a substantial role in the economies of Palestine. While there are some regional variations, only one percent of all private enterprises can be considered large. Eighty-seven percent of the Palestinian workforce is employed in MSMEs in Palestine. From the other side, Seventy-one percent of all MSMEs are found in the West Bank, while the number of enterprises in the Gaza Strip has been dramatically reduced as a result of the conflict and the unstable economic and political situation. This conflict also led to a dramatic loss of employment in the Gaza Strip and significant increases in poverty levels. (White and Kawasmi, 2010).

The economic situation in Gaza Strip suffers from a state of deterioration since 2000, due to a combination of political factors and Economic distracting circumstances. Rates of unemployment and poverty have reached great levels.

According to Palestinian Central Bureau of Statistics (2011), The unemployment rate in the Gaza Strip was 25.6% compared with 15.4% in the West Bank. The unemployment rate for males in the Palestinian Territory was 16.4% compared to 28.6% for females.

As for poverty, during the year 2007 poverty rates among Palestinian households amounted to 34.5% by 23.6% in the West Bank and 55.7% in the Gaza Strip. The figures that were released by the World Bank in 2008 widely reflect the results of PCBS, noting that the poverty rate in the West Bank has dropped from 22% in 2006 to just over 19% in 2007, but the crisis in the Gaza Strip meant that the poverty figures have risen in general. (UNDP, 2010)

These facts and figures illustrate how deep the economic problem is, so it was necessary to move towards innovative and creative ideas in order to overcome the economic crisis in the case of international economic boom that led to a positive impact on businesses in the region, as the establishment of small businesses are considered an important tool for developing the national economy, increasing the national income, reducing poverty and unemployment rates.

Economic development targeted to the high-tech sector is becoming more and more appealing to areas interested in boosting local and regional economies. With the higher than average wage and rapid growth potential typically associated with

technology-based companies, it is easy to see why. New economic development strategies include the notion of a creation strategy or "growing your own" instead of relying on what is commonly referred to as "smokestack chasing" (Fredrikson, 2001).

Business incubation is becoming increasingly popular in the industrialized world and in developing countries. Business incubators aim to maximize the chances of success of start-up companies by creating a supportive environment. Typically, this involves offering management assistance, mentoring, access to financing, flexible and low-cost leases, office services, etc. Although incubators are often thought of in terms of a building housing start-up companies, many incubators have gone 'virtual'. (Stefanovic et al., 2008). In addition to that, Business incubation is on the rise on a global scale. The key point is that, given the varied motivations and interest, support structures, and objectives of individual incubation programs, the question of how you measure the quality or success of an incubation program becomes complex. From a purely economic development perspective, the number of new jobs created and the amount of revenue generated by client companies are excellent metrics. If the stated goals of an incubator differ from pure economic development, however, these measures may only capture one dimension that may or may not meet the strategic purpose of the program. (O'Neal, 2005).

The Business and Technology Incubator (BTI) was established in 2006 through The World Bank by Information for Development (infoDev) Program. It aims to revitalize the local Palestinian industries through promoting entrepreneurship and the SME development. Since 2006, BTI has been working to serve Palestinian entrepreneurs and SMEs (BTI, 2012). This study tried to shed lights on the achievements and the impacts of BTI in enhancing the overall growth and achieving the sustainable development in The Gaza Strip as an important part of The Palestinian Territories.

SMEs are particularly vulnerable in their early/start-up years, where there is a higher percentage of inexperienced workers starting businesses. A lack of exposure to the formal sector's mature corporate governance (due to a widespread lack of employment opportunities) means that there are a significantly higher percentage of students or inexperienced entrepreneurs trying their luck at starting companies. ICT start-ups tend to attract technology professionals with little business experience. Further, the start-up environment can be significantly more hostile in a developing economy, where services remain inadequate, inaccessible or expensive. In a report quoted by the US Small Business Administration, the data shows that, across sectors, 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 after¹. Other analysts claim failure rates as high as 60 percent in the first five years and some anecdotal evidence in South Africa would even suggest it may reach up to 80%. In addition to the provision of physical space, clearly there are critical interventions that can be made by incubator programs that significantly help these individuals, such as management coaching, mentors, help in preparing effective business plans, administrative services, technical support, business networking, advice on intellectual property, and help in finding sources of financing (Davies, 2009).

1.2 Study Problem

Business incubators are among a variety of initiatives to stimulate economic growth by promoting the creation and development of new companies. The rapid growth of BIs in recent years confirms their importance in the economic fabric.

This thesis addresses the great importance that business incubators play in reducing the proportion of companies' failure in the Gaza Strip, through increasing the success rate for what they provide from integrated packages of business development services, and its impact on the achievement of sustainable development in the Gaza Strip.

It also, highlights the sustainable development and its various aspects and how could it be achieved. It shed lights on the services provided by business incubators to promote sustainable development. Finally, it declares the role of business incubators in achieving economic, social, and environmental development in Palestine.

Thus, the problem can be formulated in the following question:

What is the role of business incubators in the achievement of sustainable development in Gaza Strip?

1.3 Study Objectives

1. Identifying the economic key players and factors in the Gaza Strip.
2. Investigating the challenges facing the small and medium sized enterprises and entrepreneurs in The Gaza Strip.
3. Recognizing the business incubators and the services provided to SMEs.
4. Studying the success and failure reasons for the incubated SMEs in the BTI
5. Investigating the role of the business incubator as a bridge for linking academia with industrial sectors.
6. Investigating the role of business incubators in enhancing the economic and industrial sectors in the Gaza Strip.

1.4 Study Importance

The importance of the study comes from having the understanding of the need of adopting business incubators as an important tool in achieving development in Palestine, reducing poverty, and promoting creativity and entrepreneurship.

Thus, this could happen through: supporting the national economy and achieving development, supporting small businesses and increasing the chances of success and sustainability, and entrepreneurs to transform ideas into profitable companies, strengthening the bonds of the public and academic sector with the private sector, highlighting the role of academic and research institutions in the development of a knowledge-based economy, and the development of links and relations of the different industrial sectors in universities.

Here, the importance of the study appears as it addresses an important title, and studies the experience of the Business and Technology incubator in the Gaza Strip, so the study has a multiple important aspects:

1.4.1 Palestinian National Economy:

The importance of the study on the Palestinian national economy is clear as it deals with an important element and factor for the national economy, which are business incubators. It contributes in establishing of successful companies, creating self-employment, increasing profit opportunities and developing the Palestinian national income. It is also about building a knowledge-based economy.

1.4.2 Small and Medium Enterprises and start-ups:

Where business incubators are considered as an essential reason for the success of these companies, the study helps in providing better services to these enterprises and increasing their chances of success.

1.4.3 Entrepreneurs and Innovators:

The study addresses the services provided by the incubator in order to provide a suitable environment for innovation and creativity, transforming creative ideas into successful businesses, studying factors that increase the chances of sustainability, and transferring technology, and networking relationships.

1.4.4 Business and Technology Incubator (BTI):

Where the incubator is the case study of this thesis, it aims at highlighting development factors, challenges, reasons for success and failure, and the ways to overcome the obstacles facing the incubator.

1.4.5 Higher Education Sector:

This study is an opportunity for higher education sector including universities and colleges to enhance its relationships with industrial and private sectors. BIs are essential tool for transferring knowledge and technology to the business world as well as it provides academic institutions with practical experiences that seek to develop curricula and academic programs.

1.5 Study Parameters:

Location

The study examines the role of The Business and Technology Incubator in supporting the national economy and achieving the sustainable in The Gaza Strip as an important part of the Palestinian Territories. Therefore, it does not address the technical details related to the rest of Palestine.

Time Horizon

The study investigates the role of The Business and Technology Incubator in The Gaza Strip since its establishment in 2006. In addition, it measures the performance of The BTI until the development of This Thesis. So, it investigates the role of the BTI up to November, 2012.

Technical Experiences

Entrepreneurship and SMEs support through business incubation is a relatively new field in Palestine. So, experiences that are related to the management of incubators are limited.

1.6 Study Variables

1.6.1 Independent Variable

The independent variable of the study is the role of business incubators mentioned as the services produced by a business incubator along with its activities.

1.6.2 Dependent Variable

The dependent variable of the study is the sustainable development in The Gaza Strip and the achievement of the social and economic Development.

After a massive review of research and literature, the sustainable development could be introduced as a measure of the success factors of a business incubator. This research has considered 7 aspects of sustainable development in business incubators as the following:

- 1- Optimal exploitation and utilization of available resources of incubated start-ups
- 2- Transforming the innovative ideas into small start-up companies.
- 3- Increasing the success potential of start-up companies.
- 4- Generating new job opportunities
- 5- Increasing the marketing opportunities for incubated start-ups
- 6- Enhancing the success and growth of the innovative graduation projects
- 7- Linking the academic institutions with industry

When measuring the impact of business incubators on the overall economic and social development and growth, a researcher has to investigate indicators that are related to the input of the incubation process, management processes within a business incubator and its efficiency, and the output of its processes.

1.7 Study Hypothesis

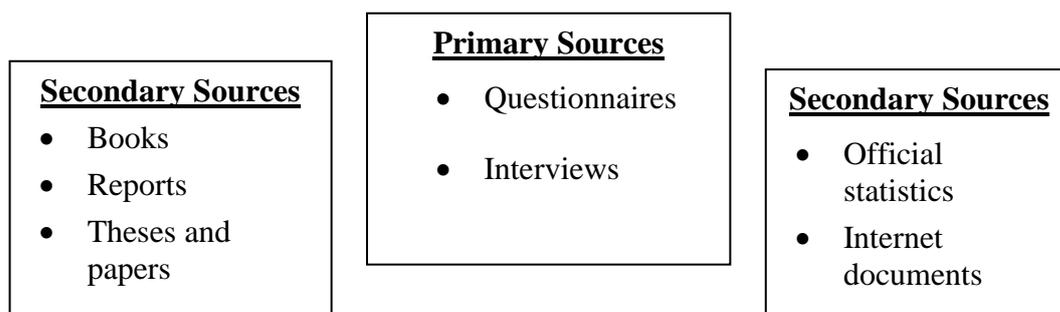
- 1- The services produced by a business incubator along with its activities affect positively in optimal exploitation and utilization of available resources of incubated start-ups to a statistical level of 0.05
- 2- The services produced by a business incubator along with its activities affect positively in transforming the innovative ideas into small start-up companies to a statistical level of 0.05

- 3- The services produced by a business incubator along with its activities affect positively in increasing the success potential of start-up companies to a statistical level of 0.05
- 4- The services produced by a business incubator along with its activities affect positively in generating new job opportunities to a statistical level of 0.05
- 8- The services produced by a business incubator along with its activities affect positively in increasing the marketing opportunities for incubated start-ups to a statistical level of 0.05
- 5- The services produced by a business incubator along with its activities affect positively in Increasing the success and growth of the innovative graduation projects to a statistical level of 0.05
- 6- The services produced by a business incubator along with its activities affect positively in enhancing the success and growth of the innovative graduation projects to a statistical level of 0.05
- 7- The services produced by a business incubator along with its activities affect positively in linking the Academic institutions with industry to a statistical level of 0.05
- 8- There are differences with a statistical level of 0.05 between the means of the questionnaire participants opinions about the role of the business incubators in the achievement of the sustainable development in the Gaza Strip referred to the following personal variables (gender, age, education, and years of experience).

1.8 Data Sources

This study depends on various sources of data since the researcher as adapted a wide range of tools starting from distributing questionnaires among beneficiaries, staff, experts reaching to a massive review of books, studies, reports, articles, and finally, the researcher observation and data records. Figure (1.3) illustrates the data sources of this research.

Figure (1.1) Data Sources



Source: Narrated by researcher

1.9 Research Structure

This thesis is composed of 7 chapters. It deals with different aspects of the study starting from describing the general framework of the study reaching to the final results, conclusions, and recommendations.

Chapter one introduces the social and economic situation in Palestine especially in the Gaza Strip. It mentions unemployment and poverty problems among the youth. It also highlights the role of business incubators as a means to overcome small and medium-sized enterprises' challenges. It produces a general framework of this thesis through declaring the study objectives, importance, variables, and hypothesis.

Chapter two introduces valuable information about business incubators. It describes the emergence, the definition, the process, the types, and the management of business incubators. It also describes the best practices in evolving a successful university-based incubator. It illustrates the technology incubators and their benefits. Finally, it declares the evaluation process of a business incubator's services and impacts.

Chapter three introduces a narrative definition for the Business and Technology Incubator (BTI). It describes key features of the BTI, including the organizational structure and staffing, services, evaluation criteria, marketing strategies, client processes.

Chapter four introduces the previous literature in the field of this study. It describes the efforts in investigating the role of business incubators in achieving the overall economic and social growth.

Chapter five describes the methodology that was used in this research. The adopted methodology to accomplish this study uses the following techniques: the information about the research design, research population, questionnaire design, statistical data analysis, content validity and pilot study.

Chapter six tests the thesis hypothesis. All of these findings were discussed in the context of the previous literature.

Finally, chapter seven provides the most important findings, results, conclusions, and recommendations of the study. These conclusions and recommendations are very useful for incubator staff, universities, policy makers, researchers, and the stakeholders of business incubation.

Chapter 2

Business Incubators

Chapter 2: Business Incubators

2.1 Introduction

This chapter introduces valuable information about business incubators. It describes the emergence, the definition, the process, the types, and the management of business incubators. It also describes the best practices in evolving a successful university based incubator. It illustrates the technology incubators and its benefits. Finally, it declares the evaluation process of a business incubators services and impacts.

2.2 Business Incubators Definitions:

Business incubation is a well-known technology for assisting the creation, survival and growth of new businesses (entrepreneurship) through providing integrated packages of business developments services. The cultural concept of entrepreneurship is not a universal concept and its definition and cultural relevance varies by country (Robinson, 2008, p18).

The National Business Incubation Association (NBIA) of the United States defines business incubation as business support process that accelerates the successful development of start-up and fledgling companies by providing entrepreneurs with an array of targeted resources and services. These services are usually developed or orchestrated by incubator management and offered both in the business incubator and through its network of contacts. A business incubator's main goal is to produce successful firms that will leave the program financially viable and freestanding. These incubator graduates have the potential to create jobs, revitalize neighborhoods, commercialize new technologies, and strengthen local and national economies." (NBIA 2012).

Webster's Dictionary defines the term "incubator" as:

a: an apparatus by which eggs are hatched artificially; b: an apparatus with a chamber used to provide controlled environmental conditions especially for the cultivation of microorganisms or the care and protection of premature or sick babies. (O'Neal, 2005)

At the firm level, the incubator provides a value-adding support system for leveraging entrepreneurial agency, which typically includes a raft of tangible and intangible services to help the new venture get off the ground. Tangible services include shared, subsidized rental space, and office infrastructure, such as secretarial services and business/office equipment. Value-added services in the form of in-house consulting and access to a network of support businesses specializing in marketing, business planning, legal, accounting, and other services are typically provided as intangible services. Financial services to incubatees in many cases include introductions or connections to sources of risk capital for the new venture and in some rare cases, direct investment by the incubator in its more promising incubatees (Chandra, He and Fealey, 2007).

Hackett and Dilts (2004), based on insights they acquired from reviewing the literature as well as from conducting fieldwork in Asia and North America, offer the following definition:

A business incubator is a shared office space facility that seeks to provide its clients (i.e., "portfolio" or "client" or "tenant companies") with a strategic, value-adding intervention system (i.e., business incubation) of monitoring and business assistance. The incubator can control and link resources that assist in the development of its clients' new ventures, and simultaneously helps contain the cost of their potential failure. Additionally, they offer the following corollary:

When discussing the incubator, it is important to keep in mind the totality of the incubator. Specifically, as a firm is not just an office building, infrastructure, and articles of incorporation, the incubator is not simply a shared-space office facility, infrastructure, and mission statement. Rather, the incubator is also a network of individuals and organizations including the incubator manager and staff, incubator advisory board, client companies and employees, local universities and university community members, industry contacts, and professional service providers such as lawyers, accountants, consultants, marketing specialists, venture capitalists, angel investors, and volunteers (Hackett and Dilts, 2004, p. 57).

United Kingdom Business Incubation defines business incubation as a unique and highly flexible combination of business development processes, infrastructure and people designed to nurture new and small businesses by helping them to survive and grow through the difficult and vulnerable early stages of development (Harman and Read, 2003).

The above definition focuses on the "process" rather than on a "facility." It captures the notion of providing a supportive environment for new companies, much in the same context as the original incubator has done in the life sciences. The difference is that the nurturing environment necessary to hatch new companies depends more on a process and services than on the physical environment.

Other famous definitions from formal organizations working in the field and supporting incubation initiatives worldwide offers inclusive definitions: incubator is 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 (O'Neal, 2005).

It can be summarized that business incubation is the process of supporting entrepreneurs through providing them an integrated packages of business development services such as: working space, business assistance, coaching, business and technical training, matchmaking, and networking in order to ensure the success of incubated tenants through removing the business barriers and enhancing the sustainability of the these businesses.

2.3 Emergence and Evolution of Business Incubators:

Business incubation formally began in the US in the 1960s, and later developed in the UK and Europe through various related forms (eg. Innovation centers, techno poles/science parks). It is recognized as a way of meeting a variety of economic and socio-economic policy needs which can include: Employment and wealth creation, Support for small firms with high growth potential, Transfer of technology, Promoting innovation, Enhancing links between, universities, research institutions and the business community, Industry cluster development, Assessment of a company's risk profile. (Davies, 2009).

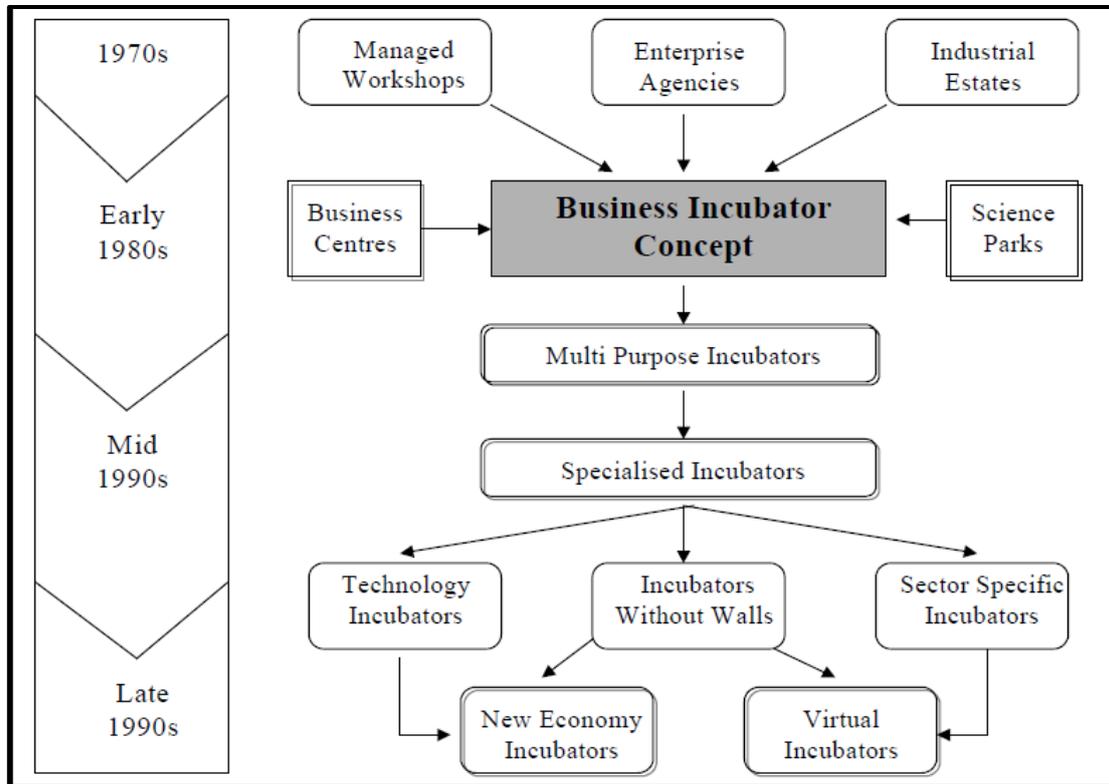
It was originated in an effort to reuse abandoned or underutilized buildings. Since then, business incubation practices have matured to a standardized set of procedures. Incubation has spread to over 4,000 incubators worldwide (Hackett and Dilts, 2004).

Webster's Dictionary defines the term "incubator" as: an apparatus by which eggs are hatched artificially; b: an apparatus with a chamber used to provide controlled environmental conditions especially for the cultivation of microorganisms or the care and protection of premature or sick babies. The dictionary dates this entry as 1857. Starting in the mid-1980s, editors of the journal *Frontiers of Entrepreneurship Research* dedicated a session each year at their conference to business incubation. It is from these sessions that the definition of business incubator used by much of the industry began to emerge (O'Neal, 2005).

Business incubators provide common access to the resources; support and services that smaller and newer businesses need to establish themselves successfully in a given environment. In its generic sense, the term 'business incubator' is often used to describe a wide range of organisations that in one way or another help entrepreneurs develop their ideas from inception through to commercialisation and the launching of a new enterprise. A broad definition of the term embraces technology centres and science park incubators, business and innovation centres, organisations which have no single physical location and concentrate instead of managing a network of enterprise support services ('incubators without walls'), so-called 'new economy' incubators, and a variety of other models. (Center for Strategy & Evaluation Services, 2002)

The evolution of the business incubator concept is summarized in the following Figure:

Figure (2.2) Evolution of the Business Incubator Model



Resource: infoDev's Incubator Support Center (Idisc), 2003

As of October 2012, there were over 1,250 incubators in the United States, up from only 12 in 1980. NBIA estimates that there are about 7,000 business incubators worldwide. The incubation model has been adapted to meet a variety of needs, from fostering commercialization of university technologies to increasing employment in economically distressed communities to serving as an investment vehicle. (NBIA, 2012)

2.4 Types of Business Incubators

This section gives an introduction to the types of business incubator that exist globally, noting that incubators will vary between countries and regions depending on the local conditions, culture and the range of other business development services available

There is a broad spectrum of models of business development through business incubation. However, the vast majority of business incubators fall into two general categories: technology, focusing on commercialization of new technology and technology transfer; or, mixed use servicing a wide range of clients. (Idisc, 2012)

Incubation programs come in many shapes and sizes and serve a variety of communities and markets (NBIA, 2012: Source: 2012 State of the Business Incubation Industry):

- Most North American business incubators (about 93 percent) are nonprofit organizations focused on economic development. About 7 percent of North American incubators are for-profit entities, usually set up to obtain returns on shareholders investments.
- 54 percent are “mixed-use,” assisting a range of early-stage companies.
- 37 percent focus on technology businesses.
- About 6 percent focus on service businesses, serve niche markets or assist other types of businesses.
- 3 percent serve manufacturing firms.
- About 47 percent of business incubators operate in urban areas, 28 percent operate in rural areas and about 25 percent operate in suburban areas.

Either type can be specialized in a particular industry, although possibilities need to be strongly qualified with regard to the critical mass that can be achieved. With a specialized business incubator the pool of possible clients is limited. In large economies such as the USA and in Europe there are many variants of business incubator, but in smaller countries it may be hard to achieve critical mass at a very general business incubation level, let alone for a more specialized variant. (idisc, 2012)

Incubator models may vary according to :

- their mandate (for-profit or not- for-profit)
- the type of sponsorship they have (public – private – mixed)
- their focus (mixed-use – niche). The most frequent types of niche incubators are related to technology (technology incubators) and bio-technology (bio-incubators). More recently, and especially in the U.S., a new generation of dot.com incubators emerged, although their number considerably decreased after the so-called ‘internet bubble’ in early 2000.

Accordingly, Incubation models could be classified as the following types or models:

2.4.1 First Generation Incubators

Generally characterized by a strong ‘real estate’ component and proximity to research institutes or technical university environments, this type of incubator is generally created by building new facilities, such as science, technology parks, or technopoles, or by readapting abandoned buildings (e.g. industrial complexes). Its real estate component often implies considerable public investments, sometimes supported by national or local programs for innovation, job creation and economic development. Sustainability is considered a major challenge of these initiatives, which always require considerable fixed investments, have long development life-cycles and can suffer from

inadequate financing and exit mechanisms for graduating companies. The most frequent “success factors” of these systems are tied to their capacity to focus on new venture creation rather than on real estate management, governance with an entrepreneurial management, and a strategic marketing orientation. (Scaramuzzi, 2002)

2.4.2 University Incubators

University incubators are established in or by university campuses. There are different models, sizes and nuances regarding these kinds of initiatives. The common factor is that these incubators generally promote the development of new research/technology-based firms inside their own facilities. The role played by universities consists of linking research, technology, capital and know-how to leverage entrepreneurial talent, accelerate the development of new technology-based firms, and speed up the commercialization of technology.(Sarfraz, 1996)

2.4.3 Virtual Incubators

Virtual incubators are considered the “second generation” of incubators. These incubators are non-property-based ventures which require lower fixed investments and are regarded as a possible way of servicing SMEs in areas with insufficient critical mass. Virtual incubators are often hosted by a university or a research center, and are characterized by their capacity to operate both within walls and outside. When they operate as “incubators without walls” they serve newly created firms without hosting them within the incubator’s facilities. They usually generate externalities among firms linked via computer and telecommunications networks. Most virtual incubators are technology- oriented, and are aimed at transforming research into marketable products. The offering of pre- incubation and post- incubation services are considered a natural evolution of this model. Examples of incubators without walls exist in several countries, including in Brazil, Russia and Australia. . (Scaramuzzi, 2002)

There are a few basic ‘virtual incubation’ models (Stefanovic et al., 2008)

- Incubator-based models – physical incubator with enhanced ‘outreach’ incubation and/or aftercare programs.
- ICT -enhanced networks – signposting via on-line portal to networks of business support organizations that combine to create an incubation system. But ‘traditional’ methods are used to deliver most services.
- Fully virtual system – most/all incubation services are available to clients using a combination of on- line/other virtual methods.

According to Malan J., (2007) virtual incubators generally support following services:

- Early stage start -ups that do not need a physical base or who have own workspace
- Entrepreneurs who are home workers /thinking of starting up from home
- Location independent working (LID) – e.g. translation services, creative/cultural enterprises, ICT -based businesses or those with a high virtual

content, e.g. web- designers, some high tech businesses, where support can be provided remotely (e.g. software development)

- Business incubator tenants that have graduated' to locations elsewhere and need aftercare support/retention
- Businesses in rural regions or other relatively isolated areas, or where target group is dispersed
- Other businesses requiring specific services than can be delivered virtually (e.g. grant applications).
- Entrepreneurship appraisal - assessment of personal qualities and business ideas
- Virtual office' services – message handling, virtual post box, ICT/e- mail, website hosting.
- Business services – business planning, legal advice, tax, marketing information, etc
- Access to finance – investment readiness programs, matching with investors, etc
- 'Virtual classroom' – business skills, finance, human resource management issues, etc
- Mentoring – advice from experts and access to experienced business people
- Networking – access to e- government (e.g. company registration), business services, other businesses/clusters, trade associations, etc
- Technology transfer – access to technology offers, licensing opportunities, etc

2.4.4 International Enterprise Centers – International Business Incubators

This model is considered the “third generation” of incubators. These incubators provide a full range of support services for the development of knowledge-based businesses. Most of them are export-oriented and show impressive growth rates and sales records. They link universities, research institutes, venture capital and international joint ventures. (Scaramuzzi, 2002)

2.4.5 Incubator Networks

This is a network of incubators within the same region or country, or with the same focus. Their strength is based on their capacity to share knowledge and resources, and on the linkages and synergies that can be created in a research and development framework.

2.4.6 Dot.Com Incubators

Dot.com incubators present a 'model' with specific features. This model of incubators or Internet business accelerators are a relatively recent but well-known phenomenon in developed markets.

Generally it is clear that incubator models have been changing during time, from models that are oriented strictly to infrastructure (buildings, etc) toward models that are more oriented toward services. (Stefanovic et al., 2008)

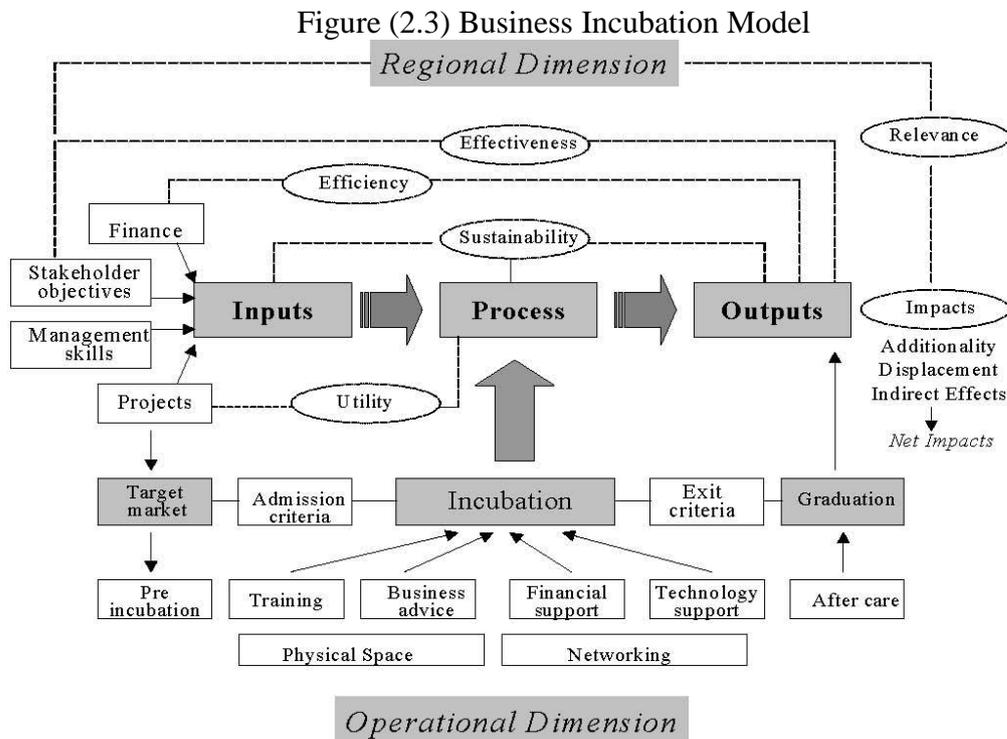
2.5 Incubation Process

The concept/model of “incubation” should also be clearly identified and be consistent with the objectives the incubator wants to achieve. In the preparatory analysis, the ‘incubation process’ - in terms of objectives, targets, services, and deliverables – should be clearly identified. Incubation models should be considered in accordance with the country’s private sector development status and needs. Successful models and governance systems should also be analyzed in order to select the approach better fitting the initiative’s goals, mandate, and operational capabilities. The long-term sustainability of the incubator should also be considered key in the strategic planning of the incubator (Scaramuzzi, 2002).

The way in which business incubators operate can be depicted in terms of a simple input-output model (Centre for Strategy & Evaluation Services, 2002, Appendix3):

- Inputs – these mainly consist of the inputs made by stakeholders (e.g. providing finance), management resources, and projects put forward by entrepreneurs;
- Processes – the various inputs are brought together in the business incubation process through the provision of incubator space and other services to companies;
- Outputs – successful companies graduate with positive job and wealth creation impacts on local economies.

The diagram below sets out the model in schematic format, combining the incubator input-output dimension (shown in the bottom half of the diagram) together with key best practice issues (shown in the top half of the diagram).



Source: (Costa-David, Malan, and Lalkaka, 2002, P4.)

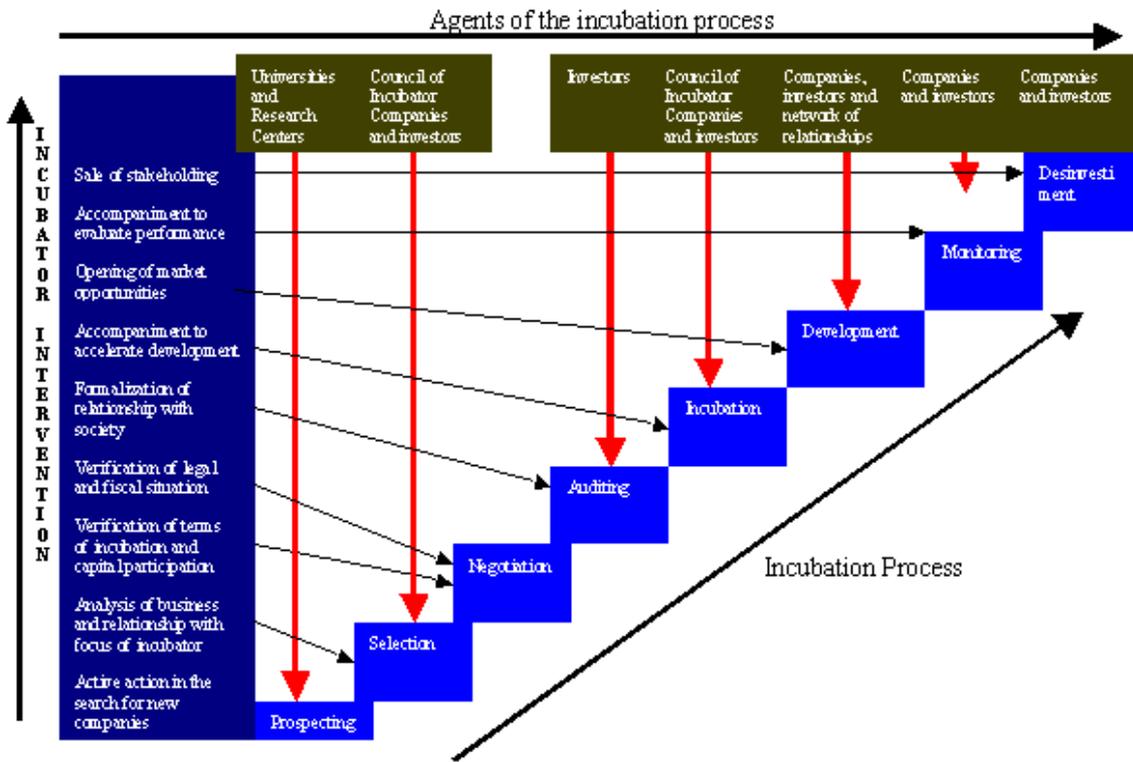
The report made by the European Commission (European Commission, 2002, p. 41) presents an incubation model that includes the elements necessary for the generation and development of the incubated companies. This model is described from the simple process of entry-exit:

1. Entry: consists mainly of the entry made by the stakeholders (e.g., financial resources), management resources and projects presented by entrepreneurs.
2. Process: the various entries are conciliated in the incubation process through the supply of physical space and other services to companies.
3. Exits: successful graduated companies, which produce a positive impact on the local economy in terms of employment and development.

Taking the operational dimension, projects are identified that meet the criteria used to define the incubator's broad target market (e.g. projects with a particular technology focus). Some entrepreneurs may be encouraged to go through a 'pre-incubation' process, typically involving a combination of training and business planning, before they gain admission to the incubator. The incubation process itself typically brings together three categories of business support services – training, advice on business issues, financial support (either from an incubator's own sources or from external providers, i.e. financial institutions), and technology support. The provision of incubator units and networking (internally between tenants and externally with other organisations, e.g. universities, large companies) constitute the other basic features of the 'package'. A key feature of incubators is the limited duration of assistance with exit criteria typically specifying that firms should 'graduate' after a fixed period of time (e.g. five years). Some firms will of course leave sooner if they grow rapidly and require more space than the incubator can provide. However, in many cases, contact will be retained with 'graduate' companies through the provision of after-care services and/or on-going networking. (Costa-David et al, 2002)

A more generic incubation model has been proposed by Moreira (2001, p. 16), that of the business accelerator ALAVANKE, in Florianópolis, Brazil, where the performance of the incubator and the role of the different players involved in the process are considered, as can be seen in Figure 4. (Bizzotto, Idisc, 2003).

Figure (2.4) Agents of the Incubation Process



Sources: (idisc, 2003)

This model was conceived from the point of view of the venture capital. The phases of this model are as follows (idisc, 2003):

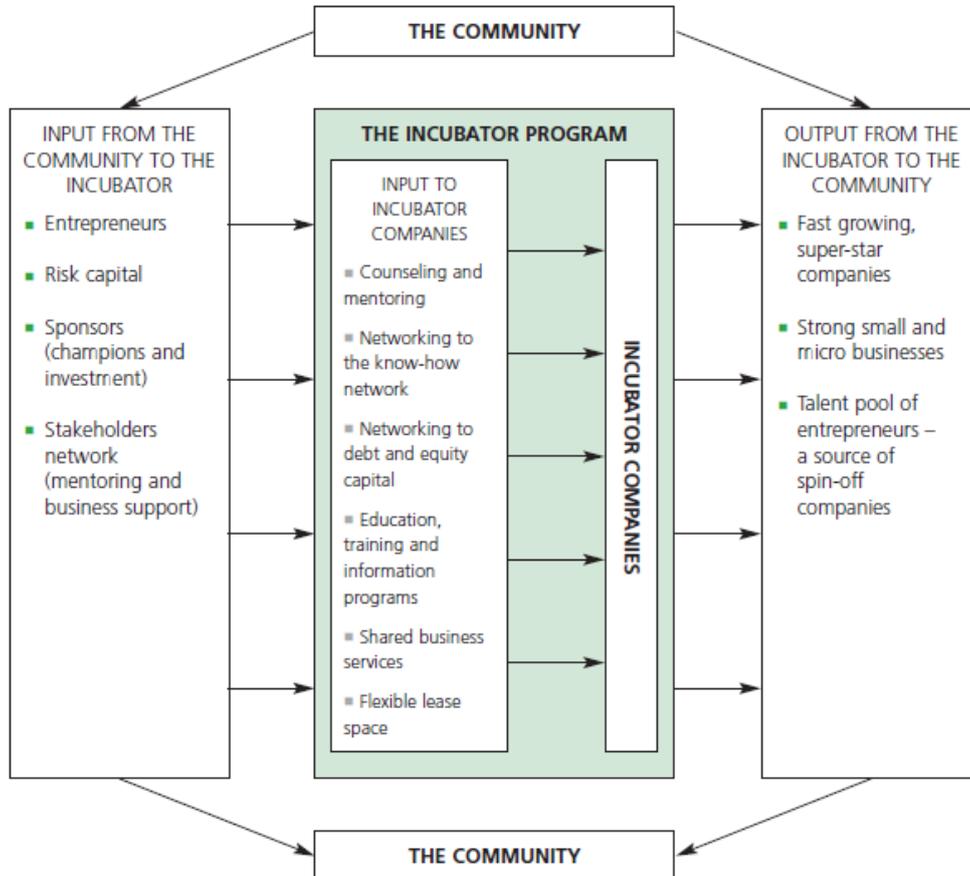
- Prospecting:** In the prospecting phase, the incubator should have a positive attitude to look for projects to be incubated. The encouragement and promotion of entrepreneurial activities are developed together with universities and research centers, allowing for an improvement in the flow of businesses that are candidates for incubation.
- Selection:** The selection process consists of the analysis of the business propositions of the company. When the projects have been made, the incubator will choose those with the best characteristics, and this will include a more detailed analysis of the aspects that are contained in the business plan of the company, if it exists.
- Negotiation:** The conception of this model foresees that the incubator holds shares in the incubated companies; so, in the negotiation phase the incubator will present the terms and negotiate the conditions to incubate the company. In this phase, the contracts and instruments that will be used during the period when the business remains incubated will be presented.
- Auditing:** After the negotiation phase, the incubator should find out more about the business which it will be incubating and in which it will have a share. This process is called the audit, and includes a detailed analysis of the accounts and legal aspects in order to verify the fiscal and contractual

situation of the company. The aim of the audit is to minimize recurring risks from possible fiscal irregularities, liabilities with labor or clients / suppliers who might jeopardize the business of the company.

- e) Incubation: The incubator consists of the formalization, through a contract, of the incubator / company relation. In this phase, the terms of the negotiation, which have been previously defined, are put into practice through legal instruments that have been developed for this purpose.
- f) Development: Once the formalities of the previous phase have been carried out, the incubator will work hard to structure the business model of the new company. Here, the interaction with investors and interested companies, and with the network of relationships of the incubator, will be fundamental to confirm the strategy that will be adopted. All the planning of the new company will be structured in this stage, in addition to the development of the product / service, the definition of the need for finance, the projections of cash flow, the commercial and marketing strategies, the need for physical space, etc. The result of this stage is the structuring of a business plan for the new company, which will be a reference for its period in the incubator.
- g) Growth: The growth phase should also have the active participation of the incubator and the investors or interested companies that may participate in the company. This is because it is in this phase that what was planned in the previous phase should become concrete and evolve into what will eventually become a process of commercial expansion. Those involved should work for the commercial promotion of the company. The importance of a good network of relationships will make a difference in this period and will open doors to present the company to potential clients and companies interested in the technology developed.
- h) Monitoring: Once the company has reached a determined level in its growth curve, the level of control and participation of the incubator will be changed. At this point, the company will already have sufficient critical mass to be autonomous in terms

The following figure shows the aspects of business incubation process through highlighting the input from community to BIs and then the incubation program reaching the output from BIs to the community.

Figure (2.5): Incubation Program Aspects

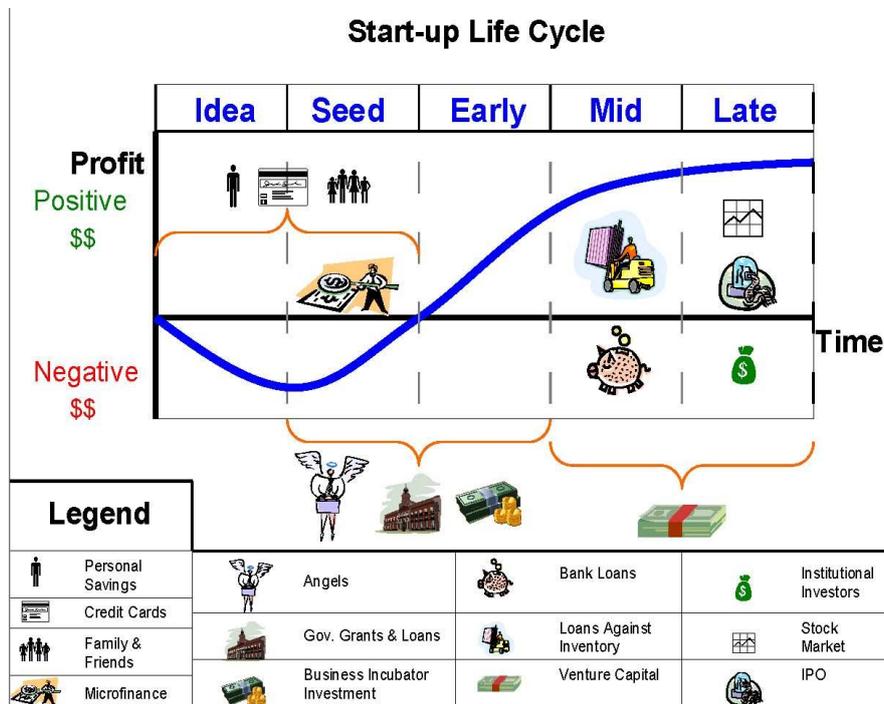


Source: (Rouwmaat et al., 2003)

2.6 Incubator Services/Financial Services

A new venture's capital needs vary over its life cycle from inception through its growth stages. Most countries have gaps in the capital market for early stage funding when firms have little or no track record and/or collateral to seek funding from banks. Lack of financing for new ventures will thwart the creation of dynamic local economies built around a robust SME sector. Access to financing is crucial factor for innovation to occur. Gaps in financing, particularly for early stage ventures, can be a major deterrent to new business creation, often leading to a fledgling venture's early demise. Financial institutions are hesitant to lend money to a firm with little or no track record and no collateral. Even in a developed market economy, such as the United States, there are some gaps in the financing chain for new ventures. For example, a start up at the earliest stages of its creation is often dependent on personal funds and funds from friends/family for the most part. Figure (2.6) provides an overview of a typical financing chain for a new venture over its life cycle with its changing capital needs. (Chandra, 2007).

Figure (2.6): Financing Chain for a New Venture



Source: (Ghandra, 2007)

2.7 Incubator Leadership and Management

The success of any organization, whether it is a nonprofit or profit seeking enterprise, depends on its human potential. Notwithstanding all the technology available today for business management purposes, people are the determinant factor underlying every process since, on the basis of their personal inferences; they are the factors that determine success or failure. “Without a first line team, a company’s plans will rarely be brought to fruition” (Dornelas, 2001). Precisely the same principle applies to business incubators. The teams charged with management and operations are fundamental to success (Sheila, 2003)

The Council or the board of directors has the task of defining the policies of the incubator, elaborating strategic planning, evaluating performance and proposing improvements or alterations as required by the incubator’s services. Other Council responsibilities encompass the definition of criteria and parameters for selection of businesses that are candidates for admission to the incubator; managerial supervision and resolution of those administrative questions that are beyond the purview of management. Also with regard to the composition of the board of directors or Council, Rice and Matthews (1995) suggest that the optimal composition would have the following members:

- Leaders with a clear vision of the mission of the incubator and the capacity to motivate and support staff's commitment and mission;
- Networkers or professionals with investment and professional services community connections;
- Professionals that can aid the direct in operational and managerial activities;
- Service suppliers and mentors who can provide companies with advice and facilitate the use of resources;
- Venture capitalists, angel investors and bankers who understand the concept of business risk and provide enterprises with financing;
- Entrepreneurs who developed successful businesses and are able to ensure that the incubator services are important for their clients;
- Technicians who can help the director of manager to evaluate the technical components of the new businesses that are candidates for the incubator.

It is recommended to stress the following as being the major responsibilities of staff of incubators:

- Management of facilities;
- Maintenance of shared services;
- Management of staff and trainees;
- Management of marketing for incubated companies;
- Management of the accounting and finances of the incubator;
- Procurements.

Looking at the role of incubators in the entrepreneurial process, Peters et al. (2004) cite the past research of Wiggins and Gibson (2003) showing that incubators must do five things well in order to succeed:

- (1) establish clear metrics for success;
- (2) provide entrepreneurial leadership;
- (3) develop and deliver value-added services to member companies;
- (4) develop a rational new-company selection process; and
- (5) ensure that member companies gain access to necessary human and financial resources.

2.8 Supportive Mechanisms of an Incubator

Thus the usual performance metrics like floor space and space utilization miss the point. What is needed are measures that assess the effectiveness of an incubator effort based upon its degree of fit and gap closing in the community which is the target benefactor of its services. While the main thrust of this research project is to identify measurement processes that will focus on the multi-dimensional fit assessment (O'Neal, 2005).

The most common types of firms using business incubators are light manufacturing, technology and service firms, and those developing new products or engaged in research and development. There are a limited number of construction-related, sales and marketing, or wholesale and distribution firms using incubators. A retail operation is considered a poor fit for incubation (Molnar, 1997).

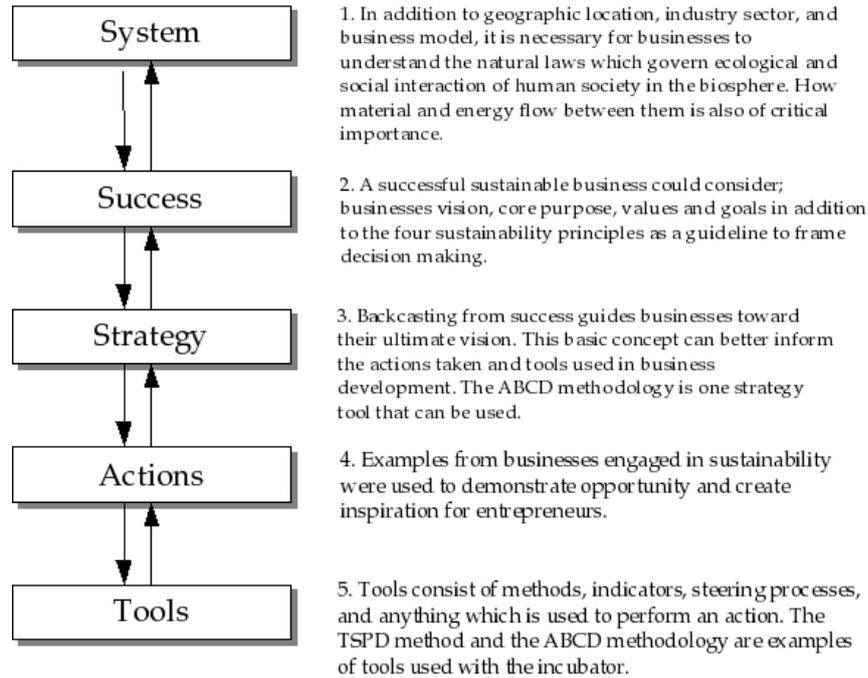
2.9 Introducing Sustainable Development in BIs

Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs (OECD, 2008). So, it is about optimum utilization of financial, human, and natural resources in order to achieve the needs of the present generations in a way that does not adversely affect the needs of the future generations, and to achieve the economic, social and environmental development.

The creative industries contribute to sustainable development. It is becoming increasingly recognized that the concept of “sustainability” has a larger scope beyond simply its application to the environment. The tangible and intangible cultural capital of a community, a nation or a region of the world is something that must be preserved for future generations just as natural resources and ecosystems need to be safeguarded to ensure continuation of human life on the planet. Cultural sustainability implies a development process that maintains all types of cultural assets, from minority languages and traditional rituals to artworks, artefacts and heritage buildings and sites. It is the creative industries that provide the services and the investments necessary for culturally sustainable development paths to be followed. Furthermore, creative industries are environmentally friendly. Since the primary input for creative activities is creativity rather than natural resources as in the case of mining or land in the case of agriculture and the production of creative products is usually less dependent on heavy industrial infrastructure, policies for enhancing creative capacities are in principle compatible with objectives of environmental protection (UNDP and UNCTAD, 2009).

According to (Blankenship et al, 2007), The Framework for Strategic Sustainable Development (see Figure 1.2), designed in the early 1990s, is meant to facilitate such development, and is not based on prescriptive actions, but on a structural approach to guide complex decision making (Robèrt 2000, p. 247). This broad approach has been designed to complement existing tools and strategies. It acts quite like a compass for planning the societal transition toward sustainability, which organizations can use to find their own creative way to reach their goals. (Broman et al, 2000, p. 14).

Figure 2.7 The Five Level Framework for Strategic Sustainable Development (FSSD)



Source: (Blankenship et al, 2007. P3)

Strategic Sustainable Development can be integrated into a business incubation process. A business incubator is committed to moving forward with the implementation of the proposed integration of sustainable development into the incubation process.

2.10 Small Businesses as a Tool towards Sustainable Development:

Given the fact that small enterprises are an important source of economic growth, development and employment, there is a societal need to identify ways of introducing sustainability planning into such companies. Like small companies, startup companies display more flexibility in their decision making processes, and also have fewer resources for implementing those decisions. This stage of a company's development poses an important leverage point, as designing a business strategy that will anticipate risk and maximize opportunity is an essential planning tool for success (Blankenship et al, 2007).

The company has become a small strategic choice adopted by developing countries to achieve its economic goals, as developed countries made many advantages as venerating their exports and national income. Moreover, these institutions contribute in achieving competitive advantage for its countries because the small enterprise is a natural progression of human behavior toward work and maximizing the wealth and creativity and gaining the confidence of the market and creating wealth and achieving the competitive advantage that most strategists and economists focus on.

The government's overall national objectives, such as (OECD, 2004):

- Fostering economic growth and productivity;
- Creating employment;
- Improving international trade performance and competitiveness;
- Remedying any imbalances in economic and social development including poverty alleviation.

In many transition economies it is not uncommon to find long lists of small enterprise development projects without any clear linkage to major national goals.

Small enterprises contribute in sustainable development through economic and social development by what these companies offer such as varying sources of income, reducing the risk of economic fluctuations, contributing in increasing rates of growth and development, and expanding the productive base and using local resources optimally. In addition, small enterprises contribute in the promotion of the individual and collective entrepreneurship by developing economic activities that didn't exist before. They also contribute in the revival of the activities that have been abandoned. Finally, they contribute in the creation of new jobs and the integrating of demobilized from their offices (Khalil and Hana, 2006).

2.11 The Role of Universities in Business Incubators

As noted in previous sections, many incubators are sponsored by academic institutions. Others have established close relationships with universities and colleges. Technology incubators, in particular, use universities as a technology source and as a means to provide opportunities for their tenant firms to leverage university research in their commercialization efforts. (O'Neal, 2005)

In a previous study of the relationship of firm performance and its link to academic institutions, researchers found that growth companies with university ties have productivity rates almost two-thirds higher than their peers (Coopers and Lybrand, 1995). This result was based on interviews of some 424 product and service companies. Companies that used university resources also project 21% higher annual revenues, 32% more recent bank loans, and 23% more major capital investments. Of the companies interviewed, 59% indicated no relationship with the university. Growth companies used students as resources where 70% hired student interns, while 40% recruited their employees directly from the student population. Additionally, 44% of the firms indicated that they employed faculty as technical resources. In addition to these resources, the growth companies used university laboratories and facilities. While the growth companies were satisfied with their relationships, certain barriers existed, including faculty culture, lack of active support for coordinating programs, inappropriate technology or research for business, and lack of expertise in working with growing companies. Overall, approximately 29% of the total population of growth companies indicated that their relationship with a university had been extremely helpful to their company's growth.

(O'Neal, 2005), a review about evolving university based incubators, stressed on the role of universities with respect to the commercialization of technology. In this context, the study suggested four categories of activities:

- (1) Evaluation of innovations and patent policies;
- (2) Commercialization, innovation, and technology transfer;
- (3) Entrepreneurship; and
- (4) Incubator activities and research parks. With respect to incubator activities,

In his review, he mentioned some literature stating that incubators offer not only general business services, but also direct assistance such as business advisory services, seed money, and assistance in securing venture capital.

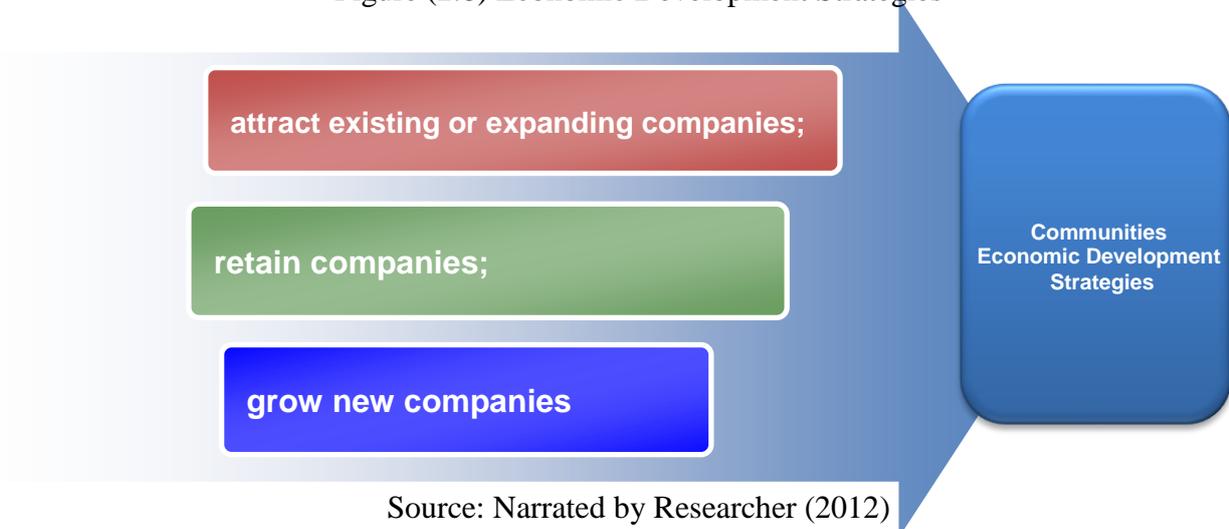
That research is designed to distinguish and understand incubator quality and the performance of technology incubator programs. The answers to these questions will better inform economic development officials on how to invest scarce resources. The research also seeks to understand and overcome problems with previous evaluative research on business incubation: small sample sizes, selection bias, combining the results from different types of incubators, and the failure to control for the environmental context (O'Neal, 2005; Mian, 1996; Barse, 1998; Lewis, 2002).

In the case of technology incubator research, other obstacles exist including their nascent nature and their limited number (Mian, 1996). The growth of this segment of the industry in the 1990s has increased their numbers, and as we entered the twenty-first century, they began to mature. Communities have three basic economic development strategies: attract existing or expanding companies; retain companies; and grow new companies. To understand better the differences, consider the following examples.

Communities have three basic economic development strategies:

1. Attract existing or expanding companies
2. Retain companies
3. Grow new companies

Figure (2.8) Economic Development Strategies



Source: Narrated by Researcher (2012)

Different tools, strategies, and practices have been developed across the modern world to stimulate or catalyze new company creation. Efforts concentrate on increasing the number of new companies formed as well as increasing the success rate of these ventures. The technology incubator has gained popularity in recent times as a major tool for increasing the number of successful "homegrown" companies (DiGiovanna and Lewis, 1998).

2.12 Incubator Trends

The rapid growth of the incubator industry was accompanied by a shift in the relative size of its different segments, with technology incubators rapidly ascending to become the dominant segment of the industry, growing to 40% of the population, while mixed-use incubators have declined to 30% (Loftus, 2000).

The most common types of firms using-business incubators are light manufacturing, technology, service firms, and those developing new products or engaged in research and development. There are a limited number of construction-related, sales and marketing, or wholesale and distribution firms using incubators. A retail operation is considered a poor fit for incubation (Molnar et al., 1997).

There are a wide variety of reasons for operating an incubator. There may be a need for job creation in the community, promotion of economic self-sufficiency for a selected population group, diversification of the local economy, transfer of technology from universities and corporations, or sharing venture experiences with new companies by successful entrepreneurs and investors. There is no question that whatever the motivation behind the incubator, it is an economic boon for the community, providing jobs and an expanded business base (Molnar et al., 1997).

The key point is that, given the varied motivations and interest, support structures, and objectives of individual incubation programs, the question of how you measure the quality or success of an incubation program becomes complex. From a purely economic development perspective, the number of new jobs created and the amount of revenue generated by client companies are excellent metrics. If the stated goals of an incubator differ from pure economic development however, these measures may only capture one dimension that may or may not meet the strategic purpose of the program. (O'Neal, 2005).

2.13 Objectives of Incubation

Incubation objectives have an impact on the policy mix, i.e. the actual mix of services and how they are delivered. Actually, the mix provided by the policy support must reflect the needs of the target group, which are different for different objectives and, within each objective, must also be tailored on the needs of the specific sector(s) and/or segment(s) targeted.

The table below presents incubation objectives and the related mix of services (infoDev, 2010)

Table 2.1: Objectives of Incubation through its Different Phases

| Objective | Pre-incubation phase | Incubation phase | After care phase |
|--|--|--|---|
| <p><i>Promote new business sector, especially innovation and ICT</i></p> | <p>A strong pre-incubation program is used to identify:</p> <ul style="list-style-type: none"> • potential new product ideas {creative resources: e.g., matching researchers with entrepreneurs programs, business plan competitions, etc.), • identify funding opportunities for the very early stage financing {financial resources), • help the incubatees acquire basic business understanding {human resources: e.g. seminars for researchers on entrepreneurship). <p>The screening process for clients then focuses on the potential of the new product and the ability of the sponsors to develop their business acumen</p> | <ul style="list-style-type: none"> • Incubation services will include in addition to basic administrative services and networking both business and technical development support, providing guidance on financial management, marketing and design including access in some cases to shared specialist equipment that new businesses only use sporadically while they develop their operation. • In order to avoid long term dependency and ensure the business is making sufficiently rapid progress to justify their place in the incubator; regular reviews are | <p>When the client firm leaves the incubation process, a growth facility for graduated companies has proven to be an added value for both the graduated firm and current incubator clients {see the case of China). Through a growth facility such as an industrial and technology park, the incubator can stay in close contact with its graduated firms thus maintaining a broader network, of which client firms might further benefit. Having a mixture of existing and newly established companies within one building or park creates a more dynamic environment of which all can benefit.</p> |

| | | | |
|--|---|---|---|
| | | <p>held to assess progress.</p> <ul style="list-style-type: none"> • If the business development falls significantly behind that forecast the business will be asked to make way for other clients who can make better use of the incubation services. | |
| <i>Part of major industrial restructuring</i> | <p>Pre incubation services will emphasize business training and coaching to build ideas and confidence with selection criteria focused more on the sponsors' ability to successfully make the transition to self employment in productive enterprises rather than innovation or new products.</p> | <ul style="list-style-type: none"> • Within the incubator there is likely to be little in the way of technical support apart from self employed specialists contracted to advise a specific business, and more emphasis on development of good business management and networking. | <p>Post incubation support is likely to be required to manage the transition from the incubator supportive environment.</p> |
| <i>Introduction of entrepreneurial culture to socially excluded groups</i> | <p>The pre incubation program would emphasize training and coaching services with incubation services focused on mentoring and coaching clients.</p> | <ul style="list-style-type: none"> • Support for the new businesses to network into the wider business environment is important to establish trading links that go beyond the target group. | <p>Post incubation support is likely to be required to manage the transition from the incubator supportive environment.</p> |

2.14 Challenges Facing Incubators

This is specially so in the industrializing and restructuring countries where incubation has started more recently and where incubators operate in the more difficult environments of (Costa-David, 2002):

- Governance structures that are not autonomous nor pro-active,
- Management that often lacks specific business experience and training,
- Inadequate preparation to assess the market needs, the financial viability, the location and size of building, and to mobilize community support,
- Poor operating procedures with haphazard selection and exit processes for client-companies,
- Weak linkages to the knowledge base and external support networks,
- Inadequate services for clients and cheap work-space as the main attraction,
- Limited financial resources, for the incubator development and for the clients
- Inadequate monitoring and evaluation systems, continuing dependence on external subsidy

2.15 Evaluating Business Incubator Services and Impacts

Business incubators are a unique type of facility that typically provide client companies inexpensive office space, shared services, and assistance with business development through a consultant or onsite management. These facilities are created for various purposes, but what is typical of all incubators is the desire to help the survival rate of new businesses and to allow these companies to get out of the day-to-day operations of the business in order to focus more on strategy, marketing, forecasting, and the development of a business plan. In other words, businesses are able to “see the bigger picture,” which can be essential for the long-term survival of any company. (Lee and Hunt, 2008)

The success of an incubator is measured by the degree of success of the businesses that conclude the incubation process. When these companies have a considerable impact on the socio-economic aspects of the region, they will help to publicize the incubator. (Idisc. 2003)

It is essential to make a continuous assessment of the performance of the incubator so that it can continuously improve its process. This assessment is extremely important for the incubator to have quantitative data on regional development(Bizzotto, 2003).

Scaramuzzi (2002, p. 26) offered interesting insights regarding best practices performed by technology incubators, which are relevant to the incubator industry worldwide. In developing countries, however, incubators tend to present specific features and challenges which are linked to the status of the local economic and financial environments.

In spite of the differences that may exist from country to country, there are three main 'dimensions' in the incubator activity which are relevant for its success. Two of them can be defined as 'core product activities', since they can be associated to precise objectives and 'deliverables' of the incubator. The first one relates to the 'internal functioning' of the incubator. The second one relates to the 'output' produced during the incubation process. The third group of best practices can be defined as a 'horizontal' flow of activities aimed at assessing and improving, throughout a continuous process, the performance of the previous two.

The three groups of best practices are:

1. Best Practices for the Incubator Creation and Management. They include the strategy, positioning and the long-term sustainability of the incubator, as well as its internal organization and governance system.
2. Best Practices for the Incubation Process. They include the admission, incubation, and exit mechanisms adopted by the incubator for client companies.
3. Best Practices for Performance Assessment. They include the monitoring and evaluation processes adopted to measure both the performance of incubator itself, and the 'added value' of the of the incubator in fostering business development.

According to (European Commission, 2002) There are a number of factors that will influence the extent to which incubators are able to achieve best practice. These factors relate to:

1. Setting up and operating incubators;
2. Key incubator functions, management, and promotion;
3. Evaluation of incubator services and impacts.

2.15.1 Performance Indicators for Business incubation

There is no standard methodology for measuring incubator performance, which makes comparisons between studies challenging.

This Section provides a review about the most important indicators of incubators performance and impact. It helps the incubator managers, policy makers, and researchers to assess the performance of a business incubator.

Business incubators, for the most part, have been established as publicly-funded vehicles for job creation, economic regeneration or commercialisation of University innovations, but despite any intention to be profitable, this has not been the case for the majority of publicly funded incubators. (Voisey, 2006).

Looking at the role of incubators in the entrepreneurial process, Peters et al. (2004) cite the past research showing that incubators must do five things well in order to succeed:

- (1) Establish clear metrics for success;
- (2) Provide entrepreneurial leadership;
- (3) Develop and deliver value-added services to member companies;
- (4) Develop a rational new-company selection process; and
- (5) Ensure that member companies gain access to necessary human and financial resources.

After a wide review of literature, Dee et al. (2011, Appendix A) listed different measures and indicators by which a researcher can assess the performance and impact of a business incubator. It can be summarized as follows:

Performance measures referring to the tenant company

The most important measure that can assess the performance referring to tenant companies are: Tenant firms' survivability, Tenant firms' sales growth (%), Tenant firms' employment growth (%), The incubatee is surviving and growing profitably, Incubatee operations were terminated while still in the incubator but losses were minimized, and Start-up exit options.

Performance measures referring to the incubator (Programme)

Performance of a business incubator can also be measured according to the incubation program itself through studying the following indicators:

Incubator space, Incubator occupancy rate, Average length of tenancy, Average capital investment cost, Proportion of revenue from public subsidies, Number of incubator tenants, Presence of a complementing research park, facility (yes/no) Share of operational budget supported through, internal sources, Level of funding received from key donors, including industry and university, Development of incubator

in life cycle, Graduation rate (graduates per year), New firms created (per year), Ratio of incubator staff: tenants, Proportion of management time advising Clients, and/or Cost per job (gross)

Performance Measures Associated with the Surrounding (Region/University etc.)

The assessment of an incubator performance should also be associated by the surrounding environment within which the incubator operates. These measure are: Contributions to sponsoring university's mission, Salience of technology-based clientele (%), Impact on university's teaching and research (positive/negative), Training in entrepreneurial skills – student, faculty (#), Students/graduates hired by tenants as employees (#), Consulting relationships between university faculty and tenants (#), Impact on university's prestige/public image, Impact on enrollments/donations/property/value/equity/ income (#, \$), Entrepreneurs originating from the university community (#), and Entrepreneurs serving as faculty researchers (#).

Measuring the Effectiveness of management policies and practices

Goals, structure and governance: A technology/small business center is operational (yes/no), Presence of complementary R&D institutions nearby (yes/no), Extend of realization of the stated goals, Management team and staff (quality of support), Incubatee Selection Process.

Financing and capitalization: Funding sources and support made available to tenants

Operational policies: Entry/selection policy, Exit/graduation policy, Tenant performance review, Favorable patent/intellectual property policies developed by university

Measuring Services and their perceived value added

- Office space
- Shared office services/infrastructure
- Business assistance
- Internal incubator network formation
- Incubator industry network and incubator support services network
- Incubator manager – incubate relationships

In this study as it focuses on the impact of a business incubator on improving the socioeconomic situation and enhancing the sustainable development. It uses 7 aspects of performance indicators. This aspects are mentioned in details in the methodology of research chapter.

2.16 Technology Incubators

According to (OECD, 2010), Technology incubators, a variant of more traditional business incubation schemes, assist technology-oriented entrepreneurs in the start-up and early development stage of their firms by providing workspace (on preferential and flexible terms), shared facilities and a range of business support services.

A technology incubator is a managed workspace with shared office facilities with emphasis on business and professional services necessary for nurturing and supporting early stage growth of technologies and technology based enterprises. (Raetz, 2001).

After a literature review of the Services offered by technology incubators, (Rouwmaat, 2003) has classified these services as:

a) General Services

General services may include common services such as a well-equipped workspace, communication facilities, phone, fax, Internet and other shared services including secretarial assistance.

b) Business Support Services

Business support services may include business skill development, business planning & development, business management and networking with stakeholders.

c) Specialized Services

Specialized services may include engineering & design, research & development, testing, legal, IPR related etc.

A Technology Incubator is also expected to assist the start-ups in getting access to financing such as venture capital support, funding from angel investors, other innovative financing mechanisms and equity participation.

General business incubators also provide their tenants the general services and business services. Some incubators give some support also accessing finances and partners.

Most of the technology and other business incubators provide also pre-incubation services 'on-site'. Pre-incubation is the term used to describe support services to would-be entrepreneurs before they launch their business. These services usually include proactive identification of would-be entrepreneurs, helping them to develop a business plan, training and advice on forming a company.

The pre-incubated entrepreneurs are typically offered desk space and other basic support (e.g. computer, telephone) for a period of time during which they are expected to prepare a business plan.

2.16.1 Objectives of Technology Incubators

The purpose of traditional business incubation schemes has been in the past as different as increasing firm survival rates; combating unemployment; contributing to the regeneration of distressed areas; encouraging ethnic-minority entrepreneurship, etc. Technology incubators share some of these objectives – e.g. improving the survival rate of new firms – but also have more specific goals such as (OECD, 2010):

- a. Strengthening the knowledge component of the local economy, also by engaging more closely the university system with the world of production.
- b. Creating an environment conducive to technology entrepreneurship; this in turn contributes to local economic competitiveness.
- c. Providing a nursery for the commercialisation of university research, especially when higher education institutions are directly involved in the promotion and management of the incubator.
- d. Fostering the development of cross-fertilising technologies such as biotechnologies, nanotechnologies, or material sciences that have several possible industrial applications and have therefore a strong impact on productivity and growth.
- e. Support the emergence of high potential start-ups that can achieve significant progress in employment, sales and exports within a defined period of time (e.g. 3-5 years).

2.16.2 Benefits of Technology Incubators

The benefits from technology incubators are not differing very much from the general incubator (Lalkaka, 2001):

1. For tenants

All incubators enhance their chances of success, help overcome market failures, and facilitate access to mentors, information and seed capital.

2. For research institutes and universities

Technology incubators help strengthen interactions between industries, promote research commercialization, enable better use of lab facilities and give opportunities for faculty/graduate students to enhance their capabilities.

3. For corporate sponsor

Incubators can develop opportunities for acquiring innovations, supply chain management and spin-offs, and help them meet their social responsibilities.

4. For governments

Incubators serve as an economic development tool, promote regional development, and they generate jobs, incomes and taxes and they contribute to achieving the objectives of enhancing company birth rate and the level of innovation. The latter is more expected from technology incubators.

5. For the community

Incubators create self-esteem and an entrepreneurial culture, as a majority of graduating businesses stay within the area.

Few people would oppose to the benefits mentioned above, but the question here of course is whether and to what extent incubators are instrumental in generating these effects. Answering this question requires monitoring and measuring incubator performance. Measuring the outcomes of incubators can include economic development, technology diversification, job creation, company profits, taxation revenue, business creations, business survivals, the financial and corporate performance of the incubator itself, benefits to participating universities, and benefits to the local community.

2.17 Success Factors of Business Incubators

The successful performance of a business incubator depends ultimately on the number of clients they attract and the performance of these firms. (CSES, 2002)

According to NBIA (2012), there are two principles characterize effective business incubation:

1. The incubator aspires to have a positive impact on its community's economic health by maximizing the success of emerging companies.
2. The incubator itself is a dynamic model of a sustainable, efficient business operation.

Model business incubation programs are distinguished by a commitment to incorporate industry best practices. Management and boards of incubators should strive to (NBIA, 2012):

- Commit to the two core principles of business incubation
- Obtain consensus on a mission that defines the incubator's role in the community and develop a strategic plan containing quantifiable objectives to achieve the program mission
- Structure for financial sustainability by developing and implementing a realistic business plan

- Recruit and appropriately compensate management capable of achieving the mission of the incubator and having the ability to help companies grow
- Build an effective board of directors committed to the incubator's mission and to maximizing management's role in developing successful companies
- Prioritize management time to place the greatest emphasis on client assistance, including proactive advising and guidance that results in company success and wealth creation
- Develop an incubator facility, resources, methods and tools that contribute to the effective delivery of business assistance to client firms and that address the developmental needs of each company
- Seek to integrate the incubator program and activities into the fabric of the community and its broader economic development goals and strategies
- Develop stakeholder support, including a resource network, that helps the incubation program's client companies and supports the incubator's mission and operations
- Maintain a management information system and collect statistics and other information necessary for ongoing program evaluation, thus improving a program's effectiveness and allowing it to evolve with the needs of the clients

To conclude, there are a number of factors that will influence the extent to which incubators are able to achieve best practice.

2.17.1 Setting up and Operating Incubators

In order to set up and operate successfully a business incubator, some factors should be studied. These factors relate to: (Rouwmaat, 2003)

1. **Number and type of stakeholders** – the role of stakeholders, in particular the backing of a broad public private partnership, is critical to successful incubator operations and the wider role of incubators in contributing to regional strategies on competitiveness and technology transfer.
2. **Number and type of incubator staff** – this together with the location and type of incubator premises largely determines start-up costs and the capacity of an incubator to operate on a cost-effective basis and achieve economies of scale.
3. **Number and type of client companies** – the number and type of tenants provides a basis for classifying incubators (e.g. a technology center will typically have more than 75% of its clients engaged in knowledge intensive activities) whilst information on the performance of tenants provides the basis for assessing incubator effectiveness.
4. **Start up and operating costs/source of funding** – there are a large number of possible headline and operational indicators relating to incubator finance (e.g. extent to which breakeven is achieved) and, likewise, if linked to incubator outcomes, this enables efficiency and value for money issues to be assessed.

2.17.2 Key Incubator Functions, Management and Promotion

There are incubator functions that should be successfully provided to entrepreneurs in order to reach an effective business incubation process. According to (CSES 2002), these functions are

1. **Incubator occupancy rates and turnover** – occupancy rates provide an indication of how successfully incubators attract clients. Occupancy rates are also for many incubators a key to financial viability. The turnover of tenants is a guide to operating efficiently.
2. **Range and pricing of business support services** – the provision of a comprehensive range of business support services is a defining characteristic of the incubator model. These can be grouped into four categories: (entrepreneurship training, business advice, technology and innovation support, and financing of companies.)
In each case, there are a large number of possible operational indicators. Pricing of these services varies a lot, but mostly the general business development services are free or partly charged and specific services partly charged. The actual costs of the services' correspond to the market prices.
3. **Admission and exit criteria** – again, the existence of formal admission and exit criteria are a defining characteristic of the incubator model and important in ensuring a turnover of tenant companies. Operational indicators include the length of time tenants remain in the incubator.
4. **Number and type of incubator personnel** – the ratio of incubator personnel to clients is another key indicator of efficiency. More fundamentally, the quality of the management team is clearly a major determinant of incubator performance.
5. **Criteria used to monitor incubator performance** – in addition to a formal set of performance indicators and quality standards, a key factor here is the extent to which incubators obtain feedback from their clients on the services being provided to them.

2.17.3 Evaluation of Incubator Services and Impacts

While evaluating incubator services and impact, you should focus on (CSES, 200:

- a) **Performance of tenants, job and wealth creation** – the failure/success rate of incubator tenants is widely used as a short-term measure of their performance whilst job and wealth creation indicators provide an insight to longer-term impacts.
- b) **Number of graduates/retention in local area** – monitoring the destination of graduates is a key to understanding the extent to which incubators achieve sustainable impacts that benefit the areas where they are located.
- c) **Value added of incubator operations** – benchmarking the performance of incubators needs to be based on an assessment of the value added they demonstrate, i.e. the extent to which the performance of client companies can be attributed to the support obtained from an incubator.

2.18 Incubation Development Phases

It was recognized that an important element of the benchmarking framework would be the stage of development of the incubation environment. UKBI therefore developed a three-stage model of development (Harman et al, 2003).

2.18.1 Foundation Phase

All quality incubation environments will go through a period of planning, feasibility study, raising finance, marketing, relationship building, and putting together the right management team and Board. For the purposes of this project, the preliminary period was called the 'Foundation Phase'.

During the Foundation Phase, a number of critical elements need to be put in place that will define the incubation environment and its offering to and impact on the clients and the wider economy. These key elements include the defining characteristics that make business incubation different to other forms of business support and provide the cornerstones for the development of a mature and sustainable incubation environment.

2.18.2 Development Phase

This period contains a number of different phases of development and can span many years. The early years, after launch, will continue to focus heavily on marketing and relationship building as it is primarily a time of building up critical mass, 'deal flow' (i.e. the flow of sustainable business entities through the incubator), the networks and cash flow. As incubation environments mature, so they are able to spend more time building up the services and resources offered to clients, including specialist services/facilities.

Incubation management teams may also start to look outside the immediate incubation environment to identify ways in which the incubator could influence wider economic development. They will also be concerned with issues such as availability of grow-on space for their graduating clients. However, this is also a period in which many incubation environments are faced with and should anticipate a decrease in and possibly the removal of any subsidies they might have had in the early years of development. Therefore there will be an emphasis on developing the business model to be sustainable.

2.18.3 Mature Incubation Phase

The aim for most incubation management teams is to eventually run a high quality, flexible, 'full service' incubation environment that is sustainable in its own right, that has a quantifiable impact on the wider economy, that can be seen to be a catalyst for economic development, and that is creating successful, sustainable ventures.

The mature incubation environment may become more specialized. Many develop a group of former clients as part of the business support networks for existing clients.

Because it is still a relatively young industry, there are few incubation environments in the UK that can be regarded as ‘mature’, full-service environments. Although reaching a ‘mature’ phase of development is the aim of most incubation environments, their ability to reach this phase will be influenced heavily by the availability of funding and other resources.

2.19 Science and Technology Parks

Science and technology parks are locations (physical or even virtual) that are established to provide a ‘hub’ for related business in a particular industry or sector. Features can include specialist management, incubation and business support, links to university and other research centres, shared resources and equipment and ‘soft’ support such as mentoring, networking, business counselling and so on. Supported through a variety of local, regional, national and European Union funds, the structure of science parks can vary and there is no common formula for ownership. Universities, local authorities, private companies and property developers can all be involved in different ways and to different levels. Science parks usually have formal and operational links with centres of knowledge creation, such as universities, and create a mechanism to commercially exploit research being carried out there. Science parks are often built around an industry specialism that a region or area is trying to develop or exploit, and as such can act as a showcase for the region in marketing itself and attracting inward investment. The underlying theory behind Science parks is that there will be agglomeration effects from collocating research intensive businesses that will benefit the wider economy. Several detailed studies into the long term impacts of science parks have found that their success is to a large degree determined by the economic conditions of the wider region, and therefore are less likely to benefit regions with less favourable circumstances. There is a real danger that constraints on public spending and the push to privatize public projects means that science parks may default to become just commercial business parks, losing the link between research and business and the developmental activities that are an integral part of the model (European Union, 2011).

Chapter (3)

The Business & Technology Incubator at IUG

Chapter (3): The Business and Technology Incubator at IUG

3.1 Introduction

As an initiative launched by the Islamic University of Gaza (IUG), the Business and Technology Incubator was established with the aim of revitalizing the business and technology industries in Gaza Strip through encouraging the Palestinian entrepreneurs to transform their innovative ideas into small and medium productive projects.

This chapter introduces a narrative definition for the Business and Technology Incubator (BTI). It describes key features of the BTI, including the organizational structure and staffing, services, evaluation criteria, marketing strategies, client processes.

3.2 Background about Business and Technology Incubator

Business and Technology Incubator (BTI) at the Islamic University of Gaza is a centre of innovation which provides professional business services. It provides an instructive and supportive environment to entrepreneurs during the idea development and business start-up phases and as well as professional business development services to Palestinian entrepreneurs. (BTI, 2012)

The BTI has formed powerful links with many international and regional organizations and donors. World Bank through the InfoDev program, European Commission, SPARK, The Netherlands Ministry of Foreign Affairs, and the Welfare association have generously supported many projects that the BTI has implemented resulting in creating jobs and employing marginalized community members. Furthermore, the BTI has connections with many professional societies like the BiD Network, SPICE, ANIMA and The Arab Foundation for Technology and Science. (BTI Brochure Brochure, 2012)

BTI is expected to have a significant effect in enhancing the economy and reducing the unemployment rates among three main categories in the local community: The first one is the fresh graduates of different faculties who intend to start their business and need expert and financial support. The second is the existing businesses which have a potential opportunity to be developed by providing professional support. And finally the new businesses that are promising to provide new products or services, approach new markets and causes the evolution of new industries to the local market. (BTI Brochure, 2012)

This support comes through the provision of integrated packages of world-class business development services that will nurture and support the commercialization of ideas and enhance the development and growth of dynamic enterprises. On the other hand the BTI will identify and support the technical, intellectual and managerial talent of young entrepreneurs who can become the backbone of a dynamic export market for Palestinian products and services. (BTI Brochure, 2012)

3.3 BTI Emergence and Achievements

BTI was established in 2006 as a project funded by the World Bank through Information for Development Program (InfoDev). After that BTI received another grant by Tertiary education Project through Quality Improvement Fund (QIF) at the Ministry of higher education. This grant was used in operating and developing the incubator and incubating new SMEs. (Website of the Business and Technology Incubator, 2012)

After that, BTI in Partnership with Community Service and Continuing Education Deanery at IUG and PICTA has successfully implemented “Entrepreneurs 1“ Project funded by Welfare and Arab Fund for Socio-Economic Development. In 2011: BTI with the support of SPARK and The Netherlands Ministry of Foreign Affairs has kicked-off a program for supporting Palestinian Entrepreneurs and SMEs in the Gaza Strip lasting for 2015. In Addition, BTI in partnership with Community Service and Continuing Education Deanship and The Palestinian Information & Communications Technology Association has recently launched Entrepreneurs 2 project.

BTI in partnership with Bid Network works also on supporting incubated and graduated SMEs and entrepreneurs towards enhancing their investment opportunities through providing online and offline services.

Since its establishment, more than 30 companies have been graduated from the incubator. The following figure show the number of incubated tenants vs. graduated companies.

Figure (3.9): Business and Technology Incubator over Years



Source: prepared by the Author.

3.4 Strategy of BTI

The main goal of the Business and Technology Incubator is to offer means for enhancing overall economic growth and development in Gaza Strip, facilitating restructuring, technology diffusion and commercialization, and creating jobs. (BTI Brochure, 2012)

3.4.1 Mission of BTI

BTI designs, develops, implements and promotes those initiatives that will support the development of entrepreneurial business ventures with high growth potential by providing them with an integrated package of world-class business development services that will nurture and support the commercialization of ideas and enhance the development and growth of dynamic enterprises. (Website of the Business and Technology Incubator, 2012)

3.4.2 Strategic Objective

BTI crafts promotion and marketing strategies that focus on the development of, and access to, business opportunities in regional and international markets for Palestinian ICT firms. BTI also supports the technical, intellectual and managerial talents of young entrepreneurs who will become the backbone of a dynamic export market for IT related products and services in Palestine. (Website of the Business and Technology Incubator, 2012)

3.4.3 Objectives of BTI

The Business and Technology Incubator seek to achieve the following objectives:

- Provide a suitable environment for innovation and creativity.
- Participate in the enhancement of the graduates' social situation by helping them establish their own businesses.
- Create and nurture relationships with bi/multilateral development organizations in order to cooperate on joint economic development initiatives that have an ICT component.
- Assist existing Palestinian ICT firm's to access regional and international markets.
- Help non-ICT industry sectors integrate ICT into their business operations.
- Create promotion and marketing strategies focused on regional and international markets.
- Create and nurture relationships with bi/multilateral development organizations in order to cooperate on joint economic development initiatives that have an ICT component.

- Establishing a dynamic and market driven industry-university linkage programs focusing on identifying the key technical and business curriculum that are essential for university graduates to be internationally competitive in their fields. In addition to establishing educational and training programs to produce technical talents to compete in a regional and international level. (Website of the Business and Technology Incubator, 2012)
- Work with regional/international investors and financial institutions to create a loan fund for new ICT enterprises in Palestine while also providing investment capital for ICT firms and non ICT companies. (Website of the Business and Technology Incubator, 2012)

3.5 Services

Business and Technology incubator provides a number of services for its clients during the incubation period such as (Website of the Business and Technology Incubator, 2012):

1- Working place

Setting up a suitable and comfortable work place for each individual project, including furniture and other required equipment.

2- Technical support

Provide the incubated project with all material, parts and equipment required for implementing the project and ensuring its success in the future.

3- Logistic support

Logistic support means providing all necessary stuff needed to manage and implement the project with high quality, such as: secretary, communication services, convening and managing meetings, internet, printing, stationery, etc.

4- Training

Training is considered one of the most important services BTI provides for its clients because it is essential for improving their performance and for the fact that training courses are relatively expensive which makes it hard for an individual to afford.

5- Consultancy

It is predictable that any incubated project will face some technical and management problems which are time consuming and always the solutions provided are not very practical for the lack of experience, so the incubator provides its clients with the practical solutions through a team of experienced consultants.

6- Marketing

Marketing is considered one of the important issues which directly affect the success or failure of companies, so BTI considers marketing to be a very important service where it provides a complete marketing plan for its clients to ensure their products get promoted outside the incubator and consequently the success of the project.

7- Networking

Networking is the process of connecting and integrating the staff of the incubated projects with the local society so they can easily develop their products by establishing relationships with potential business partners

8- Management and financial (accountancy) support

Where the management team of the incubator helps members of incubated projects organize their management and financial issues and create new mechanism for implementing their projects by using available resources efficiently, so the project will have a correct start based on correct management concepts. (Website of the Business and Technology Incubator, 2012)

3.6 Target Groups

- Entrepreneurs and fresh graduates especially those of outstanding mentalities and abilities.
- Universities students and graduates with innovative ideas and outstanding abilities in scientific research.
- Current business owners of ambition to reach new markets or produce new products or services.
- New established business owners specially those of potential opportunity to provide local community with new technologies or even industries.
- Local educational associations and others related.
- Business incubation team and incubation experts
- Academic institutions including Universities and Colleges in the Gaza strip
- Potential young and female entrepreneurs and other marginalized groups.

(Business and Technology Incubator Policies Document, 2012)

3.7 Networking Strategies

According to the Business and Technology Incubator Strategies Document (2012), The BTI pays special attention to marketing and public relations efforts which is necessary for its work. An effective and well-designed marketing strategy of the incubator helps in bringing visibility to the BTI. This strategy is designed to identify and target opportunities for attracting more new partnerships, initiatives, and entrepreneurs. The marketing of the BTI should be an on-going process for the duration of the funding period and beyond.

An initial step in the strategy of the Business and Technology Incubator was a Study Identifying Trends and Future Directions of the ICT Industry and Incubation implemented at July 2009. According to this study, Palestine's software and information technology services industry is small, fragmented and mostly inward oriented. Compared to many other countries, the Software and Information Technology Services industry in Palestine is at the very early stages of development. At present, there are handful companies primarily engaged in software, Internet web site and content development and related services; of these, perhaps only two or three may be considered software developers. The industry is predominantly selling to the domestic market and export sales are low. Most of companies were established based on developing an idea was 62.1%. After concluding that, companies that meet these needs will be identified. At that point, these companies will be targeted and directly contacted to determine their interest and the feasibility of locating their business in the Business and Technology Incubator.

For the Business and Technology Incubator to be successful it is imperative that businesses with technology applications physically locate within the BTI. In an effort to attract these businesses, the BTI makes use of some or all of the following strategies:

- 1- Improve the current Web site into fully functional system to ensure a more comprehensive, user-friendly approach;
- 2- Network with and update strategic partners on the services available in the BTI;
- 3- Provide information on the incubation, Business Development services, and entrepreneurship support to economic development organizations, high technology organizations, international donors and agencies, and other organizations involved in high technology;
- 4- Become an active member of professional associations such as the infoDev's iDisk Global Network, Science Parks and Innovation Centers Experts Group, and Bid Network;
- 5- Network with other business incubators running locally, regionally; and globally.
- 6- Participate in workshops and seminars on marketing a business incubator;
- 7- Develop and disseminate promotional materials to targeted sources;

- 8- Host and attend special events targeted toward businesses match-making and seeking to locate in a business incubator;
- 9- Advertise through various media – newspapers, radio stations, television stations, business periodicals;
- 10- Present international training programs and seminars. (Business and Technology Incubator Strategies Document, 2012)

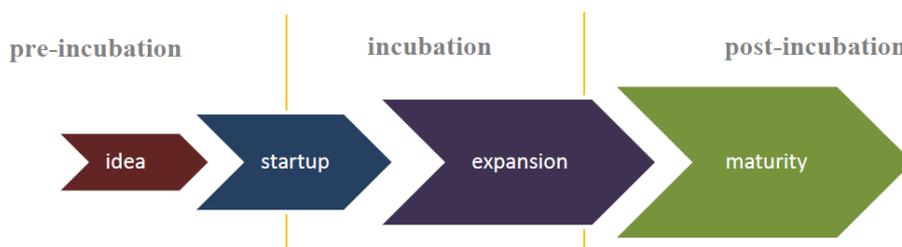
3.8 Incubation Stages within BTI

According to BTI brochure (2012), The BTI studies the business plans presented by entrepreneurs wishing to get financial and logistic support for their ideas. The experts assess each idea against market potential, possible growth and required resources for it to succeed.

When accepting an idea for Incubation, the BTI offers a number of services including financial support, office place and other logistic services (IT and communications infrastructure) to help the entrepreneurs to turn their concept idea into a start-up businesses. Incubated start-up businesses go through a program of training, mentoring and coaching with experts that the BTI has recruited from the local industry to help these growing companies to develop a self-sustainable and profitable business that is ready to emerge the local and/or regional market. This will help in creating job opportunities in the local market and in supporting marginalized groups (women and youth) in the society to launch their own business.

The following figure shows the steps in the process by which BTI clients are accepted and graduated. Client applicants will be carefully screened and selected using a number of factors.

Figure 3.10: Business Incubation Stages



Source: (infoDev, 2009)

If a candidate seems appropriate for the BTI, he/she is asked to submit to a business plan competition. The applicant review team will evaluate all business plans submitted, and based on the following criteria, will determine which applicants to accept:

- 1- Market potential;
- 2- Business potential;
- 3- Management team;
- 4- Synergy with BTI; and
- 5- Economic impact on the community in the form of job creation potential and

Once an applicant is admitted into the BTI, they will meet with the Technology Entrepreneur to assess their needs, review policies and procedures of the incubator, and sign the required agreements for entry. The Technology Business Entrepreneur will work with the client to provide business and technology assistance until they meet their established milestones.

Once all the milestones have been met, the client will graduate from the BTI into the local economy (Business and Technology Incubator Policies Document, 2012).

3.9 Description of BTI's Current Facility

The Business and Technology Incubator, since its establishments, has been hosted in the IT building within the IUG campus. Mainly, it consists of a limited number of incubation units, one meeting room, and administration offices. These facilities can host up to 30 incubated startups whilst the demand is very high due to the specific situation in The Gaza Strip where there is a high rate of unemployment and deteriorated economy. For example, BTI is receiving hundreds of incubation applications from both newly graduated entrepreneurs and existing SMEs and approve a very limited number due to the current physical capacity.

In addition, being hosted in a building such as the IT Building, where there are faculty students and administrative and technical staff, is not necessarily a suitable environment for the incubated start-ups. The sustainable model of a business incubator implies that the hosted start-ups and existing companies should be in a more practical environment where they are close to their clients.

BTI is currently planning to target a wide range of businesses from different sectors such as and limited to: ICT, agribusiness, biotechnology, manufacturing, electronics, ... etc.

3.10 Success Stories

The Business and Technology Incubator, through its website, has listed some of the success stories of entrepreneurs and SMEs who have received business development and incubation services. Through a group of consecutive stages starting from pre-incubation activities reaching to graduation from the incubator, the entrepreneurs had a great chance towards increasing the success potential for their businesses.

It is worthy to mention some of these successful entrepreneurs and SMEs:

1. Tasawaq for E-Commerce:

Tasawaq is an online platform that helps customers get their day-to-day needs via connecting them with a wide range of selling points for consumable goods including restaurants, supermarkets, grocery, butchers, and many other sweets and accessory stores.

Founder (Entrepreneur): Sharif Naim, a graduate from Al-Azhar University

Start: April 2010

Perceived services: a small amount fund, business and technical training and guidance, office space.

"Without the BTI in the IUG, I would not succeed thanks to the high standard services they provide". Naim says:

2. Selsal Dezipn

SELSAL Dezipn is an Architecture Company, it is an emerging field of design, and aspires to be one of the leading Palestinian companies. It was founded in Gaza city-Palestine, 2012. SELSAL Dezipn has built a team committed to creativity and excellence. SELSAL Dezipn collection range from the traditional to the modern and each design product has a story.

3. Game Madness

A start-up for producing two and three dimensional games for multiple platforms, it also develops mobile applications.

4. Al-Majd CNC Machine

A start-up company for manufacturing and developing CNC machines for cutting on different materials (e.g. wood) through using computer with a high quality product.

5. Ain Media Start-up

It is a start-up for media activities and artistic production. BTI has recently published the success story of Ain Media Start-up on its website as follows:

"Three, Two, One, Cheese!" Says Rushdi Alsarraj while taking a photo for a kinder gardener from Gaza. It is not as simple to find a job in photography in the Gaza Strip that has been under strict closure where the people had suffered from extreme rates of unemployment and poverty for more than 6 years. However, a dozen of enthusiastic young graduates determined to prove otherwise with their new start-up company: *Ain Media*.

After winning a Business Plan Competition organized by the Business and Technology Incubator (BTI) at the Islamic University of Gaza with the support of SPARK and the Netherlands ministry of foreign affairs, Yasser Murtaja and Rushdi Alsarraj launched their start-up company Ain media as one of six companies that were incubated at the BTI within this competition. According to BTI, Ain media was the top performing company last year. Within a few months they managed to do a lot of achievements.

The team of Ain Media has grown in terms of number and business connections during nine months since the start-up has launched. "After starting our company with 2 individuals, the team has now 12 active employees. Volunteer requests are numerous and a lot of young university students with a passion for photography wants to join our team", says Yasser with a smile on his face.

According to BTI, One key advantage for the start-up is the method they use to distribute the tasks on various employees. After starting as trainees and volunteers in the field of photography, individual tasks differ depending on the specialization of each team member to include filming, editing, lighting, public affairs, translation and reporting; yielding high quality results and an active progress for the team.

The team have met with local business capitalists, filming directors and international photographers visiting Gaza. This has widened the horizon for their work from focusing on the art of photography and filming into the business thinking on how to make their company profitable. Rushdi Says that the company has started generating a decent income in the past few months from the various tasks and works they have executed with customers like Maan Development Centre, Palestinian Housing Council, Muslim Hands, Human Aid, Organization of Islamic Cooperation, Partners for Peace & Development for Palestinians, The Islamic University of Gaza and The University College of Applied Sciences.

"We have also faced barriers and fell into business problems. Once we had a major customer waiting for photos and the storage devices containing these photos were corrupted" Says Yasser. "We stayed up for two nights trying to work around the problem until we managed to restore our work. This has educated us towards the importance of keeping our data stored safely in various places to avoid losing any work for our upcoming jobs" he added.

The team aims to become a leading media agency in Palestine and in the region in the upcoming years hoping that the economic and businesses situations in Gaza will improve (BTI's website, 2012).

Chapter 4

Previous Studies

Chapter (4): Previous Studies

4.1 Introduction

This Chapter introduces the previous literature in the field of this study. It describes the efforts in investigating the role of business incubators in achieving the overall economic and social growth.

4.2 Foreign Studies

4.2.1 M'Chirgui, 2012. "Assessing the Performance of Business Incubators: Recent France Evidence"

Based on original data collected from a recently implemented national program on incubators, this paper provides a first attempt to assess the performance of business incubators in France following their launch in 1999 and covering the period 2000-2009. The paper runs with the general believe that the jury is still out in terms of the overall effectiveness of these venture investments (Mian, 2011). The findings indicate that ten years after their creation, business incubators in France generally evolve without much difficulty and are well embedded in the regional innovation system. The findings also reveal that business incubators continue to create innovative entrepreneurial firms, however, they may need to further increase the professionalism of their activities that exhibit some limits regarding selection, business support, networking and graduation.

The main proposition is to investigate and assess the performance of business incubators in France. In this study the authors focus on the latest French business incubators launched in 1999. Along the same lines, this study is an initial attempt at assessing the performance of indicators in France since their launch, with the aim of enhancing our understanding of their evolution and impact. The paper provides evidence from France based on the original data collected from a recently implemented national program on incubators. Along the same lines, the French national business incubators were launched in 1999. As of 2009, France had 30 fully operational regional incubators. 2,611 projects have been incubated with a commitment of 66.14 million Euros.

Main data for the study were collected from MSER. Data cover both qualitative and quantitative analyses conducted on incubators. It also covers a telephone survey conducted over 200 tenants, during the 2002-2007 period, assessing several performance indicators. In this study, the authors have gathered criteria that appear crucial for incubator performance around two fundamental issues, dealing respectively with regional innovation systems and resources. These criteria most probably have a deep effect on components of the incubator's activity, especially selection, business support, mediation and, to a lesser degree, graduation (Hackett and Dilts, 2004; Peters *et al.*, 2004; Bergek and Norman, 2008).

Ten years after their creation, the functional structures of business incubators in

France are likely to evolve without much difficulty and are well-embedded in the regional innovation system.

The survey reveals that business incubators generally continue to create innovative entrepreneurial firms, often technology or science-based. However, business incubators may need to further increase the professionalism of their main activities that exhibit some limits: selection, business support, networking and graduation.

The main and common finding regarding these limits may be related to the role of business developers as the knowledge workers of the incubator. While business developers are likely to provide important services, advice as well as resources in a business friendly climate, particularly during the start-up phase, some limits, concerning networking and graduation policies in particular, are highlighted. The findings indicate that incubatees lack access to complementary financing structures, crucial to the sustainable development of new ventures. Business developers or incubators struggle to connect incubatees, especially to bankers and venture capitalists, as well as to the outside world. This handicap may be explained by the young age of the business incubators program and particularly the fact that incubators are unable to bring out highly competitive business, which should attract venture capitalists. Furthermore, mediation is relatively inexistent within some support structures such as R&D Common Structures, Competitive Clusters and Technology Transfer offices.

4.2.2 Abdul Khalid et al., 2012. “Investigating the Underlying Components in Business Incubation Process in Malaysian ICT Incubators”

The role of business incubators as an economic development tool has been reiterated in the entrepreneurship literature. Business incubators have been proven as effective in creating jobs, and accelerating the growth of new businesses. Both developed and developing countries have taken the business incubation route to encourage the spur of small to medium sized enterprises. Although the basic concept of business incubation remains until today, there have been several enhancements to the capability of business incubators as an economic driver. Malaysia is an example of a developing nation that has implemented its business incubation programmes in its effort to generate a critical mass of technology-based entrepreneurs. This paper examines the underlying components in the business incubation process in the Malaysian ICT incubators. A survey questionnaire method was used to solicit response from 118 incubatees from 15 ICT incubators in Malaysia. Exploratory factor analysis was performed to identify the underlying components. Results suggest that there are eleven components in the business incubation process. Incubatees surveyed were representative of the Malaysian ICT incubatee population (n = 180). Of the 118 incubatees surveyed, 11% are still within their first year of establishment, 40% have been operating for 2-3 years, while the remaining has been established for more than three years. The sample represents a range of incubatees from government incubators (54.2%), private incubators (35.6%), and university-linked incubators (10.2%). Of the 180 questionnaires distributed to the entire population of ICT incubatees, 118 were returned yielding a response rate of 65.5%. Questionnaires were distributed in person as well as electronically to incubatees of ICT incubators via a

website developed by the researcher at www.incubatorstudy.com. This study revealed that product-based selection, market and managerial-based selection, and financial-based selection as the underlying components in the business incubation process. Similarly, the significance of Monitoring and Business Assistance Intensity is also indicated by the results of the EFA where components such as ‘time intensity’ and ‘comprehensiveness and quality’ all point to the significance of this construct. Finally, the Professional Management Services’ underlying components suggest that services such as marketing and promotion management, strategic management, financial management, and staff and personnel management are all relevant services in the business incubation process.

4.2.3 Lesáková, 2012. “The Role of Business Incubators in Supporting the SME Start-up”

A range of factors determining the extent and success of entrepreneurship have a local dimension: they are either strongly affected by local phenomena and/or they are best supported by initiatives conceived and implemented locally. Entrepreneurship can be locally fostered through business incubators. The role of business incubators is to accelerate the successful development of entrepreneurial companies through an array of business support resources and services, developed and managed by incubator management and offered both in the incubator and through its network of contacts. The main aim of the article is to present the role of incubators as a means of supporting the small and medium enterprises. The article is divided into three parts. In the first part is presented the core of incubators, incubator types and goals. In the second part is explained the role of business incubators in fostering local dimension of entrepreneurship. In third part of the article the authors describe the building of business incubators in Slovakia and their role as a means of helping to start entrepreneurship as well as of helping to support technologically oriented SMEs in Slovakia. The paper was elaborated as a part of VEGA project 1/0654/11, “Innovative small and medium enterprises as a part of knowledge based economy in Slovakia”.

Business incubators form an important part of the support infrastructure for small and medium enterprise start-ups in Slovakia. Their mission is to provide the starting companies (usually for a period of 3 years from the commencement of business) with complex support on one spot and create favourable starting conditions to enable the operation of their enterprise. The main services provided are the lease of office space, production and storage premises at prices lower than the usual commercial market prices and administration support for the companies (e.g. providing of conferences and showroom premises, certain clerical services, technical infrastructure and others). Apart from business premises, the incubators provide their clients with educational services and counselling (e.g., the creation of business plans, counselling related to the acquisition of funds for entrepreneurship, the elaboration of the marketing strategy, mediation with contacts, and the like). The extent and form of support in individual incubators varies depending on type, specialisation and capacity.

It can be summarized that business incubation helps to meet a variety of economic and socio-economic policy needs in a country, which may include business creation and

retention, technology commercialization, creating jobs and wealth as well as fostering a community's entrepreneurial climate.

4.2.4 Dee et al., 2011. "Incubation for Growth: A review of the Impact of Business Incubation on New Ventures with High Growth Potential"

This research is focused on the impact of incubation on tenants, the authors also examined the broader economic impact of business incubation. Business incubation includes a variety of mechanisms and objectives as described. The authors have focused our work on business incubation designed to impact high-growth innovative businesses, and business incubators with physical space. The authors have organized the report based on a review of the academic business incubation literature, with additions from industry reports. The authors have found significant limitations in the business incubation literature which has led us to include, where possible, literature relating more generally to innovation and entrepreneurial activity. There has been much confusion regarding the definition and impact of incubation. Following the publication of two in-depth reviews of research on incubators, (Hackett and Dilts 2004b; Phan, Siegel et al. 2005), the authors have focused on reviewing literature published during the last ten years. A larger window for review would not have been possible within the budget constraints.

Findings could be summarized as: Absolute measures of incubation are impractical, but performance indicators are useful. In practice, incubation can lead to several outcomes for new ventures. Incubation can impact new ventures through modifying or accelerating the entrepreneurial process of business development.

Matching incubator services to the needs of firms is important. New venture activity and business support needs vary between regions, industries, prior entrepreneurial experience and so on. Even incubators with similar objectives can have different business models. Many incubator business models depend on multiple stakeholders. Finally it is important to 'Fit' with the local business environment is critical.

4.2.5 Smith, 2010. "Evaluating Strategies to Create Successful Business Incubators in Massachusetts Gateway Cities"

This thesis evaluates economic development, planning, public policy, and business strategies to create successful business incubators in Massachusetts' post-industrial cities. These post-industrial cities in Massachusetts are dubbed "Gateway Cities" because they were once the economic engines of the region as well as areas of entry for many foreign-born residents to live and work. These cities have been recently plagued by high unemployment, poverty, and low business investment as many businesses, especially manufacturing, have located elsewhere. Legislation and policies involving redistribution of wealth to these Gateway Cities has recently been enacted to strengthen these communities. Although there currently isn't a cohesive policy for business incubators in Gateway Cities, this thesis strategizes that such an approach could be beneficial for these cities, their regions, and the state as a whole.

As the main part of this study, this was analyzed by administering a survey and interviews to the business incubator. However, an overview of the local and regional assets of these business incubators and a summary of each Gateway City Business

Incubator's functions and economic impact was completed in the subsequent chapters of this study. Recommendations for the individual business incubators and for local, regional, and state policy as well as areas of future research are provided in the concluding chapter.

By using innovative economic development strategies to attract small business formation and growth, such as business incubators, Gateway Cities may be well on their way to more thriving economies. As illustrated in this study, Gateway Cities have many assets and areas of competitive advantage. They have the potential to support a prosperous business and living climate. With more coherent, collaborative, and innovative approaches between government, business, and the community, Gateway Cities may return as the "Gateways" of economic prosperity they once were.

The overall results of this study can help guide strategies for economic development policy and planning at the state, regional, and local levels. As I mentioned earlier in this study, I recommend a statewide and regional policy to support incubators in Gateway Cities and their partnerships with state universities and community colleges (called the Gateway City Incubator Model). Many other states experiencing postindustrial decline already support a strong state and regional business incubator focus and have reaped enormous benefits. For example, Michigan's SPARK Business Accelerator program has shown success with speeding up the development of start-ups companies and can be used as a case-study for more strategic incubators in Massachusetts Gateway Cities (Innovative Cities, Best Practices in Urban Planning and Ann Arbor, Michigan's SPARK Business Accelerator).

4.2.6 InfoDev, 2010. "Global Good Practice in Incubation Policy Development and Implementation"

This paper was based on a desk review of the literature relating to best practice in public policy supporting business incubation, supplemented by four national case studies covering Brazil, Malaysia, New Zealand and South Africa. These country studies were prepared through engagement of stakeholders, site visits and other sources of primary and secondary information collection.

In the context of the study, The author focused on best practice in policy development, meaning that public bodies should identify clear objectives and goals to be achieved within the resources available and take steps to measure and assess what has actually been achieved, allowing changes to overcome unexpected barriers, as well as to identify and disseminate best practices to improve overall performance.

The paper sets out a clear definition of business incubation and locates it as one of several potential initiatives to provide direct support services to businesses. In addition the impact of all types of SME support services is affected by the wider environment for business development which is influenced in part by legislative and administrative policies of government. While incubators can be used to help overcome some of the environmental barriers (i.e. overcoming bureaucratic hurdles) and can act as pioneers in improving the business environment, they are no substitute for necessary wider change to the system that governments are expected to undertake.

The Key Recommendations of this study are: 1) Consistency between objectives and the broader strategic framework where incubators should not be treated as stand-alone operations and should not be conceived for stand-alone goals. Strong consistency with overall economic goals needs then to be combined with a long term approach. 2)

Consistency between objectives pursued and suitable service mix Incubators can be established to meet a range of public sector objectives, from social inclusion to fostering growth of innovative businesses. 3) Stakeholder support where the involvement and support of stakeholders (consisting of sponsors drawn from the business community, government, the local society, venture capital providers, entrepreneurs, etc) and incubator management are vital for incubator success. 4) Investing in Pre-incubation because a pre-incubation program to assist potential entrepreneurs to develop their ideas and learn basic business skills through a mixture of training and coaching. 5) Address gaps in the Business Environment as in addition to services designed to meet the needs of individual clients, incubators are often asked to develop services or to intervene in order to address weaknesses in the business environment. 6) Commercial approach when the incubators are designed to improve the growth and success rates of new businesses, they need to be focused on satisfying the needs of clients and delivering high value cost effective services. 7) Ensuring elements of competition and merit in grants assignments where public support can be important in the early stages of incubation programs. 8) Financial sustainability where a financial self-sustainability goal can be encouraged and actively promoted as it will also contribute to an efficient management of the incubator. 9) Networking and Public Private Partnerships where Partner networks contribute to incubator successes, and help expanding market opportunities for entrepreneurs and graduates. 10) Monitoring and Appraisal for a business incubation program is critical to identifying unexpected problems that are preventing successful outcomes.

4.2.7 Akçomak, 2009. “Incubators as a Tool for Entrepreneurship Promotion in Developing Countries”

This paper reviews the literature on incubators in developed and developing countries. The authors show that the concept of incubators has evolved in time according to market and firm needs. Contemporary successful incubators are profit oriented; provide a wide range of services; focus more on intangible business services; and employ qualified managers and support staff. By drawing lessons from country experiences the authors assess the appropriateness of incubators as a tool for entrepreneurship promotion in developing countries. The main weaknesses of incubators in developing countries are: (i) focus on tangible services rather than intangible services, (ii) dependence on government, (iii) lack of management and qualified personnel, (iv) lack of incubator planning and creativeness in solving problems. Most successful incubators display a creative and innovative character in approaching problems of tenant companies. This is of course correlated with the quality of the incubator management staff. Moreover, incubators reflect the institutional set up, creativity, and policy innovativeness in a society. Therefore policy on incubators should be well-integrated with other policies for entrepreneurship promotion and economic development, such as education and institutional deregulation. Incubators encourage Firms to become innovative and competitive. Such a mission can be pursued only if incubators themselves become competitive, business oriented and innovative.

4.2.8 Robinson, 2008. “Development and Diffusion of Business Incubation Capabilities in Five Emerging Markets in South America”

Business incubation encourages new business formation and offers the potential to improve emerging market economies. Business incubation is a system of routines for creating and improving survival rates and growth of new businesses. Incubation originated in developed economies and is now spreading globally to emerging markets. Incubators are designed to reduce start-up costs and train entrepreneurs in business practices while connecting them to markets and assisting in securing financial backing for the new ventures. For this qualitative study the researcher interviewed managers from business incubators, government agencies, nongovernmental organizations and entrepreneurship educators from Peru, Bolivia, Chile, Argentina, and Brazil. This study integrates incubation practices in these five countries with organizational learning and diffusion of innovation theories to propose a model of stages of development for incubation practices in emerging markets. The model describes how national systems of business incubation develop and differentiate due to unique cultural, political, and economic contexts.

During July and August of 2006 I conducted 27 interviews in a total of five countries in South America which are: Argentina, Bolivia, Brazil, Chile, and Peru. Interviews are cited in parentheses throughout the paper using their country name and identifier.

The results of this study indicate that there is a pattern for the development of incubation practices in emerging markets. Governments and other incubator sponsoring organizations first become aware of incubation as a possible solution to nagging economic development conditions like unemployment and lack of innovation. Incubation starts small with a single operation usually sponsored and developed in collaboration with an international agency from more developed countries.

4.2.9 Ratinho et al., 2008. “Are Business Incubators Helping? The Role of BIs in Facilitating Tenants’ Development”

Business incubators (BI) are among a variety of initiatives to stimulate economic growth by promoting the creation and development of new companies. The rapid growth of BIs in recent years confirms their importance in the economic fabric. In this study, the authors conceptualize BIs using insights from knowledge based theory of the firm, resource-based view thinking and capabilities literature. BIs will be seen as service providers geared towards helping their tenants in solving developmental problems. The more problems the BI helps to solve the bigger the incubation value for tenants; further, as tenant firms solve problems they develop important capabilities which will yield increase their chances of survival once they graduate. Results show that tenants unequivocally seek support after experiencing problems. Solving those problems is a function of BI support and other external sources part of each tenant firm’s network of contacts. Age and human capital of tenant firms have a negative impact in the total number of the problems solved, suggesting BIs’ deficiencies in helping more experienced and older tenants. The main contribution is to shed light on the processes of

delivering support to young firms within BIs. Importantly, the authors assess the value of the BIs' intervention by measuring the amount of developmental problems they help tenants to overcome. Finally, the authors discuss the implication of our finding to BI managers, prospective tenants and policy makers.

The population of BIs the 12 BIs part of Nensi – North European Network of Service Incubators. Nensi is a network of 12 service incubators located in six Northwestern European countries. The project enjoyed EU funding and ran from 2005 till 2008. During this period, data on both BIs and their respective tenants were collected. The goal was to monitor tenants during the project period and therefore the authors developed two questionnaires (initial and follow-up). The initial questionnaire was more focused on tenants' characteristics such as size, age or founders' human capital. The follow-up questionnaire updated these figures (if applicable) and enquired on usage of services and problem solving in the period between the initial and the follow-up questionnaires. On average, the lag between the two questionnaires was about one year. In this paper, the authors only use data coming from the initial questionnaire and the first follow-up (for a detailed description of both questionnaires and the monitoring tool see Jenniskens, 2006). From the initial call to 354 companies, 101 returned two valid questionnaires (29%). Of these, 73 could be used on our analysis (21%).

Our results show that BIs indeed facilitate their tenants' development by having a significant role in helping them to solving their problems. However, the negative relationship found between age, human capital and amount of problems solved suggests that the BIs' ability to help their tenants is limited. This would not be a shortcoming if the limit would always be beyond their tenants' needs.

4.2.10 Lee and Hunt, 2008. "Business Incubators: Do They Matter?"

This paper analyzes the role incubators play in their respective communities, performing an in depth case study on two business incubators located in the Boise, Idaho area. In order to determine the extent to which incubators have an impact on the companies that reside there, the researchers interviewed twenty-three client companies over the course of two months. Other business leaders were interviewed in order to gain a more macro view of the business environment and business incubation. Almost all interviews were transcribed in order to organize and analyze the data. In conjunction with the interviews at the TECenter and WaterCooler, a survey was distributed to Idaho incubators to determine the current level of collaboration between Idaho Incubators and the future interest of collaboration. The following outlines the findings from the survey and while the raw survey data can be found in the Appendix. Surveys were also sent to all other Idaho incubators to determine the level of collaboration between incubators. During August and September 2008, Larissa Lee and Alan Hunt of Boise State University conducted interviews with nine clients of the WaterCooler, fourteen clients of the TECenter, two interviews with the Small Business Development Center, and one interview with the Boise Valley Economic Partnership. This executive summary provides an overview of the themes and concepts observed during the interviews with each of the clients in both business incubators. Following the executive summary are five detailed areas including an introduction to the project, a literature review, the research methodology, the results and analysis of the interviews conducted, and the conclusions. The appendices provide background information on the companies interviewed and the raw survey data collected from other Idaho incubators. In

conclusion, the outlook of Boise looks very positive with an environment that values and emphasizes new startup businesses, and will take the appropriate steps to ensure those businesses are as successful as possible. Boise will continue to have a diverse economy with several industries, in order to reduce reliance on any one company or industry. Business incubators in this area are thriving and the businesses within them are growing and moving on to other office spaces. As community attention and appreciation for these facilities increase, there will be a greater demand to create new incubators and enrich the incubators currently in operation.

4.2.11 Blankenship, 2007. “Introducing Strategic Sustainable Development in a Business Incubator”

This research explores integration of Strategic Sustainable Development (SSD) at Inova business incubator (Karlstad, Sweden). Researchers and incubator agreed that planning with sustainability in mind at a very early stage of company development may have important impacts on future business success and societal welfare.

The objective was to answer how SSD could be integrated into the processes at Inova and how Inova staff’s and entrepreneurs’ understanding of sustainability demonstrably evolve after exposure to SSD.

Apart from general research methods, SSD methods and tools were used with three entrepreneurs and business incubator staff. The Five Level Framework for Planning and Decision-making in complex systems and the Templates for Sustainable Product Development approach were central to the study.

Inova staff and entrepreneurs began to develop; an understanding of business’ dependence on and relationship to broader societal and ecological systems; and an ability to use backcasting from the basic socio-ecological principles of sustainability in business planning. In turn they experienced an increased capacity to identify sustainability related business risks and opportunities.

A new incubation process integrating SSD was created. Although the outcome is specific to Inova, it is general enough for other assistance organizations to gain insight from. In conclusion, SSD should be integrated as early as possible in the business planning of startup companies. Organizations with a mission of assisting entrepreneurs have an important role to play

In further research it is recommended that visionary sustainability leaders are identified and tracked from start up.

The study uses qualitative research design promoted by Maxwell (2005). This approach is appropriate when performing action research, which studies outcomes in two areas: benefits for the body of academic knowledge and benefits within a learning organization (Inova).

General research methods such as document analysis, observation and semi-standardized/un-standardized interviews were used.

A pre-survey was developed to capture initial information about both staff and start-ups (attitudes, pre-conceived notions of sustainability). Later in the post-survey, the data would help to evaluate the impact of workshops and training on participants’ understanding of the Framework for Strategic Sustainable Development.

The authors conclude that:

Strategic Sustainable Development can be integrated into a business incubation process using the suggested tools. As a result of the work, Inova is committed to moving

forward with the implementation of the proposed integration of Strategic Sustainable Development into the incubation process. The proposed integration process is designed to be specific to Inova's internal processes, yet general enough for another assistance organization to gain insight from. The authors feel that the tools tested fit best in this configuration as they follow a logical learning curve and allow for development of understanding and increasing complexity of analysis of one's business.

4.2.12 Der Zee, 2007. "Business Incubator Contributions to the Development of Business in the Early Stages of the Business Life Cycle"

This study investigated 157 business owners perceptions as the importance of four value-added contributions to the development of their businesses through the early stages of their life-cycles. Literature suggested these value-added contributions to be: shared office services, business assistance, access to finance and business networks. The purpose of this research is to help business incubator managers solve the problem of how to allocate limited resources, in the form of value-added contributions, to multiple tenant businesses at different stages of growth. To do this an electronic questionnaire was used with a set of multiple choice questions that established the stage of growth that each business was in, and a constant sum exercise determined the perceived importance to each respondent of each of the four value-added contributions. Of the five early stages of growth proposed in the literature, these being existence, survival, growth, expansion and resource maturity, only four were represented in the data. Non-parametric tests for significance at a 95% confidence level showed that no significant difference existed in the perceived importance if any of the value-added contributions across stages of growth, however a clear indication of the relative importance of each value-added contribution within each stage of growth was identified. The results of this study indicated differences exist in the perceived importance of any of the value-added contribution across all of the stages of growth. In essence this result indicates to incubator managers the immateriality of taking into consideration the stage of growth that a business is in when configuring business incubation programmes.

4.2.13 Voisey et al., 2006. "The Measurement of Success in a Business Incubation Project"

Purpose – The purpose of this paper is to examine the impact and success of a business incubation project on its participants. The study aims to consider the impact of the project in terms of developing and supporting entrepreneurial activity within Wales. It seeks to build on and enhance existing business incubation literature and contribute to the field by identifying "good" practice and considers the measurement of success within such projects.

Design/methodology/approach – This study employs an individual case study methodology which evaluates all aspects of the Graduate Teleworking Initiative (GTi) project. A range of qualitative and quantitative methods is utilised to capture the views of aspiring entrepreneurs. In addition the progress of entrepreneurs is compared with "distance travelled" methodologies developed by other EU programmes, using the experiences of GTi businesses as individual case histories. In addition, this paper looks at additional ways to measure the success of this type of project, based on a study of the

current academic literature and work currently being undertaken with funding agencies in Wales in respect of economic regeneration. The case study method is recognised as the most effective research strategy to capture the “rich” experience of complex projects. A total of 30 enterprises participated in the study, represented by 32 individuals who responded to the questionnaire.

Findings – The study finds that, if incubation facilities are to receive continuing support, the measurement of success needs to be broader than a set of statistical outputs. The academic literature queries whether business incubation works, and invites us to decide if the end result is of value or not. This paper considers additional ways to measure the success of this type of project. Applications for public funding in support of business incubators as part of an overall economic regeneration strategy should be able to provide a wider evaluation of effectiveness, and this paper seeks to develop a model to this purpose, to assist the ongoing development of incubator facilities in Wales.

Practical implications – This study will be of interest to business incubation providers and entrepreneurial researchers in identifying valid and achievable success measures and should inform developments in this field.

Originality/value – The paper provides a unique insight into a successful business incubation project and identifies the key to its on going success. Furthermore, the study identifies generic measures of success for a typical business incubation project based on the GTi experience and a detailed investigation of alternative business incubators.

4.2.14 Johnsrud, 2004. “Business Incubation: Profitability v.s Economic Development”

The study was undertaken to discover new models and current trends in business incubation in the US and to review business development and incubation activities in 22 countries of the middle east, central Asia and north Africa, the research identified recently emerged business incubator models, including acceleration (which have largely disappeared), operating companies, corporate venture arms, foreign-owned incubators in the US, and international incubators. These new models emphasize profitability goals associated with the entrance of corporations, foreign interests, and the seed and venture investment community and the emergence of technology- based economic development (TBED) strategies in the US and internationally.

Data collection was accomplished by collecting and reviewing archival materials available in print or on the internet. Additionally, information was obtained through interviews of knowledgeable experts in the field of business development and incubator management. A number of individuals graciously gave of their time and expertise, including the director of a successful biotechnology business development incubator, venture capital investors, university technology transfer officers, and other business development and assistance professionals.

Study results reveal that the number of business incubators and the variety of services they offer to clients continues to grow in the US, especially with the entrance of early stage seed capital investors. Business incubators are variously viewed by stakeholders and funding agencies as a means to achieve (1) local economic development, (2) profitability for investors or (3) both.

4.2.15 Wilber and Dixon 2003: “The Impact of Business Incubators on Small Businesses Survivability”

The goal of this study is to analyze the most current information regarding small businesses and the assistance they receive from a business incubator. The results of the study will assist small business owners and managers in the development and improvement of essential skills while raising their consciousness to the potential pitfalls for small businesses.

Data was collected from Internet databases, library databases, and information provided by the National Business Incubator Association (NBIA). The rationale for selecting these methods was based on efficiency in using such database technology regarding availability and timeliness in collecting such data. The advantage of utilizing Internet and library research for collecting data is that the analysis is based on information from various sources with broader application. Also, NBIA is known as the primary organization for overseeing business incubator programs in the United States. However, the analysis is not necessarily specific to localized situations.

From the results of this study, department managers involved in business incubation can use the information to measure results, conduct comparative analyses, and formulate future strategies.

The findings are also useful as reference material when conducting small business training and development workshops regarding small business development through incubator programs. The hypothesis of the study were: Hypothesis #1 - Business incubators will improve small businesses' chances for long-term survivability.

Null Hypothesis - Business incubators will not improve small businesses' chances for long-term survivability. Hypothesis #2 - The incorporation of information technology will afford small businesses a competitive advantage. Null Hypothesis – The incorporation of information technology will not afford small businesses a competitive advantage.

The results of this study and the financial impact of business incubators provide strong evidence that business incubation programs, as economic development tools, have a significant financial impact on their communities

The results show that business incubators play an intricate part in small businesses' potential for long-term survival. As indicated throughout the contents of this study, small businesses pay an enormously high price when entering the competitive business world with inadequate managerial skills. Business incubators are responsible for providing an environment that is conducive for managers of small businesses to acquire these much-needed skills. In some cases, business incubators do reap benefits from having small businesses participate in its programs through economic impact to the local economy. Ultimately, it is the small businesses that reap the larger benefits.

4.2.16 Costa-David et al., 2002. “Improving Business Incubator Performance through Benchmarking and Evaluation: Lessons Learned from Europe”

The study undertaken by the European Commission on business incubators is one of 11 being supported and covering the various aspects and stages of SME development.

The research was undertaken during 2001. The work carried out by CSES involved two main phases: Phase 1 focused on preparing an analytical framework and involved a review of previous research and other literature on business incubator activities. During Phase 2 the framework was tested and further developed through a series of interviews with incubator managers, stakeholders and client companies from the EU Member States.

A detailed description of the methodology that was adopted for this project, and more specifically the business incubator benchmarking framework, is set out in the CSES report. However, it is helpful to summarise the overall approach: Step 1 - Model: A generic business incubator model was developed setting out basic functions and operating procedures. This model is based on the literature review, inputs by the Managers Group and CSES's fieldwork. Step 2 – Best Practice Issues: The model defines a number of 'key best practice issues' that provide the framework required to define benchmarking indicators. These are subdivided into 'headline' and 'operational' indicators; Step 3 – Performance Drivers: In addition, the model highlights the 'key performance drivers' that will influence the extent to which incubators achieve best practice benchmarks. These drivers fall under three headings - Step 4 – Business Incubator Data: Two surveys were carried out by CSES: the first focused on incubators themselves while the second involved obtaining feedback from client companies. The survey data was used to determine where incubators stand in relation to the various benchmark indicators; Step 5 – Best Practice Guidance: Based on the earlier steps and analysis, the final section of this report then suggests key actions that should be taken in setting up and operating business incubators. The study undertaken for the European Commission arrived at a number of key conclusions and recommendations: incubators should not be stand-alone entities but rather work alongside other organisations and schemes to promote broader strategies. Examples of where this approach is being adopted are given in the report. It follows that incubators should be promoted by an inclusive partnership of public and private sector stakeholders where business incubator partnership structures will reflect overall regional, technology and business support strategies. In *Evaluating Business Incubator Services and Impacts*, The performance of business incubators should be judged primarily in terms of the results achieved, i.e. the impact they have on businesses, wider economic development and other priorities. In assessing the impact of incubators, there is a need to obtain feedback directly from client companies and greater priority should be given to this than has hitherto been the case. Overall, this report suggests that business incubators are a very cost-effective instrument for the promotion of public policy objectives.

4.2.17 Scott, 2000. “The Role of a University Incubator in creating Successful Startup Firms”

The purpose of this study is to compare the reality of actual university startups with the theoretical descriptions of the nature of innovation, startup marketing, and technology transfer and incubator creation. From this comparison, services for successful incubator creation. From this comparison, services for successful incubator-housed startups and university policies are recommended.

Included within the study is a review of the literature of the relationship between higher education and industry in the united states, and the various relationships between higher education , the intellectual property produced on campus, and industries and individual businesses interested in those ideas

The objectives of the study are: 1) to identify and describe the challenges faced by university of Washington (UW) entrepreneurs. 2)to determine the key services needed from a university incubator by UW startup firms. 3) to determine how those services could most effectively be delivered, and 4) to identify the university policies most conducive to the creation of a successful incubator.

The theory supporting this investigation stems from several areas of business and higher education research which contribute to the study's four hypotheses. The study methodology was an online survey, created with interview and literature content, sent to 51 UW startup firms. 31 respondents, representing 30 companies, completed the four page survey and provided extensive comments.

The survey results were consistent with the study hypotheses that: 1) business services are needed concurrent with continued research and development in most university- related start up, 2) patenting continues to play a role in university startups going forward, not just an isolated one-time event in these firms.

In addition, the difference in types of university startups and the services they need was noteworthy. These differences could dramatically affect the service offerings and viability of a university incubator more study is recommended to determine how consistent this finding is in other settings, as well as the characteristics of faculty entrepreneurs.

4.2.18 Vanderstraeten and Matthyssens , 2000. “Measuring the Performance of Business Incubators: A Critical Analysis of Effectiveness Approaches and Performance Measurement Systems”

In the current paper, the authors aim at targeting this literature gap, and critically examine existing performance measurement research in incubator literature. For this, the authors follow Neely's (2005) suggestion to examine performance measurement both at the individual and the system level, and apply these to incubator performance measurement. Building upon this, the current paper provides insights for managers, policy makers, educators and researchers. While searching for published material on business incubator PMs and PMSs, articles were selected using the following search terms: (1) “incubator performance”, “incubator impact”, “incubator assessment”, “incubator effectiveness” or “incubator efficiency” and (2) “measure”, “system”, “model” or “framework”. The wildcard symbol “*” was utilized to broaden the search. To avoid comparing research results aimed for different phenomena, Bergek and

Norrman's (2008) overview of incubator services was adopted for paper selection. Only papers in which researchers examined incubators offering shared office space, a pool of shared support services, professional business support or advice, and internal and/or external network provision are considered. To conclude, the authors briefly summarize our contributions to educators, policy makers, managers, and researchers. The first can apply the results of this paper to underpin the importance of balanced PMs and adequate PMSs, while the last three can adopt our results to improve existing measurement systems and performance measures. This, in turn, can support policy makers in benchmarking studies and resource allocation decisions. Incubator managers might be able to better position themselves in the incubator landscape, and they might be better able to develop, implement and improve strategies. Finally, firm managers using the results of this paper can better choose an appropriate business incubator location.

4.3 Arabic and Local Studies

4.3.1 Jbouri, 2011. “Strategic Roles of Business Incubators”

The essential idea of this research is dealing with establishment of Iraqi's incubator for business and technology, first of all the authors introduce the incubator theoretical background , second step is studying the attitudes of managers and proprietors of a sample of small projects in neinava governance , so the third step will be the suggested idea after the researchers reach to the conclusion that there is a positive commitments of the sample towards the dealing with Iraqi's incubator for business and technology, at last two sides of suggestions are introduce , first one to officials institutions that implement the idea or support it, the second to non-government organizations (NGO) which play an important role in continuous success of the suggested incubator.

The field comes to enhance the suggested frame work to establish Iraqi Incubator for Business and Technology. It is important to seek views of a sample of small business holders before completing the frame work of the incubator.

The sample of the study is 50 participants from 10 different existing businesses.

The most important conclusions of study are to: 1) develop the capacity of the team members of the small businesses through focusing on business and technical requirements and encouraging entrepreneurship. 2) Bridge the gap between small start-ups and donor agencies and financial institutions.

4.3.2 Qawasmi, 2010. “The Reality of Business Incubators and their Role in Supporting Small Enterprises in the West Bank”

This study aimed to identify the reality of business incubators in the West Bank, and the role they play in supporting small enterprises through the providing of many services that you need.

The researcher used the descriptive analytical method, and adopted the resolution as a tool to collect the required data, had been surveyed the study population consists of all

the staff of business incubators and individuals Mahtdhanin as a small business incubators in the West Bank

(Hebron, Nablus, Ramallah), and numbered (42) individuals, according to information obtained by the competent persons in those institutions.

The researcher has analyzed the statistical output resolution using the Excel statistical , averages and percentages The study showed many of the results highlighted by:

1. Small enterprises suffer in Palestine, many of the problems that can cause it to fail at the beginning of her life.
2. Business incubators are still going according to a mechanism other than scientific, and do not help small enterprises to overcome their problems.
3. The provision of services by business incubators were low and not working to support the projects that are large, and this is due to the lack of expertise in this area and reduced the possibilities available to it.
4. Most of the services provided to support projects from the standpoint of incubated projects in general during the incubation period, the services of human resource development and subsequent secretarial services, information for services provided after graduating from the incubator was the most human resources development services followed by advisory services.
5. As for the services provided for projects from the standpoint of general staff of the incubator during the incubation period the secretarial services and information, followed by human resources development services and technical services, while the services provided to projects after graduating from the incubator management and consultative services.

In line of these findings the researcher recommended the need to pursue the beneficiaries of the incubators after coming out of their project, and try to help them to promote their work even for a limited period of time, and focus on providing more financial services and marketing for its importance to the projects, whether during the incubation period or thereafter, and the need to draw from past experience to set up incubators in developed countries and some Arab countries, particularly Egypt and regarded as a part of the technological and economic cooperation with those countries, as recommended by the need to reiterate the micro-incubated the importance of integration and to enter into partnerships with each other, because that would ensure the integration of expertise, money and effort and thus ensure the success of projects.

4.3.3 Dahleez, 2009. “The Role of Business Incubators in Developing Entrepreneurship and Creating New Business Start-ups in Gaza Strip”

This research aims at identifying the role of business incubators in developing entrepreneurship and creating new business ventures. Another objective of the research is studying the level of entrepreneurship, the entrepreneurial characteristics, and the effect of demographic data & family profile on the entrepreneurial characteristics of university students in Gaza Strip.

The present investigation consists of literature review in subjects related to business incubator, provided services, success factors, faced obstacles, and adopted polices & criteria of incubation.

The researcher makes use of different tools to implement this study: workshops, interviews, focus groups with experts and professionals and by designing a questionnaire to test entrepreneurial characteristics and intentions of university students toward entrepreneurship and to test their perceptions about business incubators in addition to demographic factors and personal profile of entrepreneurs.

The population of the study is the students in their final year of bachelor education in selected faculties and specializations in engineering, commerce, and information technology at the Islamic University of Gaza (IUG). The questionnaire was piloted and tested for validity and reliability and data didn't follow the normal distribution. Nonparametric test were used in the study. Data was described and analyzed for the whole sample to take a general view and respondents were classified as entrepreneurially inclined and non-entrepreneurially inclined based on their desire to establish their own business after graduation from university. A total number of 451 students were selected as the sample

The deep analysis of data based on the entrepreneurial inclination of respondent and their knowledge about business incubators reveals the following points:

Nearly quarter of the students was entrepreneurially inclined and most of them are from the engineering faculty and the business administration department. Self-satisfaction is the primary motivation behind establishing own business and money is the most required resource for establishing business. There were no differences between entrepreneurially and non-entrepreneurially inclined students regarding entrepreneurial characteristics but for business skills. Two thirds of entrepreneurially inclined students were males, (26.2%) were the first child in birth order in their families.

It is recommended to build a national strategy and to achieve the cooperation from academic institutions in terms of establishing new academic plans, and the cooperation from local industry and private sector in order to support establishment and development business incubators. The issue of entrepreneurship, new venture creation, and business incubators are

connected to each others and represent complementary components in the cycle of economic development and unemployment reduction. As seen by in the literature, entrepreneurs are the main customers of business incubators while business incubators are vehicles of development and play a viable and significant role in boosting local economy.

In order to make this cycle (discipline) to work effectively, it is important to work on three different levels. The first is the national (corporate) level which is the responsibility of the government, the second is the academic level which is the responsibility of the ministry of education and higher education and off course the universities and colleges, and the third is the responsibility of the local industry and private sector.

4.3.4 ALmushtary, 2007. “The Role of Business incubators and Technical Invention in Developing Innovation and Encouraging Entrepreneurs”

The Researcher tried to shed lights through this study on the concept of business incubators in addition to explaining the evolution and emergence of such a concept and its objectives. He classified the benefits of the businesses incubators according to the target group such as: youth, government, Higher Education Institutions, and research and development centers. And the end, he shows some important factors that help in achieving the success of business incubators.

The researcher has collected the data and information through the previous literature, books, and journals related to this study.

The study has concluded the following recommendations:

1. It is highly important to stimulate donors and financial institutions towards supporting business incubators and its clients.
2. Working on developing and improving innovation skills and personal initiatives through business incubation programs innovation support.
3. Working on providing working places within a business incubator to ensure the success of incubated start-ups
4. Widening the knowledge base and encouraging the innovators, entrepreneurs, fresh graduates though investing in knowledge capital to achieve the sustainable development.

4.3.5 Kasem, 2007. “The Role of Business Incubators in Developing the Competitive Capacities of Small and Medium Businesses”

This study examined the challenges and opportunities facing small and medium industries in Egypt, and the role of business incubators in the development of the competitiveness of these industries. The high competition illustrates the importance of institutions that supports small and medium sized enterprise.

The researcher suggests that business incubators are the best mechanism to achieve this, leading to the development of these businesses and development.

The research depends on the descriptive analysis of the reality of industries (projects) of small and medium enterprises as well as business incubators in Egypt and the world in order to achieve optimum utilization and development of these projects to the extent which works to achieve industrial development and thus achieving sustainable development, relying on Egyptian, Arab, and foreign data sources.

The most important results that have been reached:

1. Business incubators are important and developed mechanisms in the world and can contribute to the removal of economic and social problems faced by small and medium-sized enterprises.
2. Small businesses need clear plans and strategies.

At the end of the study, the researcher concluded to the following recommendations:

1. Adopting of specific future plans and trends to remove the external and internal business barriers of small and medium-sized businesses.
2. Adopting business incubators in the development of the competitiveness of small and medium enterprises.

3. Using technology incubators to support small and medium-sized enterprises that focus on outstanding global craft skills.
4. Linking business incubators and especially technology incubators with scientific institutions and international research centers.

4.3.6 AKhmais, 2006. “The Role of Non-Governmental Organizations in Supporting Small businesses and their Relationship to Economic Development”

This study aims to identify the role of non-governmental organizations and highlight the financial support for small businesses, due to the fact that this support aims to contribute to economic and social development, both at the state level or at the personal level to the owners of these businesses.

The researcher used the descriptive approach, and has collected important information to achieve the objectives of the study using a questionnaire and review of the previous literature, and analyzed statistically the output resolution and displayed it by the SPSS statistical package.

The researcher has collected data and information by through the beneficiaries of financial programs and measured their level of satisfaction.

The studying has resulted in the following results:

1. Dissatisfaction of researchers towards guarantees required by loaning non-governmental organizations.
2. Seekers dissatisfaction technical and administrative support provided by organizations to borrowers new entrepreneurs.
3. Policies and objectives of loaning non-governmental organizations were not clear and did not take into account the Palestinian situation.
4. Dissatisfaction of entrepreneurs on the actions taken against them by these organizations.
5. There are no reciprocal relations between loaning non-governmental organizations and their environments..

4.3.7 Sakit, 2005. “Business Incubators: Studying the Experience of Jordanian Business and Professions Women Forum”

The researcher offered spotlight on Jordanian Business and Professions Women Forum. Then, she talked about the history of the establishment of incubators in Jordan, where the first incubator in Jordan was established in 1997, and the definition of the most important services that are provided.

The researcher has adopted the descriptive analysis approach to the most important content in the books, Arabic and English references, Statistics, and official publications.

This approach aims to describe the situation as it is on the ground and the study sample consisted of 16 incubated startups owned by women.

The researcher listed a number of findings and recommendations. That is:

1. The main backbone of business incubators is the technical director who will manage the incubator towards success.
2. When establishing and operate an incubator, it is important to minimize the operational and management cost.
3. It is highly important to increase the competitive capacities for businesses through depending on new technologies.
4. It is worthy to stress on synergy and integration in training the incubatees.
5. Most of the entrepreneurs within the incubator were from university graduates.
6. Renting fees in the incubator should be normal and the furnature available should be practical.

4.3.8 Masoud, 2005. “The Impact of Business Incubators Existing in The Jordanian Business Women Forum”

This study tried to investigate the role of business incubators in Jordanian Business and Professional Women Forum towards the success the business owned by women in the forum, from the standpoint of beneficiaries. It aims also to shed light on the reality of the small businesses supported by the Forum and the facilities and services provided to the beneficiaries as well as to identify how do incubators help in the sustainability of SMEs..

To achieve the objectives of the study, a random sample were selected to include 20 women, representing 50% of the original study population of beneficiaries of business incubators which has a total of 40 women, in addition to holding 6 interviews with the beneficiaries of business incubators to answer the details study questions.

The study found the following results:

1. Marketing and management skills have a great importance in the sustainability of the businesses.
2. Training contributed to the development of women personal skills and helped them to overcome the challenges they faced.
3. Provided Incubator services such as working space and reducing establishing costs have a great role in the success of the projects.
4. Training and consulting services provided to the incubated projects did not reach the required level and must be developed.

At the end of the study, the researcher recommended a number of recommendations including:

1. It is necessary follow-up beneficiaries of the incubators after their graduation.
2. Developing services provided to meet the needs of the market and the needs of beneficiaries at the same time.
3. Diversification in the offered training courses and promoting coaching services.
4. Provide more training and management support for existing business incubators.
5. Reconsider the division of incubators within the Forum to provide an acceptable privacy during clients' reception.

4.3.9 Jabah, 2000. “Trends of Expected Graduates Towards Creating New Small Business in The West Bank”

The aim of this study is to investigate the extent to which graduates tends towards establishing small-scale projects instead of searching for traditional jobs, and find out the nature of the projects that they are interested in and its factors of success.

The researcher has adopted on the descriptive analytical method, in order to get information from a sample study, the researcher has used a questionnaire as a tool to gather information, to obtain a in a systematic methodology, the opinions of students expected to graduate toward creating small businesses to be used as a guide to the institutions that support the creation of small businesses.

The population of the study has identified as students about to graduate from various disciplines in the Palestinian universities in the West Bank, regardless of the location of a graduate. Their total number is (5027) students. The study sample has included 300 students. The researcher reached the following conclusions:

1. Fresh graduates feel the importance of small businesses in the economy.
2. Fresh graduate consider that the success rate of small businesses is high because of the reality of the Palestinian environment.
3. The most important success factors are the capital, the management, and then the geographical location.
4. The failure of small businesses will be in the advanced stages of the start of the project and would not be in the early stages, and the main reason for failure is the lack of funding and then market problems.
5. There is a tendency among young people toward creating new business ventures more than any kind of businesses due to its low level of the risk.

4.4 Comments on Previous Studies

Despite the growth in literature on incubation, few studies have applied a robust evaluative approach to assessing the economic contributions of incubators. Many quantitative academic studies attempting to evaluate the impact of incubators on populations of firms have more conservative results than industry studies, and often contradictory findings.

Most of these literatures tried to focus on specific aspect of business incubation or investigated general frame work of business incubation and services provided to entrepreneurs without studying the overall performance of a business incubator from the management level, services provided to tenants, reaching to the impact of business incubators in creating jobs, removing business barriers, and making a policy among stakeholders to support entrepreneurship in order to achieve the overall growth and enhancing the social and economic development. This will lead definitely to achieve the sustainable development.

According to M’Chirgui (2012), business incubators generally continue to create innovative entrepreneurial firms, often technology or science-based. However, business incubators may need to further increase the professionalism of their main activities that exhibit some limits: selection, business support, networking and graduation. Incubatees

lack access to complementary financing structures, crucial to the sustainable development of new ventures. Thus, it is important to assess the impact of activities services of the incubator that helps in enhancing the entrepreneurship and transforming the innovative ideas into small entrepreneurial firms.

While (Abdul Khalid, Gilbert, and Huq, 2012) revealed that product-based selection, market and managerial-based selection, and financial-based selection underlie components in the business incubation process. Similarly, the significance of Monitoring and Business Assistance Intensity, the Professional Management Services' underlying components suggest that services such as marketing and promotion management, strategic management, financial management, and staff and personnel management are all relevant services in the business incubation process. So, assessing the impact of a business incubator through measuring business development services is a key point to evaluate its performance.

According to Johnsrud (2004), Business incubators are variously viewed by stakeholders and funding agencies as a means to achieve the local economic development and profitability for investors. While Lesáková, (2012) revealed that business incubation helps to meet a variety of economic and socio-economic policy needs in a country, which may include business creation and retention, technology commercialization, creating jobs and wealth as well as fostering a community's entrepreneurial climate. Ratinho et al., (2008) concluded that BIs indeed facilitate their tenants' development by having a significant role in helping them to solving their problems. Smith, (2010) has recommended a statewide and regional policy to support incubators in Gateway Cities and their partnerships with state universities and community colleges. It is highly important to study match-making services and activities provided by a business incubator so that the incubated SMEs will have the opportunity to succeed.

When evaluating the performance of a business incubator, Dee et al. (2011) is suggesting that absolute measures of incubation are impractical, but performance indicators are useful. In practice, incubation can lead to several outcomes for new ventures. Matching incubator services to the needs of firms is important. While Voisey, et al, (2006) found that, if incubation facilities are to receive continuing support, the measurement of success needs to be broader than a set of statistical outputs. Thus, measuring the output of the incubator is a key tool to assess its impact. It is very important to have numbered outputs through which a researcher can have a statistical data about the performance.

InfoDev, (2010) while studying the global good practice in incubation policy, has recommended that should be a consistency between objectives and the broader strategic framework where incubators should not be treated as stand-alone operations and should not be conceived for stand-alone goals. BIs need stakeholder support where the involvement and support of stakeholders. In addition to that, Investing in Pre-incubation is a good practice because a pre-incubation program to assist potential entrepreneurs. It

also concludes that monitoring and appraisal for a business incubation program is critical to identifying unexpected problems where networking and public private partnerships (PPP) are a very important key of success. From this, the researcher found that it is a very important issue to measure the role of the business incubators in linking the academic institutions with industry.

Robinson (2008) indicates that there is a pattern for the development of incubation practices in emerging markets. Governments and other incubator sponsoring organizations first become aware of incubation as a possible solution to nagging economic development conditions like unemployment and lack of innovation.

In a view of the prospective of business incubators, Lee and Hunt (2008) concluded that business incubators are thriving and the businesses within them are growing and moving on to other office spaces.

According to Wilber and Dixon(2003), department managers involved in business incubation can use the information to measure results, conduct comparative analyses, and formulate future strategies. Wilber and Dixon hypothesized that business incubators will improve small businesses' chances for long-term survivability. In addition to that, The incorporation of information technology will afford small businesses a competitive advantage. Business incubation programs, as economic development tools, have a significant financial impact on their communities. The results show that business incubators play an intricate part in small businesses' potential for long-term survival. Thus, the success of any business incubator should be measured by the number of successful start-ups that have been graduated to the markets and the number of new jobs created.

Costa-David, et al, (2002) suggested that in Evaluating Business Incubator Services and Impacts, The performance of business incubators should be judged primarily in terms of the results achieved, i.e. the impact they have on businesses, wider economic development and other priorities. In assessing the impact of incubators, there is a need to obtain feedback directly from client companies and greater priority should be given to this than has hitherto been the case. Overall, this report suggests that business incubators are a very cost-effective instrument for the promotion of public policy objectives. For this regard, it was necessary to have the opinion from the incubated and graduated entrepreneurs and SMEs. It is important to evaluate the performance through studying the results and having feedback from the tenants.

While Scott (2000), in studying the role of a university incubator in creating successful startup firms, has concluded that business services are needed concurrent with continued research and development in most university- related start up. In addition to that, patenting continues to play a role in university startups going necessity, not just an isolated one-time event in these firms. Thus, the role of a university based incubator should be also affected by the circumstances of the university. BTI should have a key role in merging research and development in the business development process. For this regard, incubating the innovative graduation projects would be a good step towards developing research and development to become more applied.

From that other hand, in her assessment of the reality of business incubators and their role in supporting small enterprises in the West Bank, Qawasmi (2010) has concluded that Small enterprises suffer in Palestine, many of the problems that can cause it to fail at the beginning of her life. While business incubators are still going according to a mechanism other than scientific, and do not help small enterprises to overcome their problems.

According to Dahleez (2009), the issue of entrepreneurship, new venture creation, and business incubators are connected to each other's and represent complementary components in the cycle of economic development and unemployment reduction. While Jabah (2000) revealed that Fresh graduates feel the importance of small businesses in the economy and the most important success factors are the capital, the management, and then the geographical location. For that regard, assessing the role of a business incubator should pass through measuring its role in assisting the incubated tenants in the best utilization and exploitation of available capital and resources which are available for the businesses so that small start-ups can avoid failure in the early stages of their life cycle.

ALmushtary (2007) suggested working developing and improving innovation skills and personal initiatives through business incubation programs innovation support in addition to providing working places within a business incubator to ensure the success of incubated start-ups. This should happen in conjunction with widening the knowledge base and encouraging the innovators, entrepreneurs, fresh graduates though investing in knowledge capital to achieve the sustainable development. While Jbouri (2011) suggested developing the capacity of the team members of the small businesses through focusing on business and technical requirements and encouraging entrepreneurship and bridging the gap between small start-ups and donor agencies and financial institutions. For this regard, the performance of a business incubator should be assessed also through the number of investment opportunities that have offer to incubated or graduated tenants.

According to Kasem (2007) has concluded that business incubators are important and developed mechanisms in the world and can contribute to the removal of economic and social problems faced by SMEs and mentioned the importance linking business incubators and especially technology incubators with scientific institutions and international research centers. Sakit (2005) mentioned that most of the entrepreneurs within the incubators were from university graduates. While Masoud (2005) stressed that marketing and management skills have a great importance in the sustainability of the businesses in addition to that provided Incubator services such as working space and reducing establishing costs have a great role in the success of the projects. When evaluating the overall impact, sustainable development and growth seems to be to most important goals to be achieved by a business incubator.

This set of academic studies highlights the difficulty in answering what at first looks like a straightforward question – do incubators have a positive impact? As the outcomes of incubation may take many years to become apparent, as a company develops its markets and scales its production, ‘success’ varies from whether incubated ventures survive longer or have significant growth whilst being incubated. For incubated firms, the empirical evidence would suggest that incubatees who interact with the incubator (both in terms of other companies and support staff) have stronger learning, while incubators who screen against a balanced set of indicators will have lower failure rates. (Dee et al, 2011).

Table 4.2: Overview of Previous Academic Literature on Business Incubation

| Incubator development studies (1984-1987) | Incubator configuration studies (1987-1990) | Incubator development studies (1987-1988) | Incubator-incubation impact studies (1990-1999) | Theorizing about incubator-incubation (1996-2000) |
|---|--|---|---|---|
| <ul style="list-style-type: none"> • Definitions • Taxonomies • Policy prescriptions | <ul style="list-style-type: none"> • Conceptual frameworks • Incubatee selection | <ul style="list-style-type: none"> • New venture development • Impact of planning on development | <ul style="list-style-type: none"> • Levels and units of analysis • Outcomes and measures of success | <ul style="list-style-type: none"> • Explicit and implicit use of formal theories (transaction cost economics, network theory, entrepreneurship, economic development through entrepreneurship) |
| <ul style="list-style-type: none"> • What is an incubator? • How do we develop an incubator? • What life cycle model can be extracted? • Formal analysis of business incubators | <ul style="list-style-type: none"> • What are the critical success factors for incubators-incubation? • How does the incubators-incubation concept work in practice? • How do incubators select incubatees? | <ul style="list-style-type: none"> • What is the process of new venture development in an incubator context? • What is the role of planning and the business incubator manager? | <ul style="list-style-type: none"> • Do incubators achieve what their stakeholders assert they do? • How can business incubation programmes outcomes be evaluated? • Have business incubators impacted new venture survival rates, job creation rates, industrial innovation rates? • What are the economic and fiscal impacts of an incubator? | <ul style="list-style-type: none"> • What is the significance of relationships and how do they influence entrepreneurship? • What are the critical factors to success e.g., settings, networks, founder characteristics, group membership, coproduction value and creation process? |

Source: Hackett and Dilts (2004b)

Finally, The researcher has noticed from the previous literature review that this study will enhance the previous efforts in assessing the performance, achievements and impact of business incubators in social and economic development.

The study is focusing on business incubators in the Gaza Strip through studying its reality and role in supporting economic development, so the researcher found that the study will complement and enhance previous studies mentioned, especially Palestinian ones, where it addresses a topic which is not mentioned by literature review before.

The researcher, in this chapter has shed light on some of the studies about business incubators in the world in general and in Palestine in particular. All of these studies focused on examining the reality of business incubators in terms of its concept, its inception, types, goals, success factors, mechanism of joining it, and eventually offered the most important services provided by small and that contribute to the solution of many problems they face.

Despite that business incubators in the region have been established since a period of time, a lot of studies have proved that they still simply support small businesses and enhance the economic development. Most of business incubators still in bad need of support in order to achieve its goals, so that it can help small businesses.

From previous studies and literature, the researcher has concluded 7 sustainable development aspects which reflect the role of a business incubator in achieving the sustainable development. From these aspects, the study hypothesis have been mentioned and tested in the following chapters.

Chapter 5

Study Methodology

Chapter 5: Study Methodology

5.1 Introduction

This chapter describes the methodology that was used in this research. The adopted methodology to accomplish this study uses the following techniques: the information about the research design, research population, questionnaire design, statistical data analysis, content validity and pilot study.

5.2 Research Method

In order to achieve the objectives of the study; descriptive analysis method has been used through collecting data in order to answer questions about the current status of the subject or topic of study and using formal instruments to study preferences, attitudes, practices, concerns, or interests of the study.

This study aimed at examining the role of business incubators in achieving the sustainable development in Gaza Strip, and the study has depended on two basic kinds of data:

5.3 Data Collection Method

In order to collect the needed data for this research, secondary resources in collecting data such as books, journals, statistics and web pages were used in addition to primary resources that are not available in secondary resources through distributing questionnaires on study population in order to get their opinions about the role of business incubators in achieving the sustainable development in The Gaze Strip. Research methodology depends on the analysis of data on the use of descriptive analysis, which depends on the poll and use the main program (SPSS).

5.4 Study Population

The population includes incubated and graduated startups from The Business and Technology incubator, its staff, experts, coaches and stakeholders. The study was implemented using a comprehensive survey with a total of 80 participants. This figure represents the study population up to November 2012. The population distribution of the total number of the sample as follows:

Table (5.3): The Distribution of Study Population

| Category | Number | Percentage |
|--|--------|------------|
| Entrepreneurs of Incubated Companies | 25 | 31% |
| Entrepreneurs of Companies that Graduated | 35 | 44% |
| Staff in the Field of Incubation | 10 | 12.5% |
| Beneficiaries and Participants in the Incubator Programs | 10 | 12.5% |
| Total | 80 | 100% |

While the following table specifies the age characteristics of the study population:

Table (5.4): Characteristics of the Study Population

| Variable | Category | Number | Percentage |
|---------------|------------------------------|--------|------------|
| Gender | Male | 50 | 62 |
| | Female | 30 | 38 |
| Age | Age less than 30 years | 70 | 87 |
| | from 30 - less than 40 years | 8 | 1 |
| | 40 years and more | 2 | 0.025 |
| Qualification | BA | 65 | 81 |
| | Master | 10 | 12.5 |
| | PhD | 5 | 6.5 |

5.5 Research Design

The first phase of the research is developing the thesis proposal included identifying and defining the problems and establishment objective of the study and development research plan.

The second phase of the research included a summary of the comprehensive literature review. Literatures on business incubators and its relation to the achievement of the economic and social development were reviewed.

The third phase of the research included a field survey which was conducted with the stakeholders of the entrepreneurship support and business incubation staff, experts, and beneficiaries. This phase resulted in developing and then judging the questionnaire. In order to get accurate results, the researcher has decided to scan the total population.

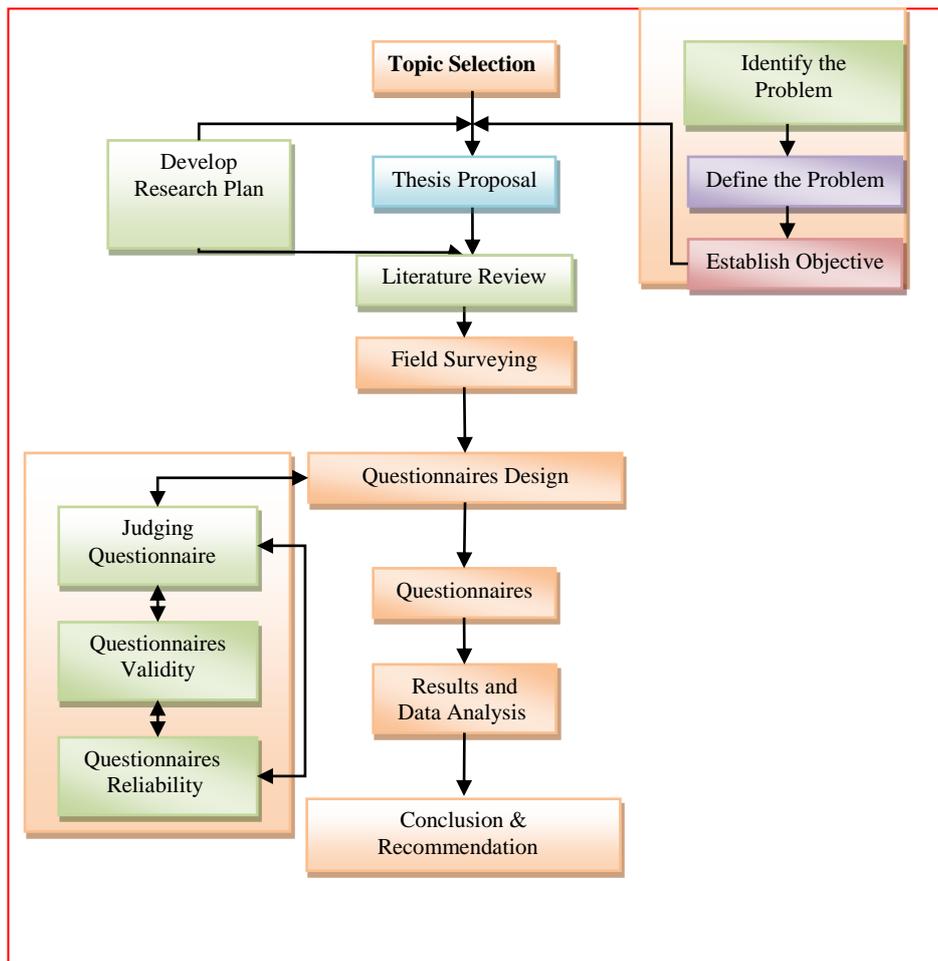
The fifth phase of the research focused on distributing questionnaire. This questionnaire was used to collect the required data in order to achieve the research objectives. 80 questionnaires were distributed to the research population and 71 questionnaires were received.

The sixth phase of the research was data analysis and discussion. Statistical Package for the Social Sciences, (SPSS) was used to perform the required analysis.

The final phase includes the conclusions and recommendations.

Figure (5.12) shows the methodology flowchart, which leads to achieve the research objective.

Figure (5.11) The Methodology Flow Chart



Source: Adapted by the Author

5.6 Judging the Questionnaire

In order to develop the questionnaire, it was distributed to 8 expert professors to have their comments. This phase resulted in minor changes before distributing the questionnaire. After discussions, the questionnaire have been developed and finalized. It can be found in Appendix 3.

5.7 Data Measurement

In order to be able to select the appropriate method of analysis, the level of measurement must be understood. For each type of measurement, there is/are an appropriate method/s that can be applied and not others. In this research, ordinal scales were used. Ordinal scale is a ranking or a rating data that normally uses integers in ascending or descending order. The numbers assigned to the important (1, 2, 3, 4, 5) do not indicate that the interval between scales are equal, nor do they indicate absolute quantities. They are merely numerical labels. Based on Likert scale we have the following:

Table: (5.5) Likert Scale

| | | | | | |
|--------------|-----------------------|--------------|--------------------|-----------------|--------------------------|
| Item | <i>Strongly agree</i> | <i>Agree</i> | <i>Do not Know</i> | <i>Disagree</i> | <i>Strongly Disagree</i> |
| Scale | 5 | 4 | 3 | 2 | 1 |

5.8 Test of Normality for Each Field

Table (5.6) shows the results for Kolmogorov-Smirnov test of normality. From Table (5.6), the p-value for each field is greater than 0.05 level of significance, then the distribution for each field is normally distributed. Consequently, parametric tests will be used to perform the statistical data analysis.

Table (5.6): Kolmogorov-Smirnov Test

| No. | Field | Kolmogorov-Smirnov | |
|-----|---|--------------------|---------|
| | | Statistic | P-value |
| 1 | The role of business incubators in the optimal exploitation and utilization of available resources of incubated start-ups | 1.588 | 0.073 |
| 2 | The role of business incubators in transforming the innovative ideas into small start-up companies. | 0.858 | 0.453 |
| 3 | The role of business incubators in increasing the success potential of start-up companies. | 0.788 | 0.564 |
| 4 | The role of business incubators in generating new job opportunities | 0.867 | 0.440 |

| | | | |
|---|---|-------|-------|
| 5 | The role of business incubators in increasing the marketing opportunities for incubated start-ups | 0.766 | 0.601 |
| 6 | The role of business incubators in enhancing the success and growth of the innovative graduation projects | 1.499 | 0.052 |
| 7 | The role Business incubators in linking the Academic institutions with industry | 1.119 | 0.163 |
| | All paragraphs of the questionnaire | 0.752 | 0.624 |

5.9 Statistical analysis Tools

The researcher would use data analysis both qualitative and quantitative data analysis methods. The Data analysis will be made utilizing (SPSS 20). The researcher would utilize the following statistical tools:

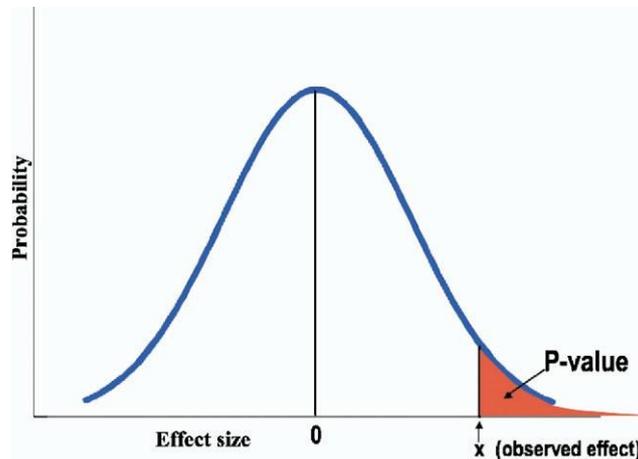
- 1) Kolmogorov-Smirnov test of normality.
- 2) Pearson correlation coefficient for Validity.
- 3) Cronbach's Alpha for Reliability Statistics.
- 4) Frequency and Descriptive analysis.
- 5) Parametric Tests (One-sample T test).

T-test is used to determine if the mean of a paragraph is significantly different from a hypothesized value 3 (Middle value of Likert scale). If the P-value (Sig.) is smaller than or equal to the level of significance, $\alpha = 0.05$, then the mean of a paragraph is significantly different from a hypothesized value 3. The sign of the Test value indicates whether the mean is significantly greater or smaller than hypothesized value 3. On the other hand, if the P-value (Sig.) is greater than the level of significance $\alpha = 0.05$, then the mean a paragraph is insignificantly different from a hypothesized value 3.

The definition of the P value is as follows—in words: The probability of the observed result, plus more extreme results, if the null hypothesis were true; in algebraic notation: $\text{Prob}(X \geq x | H_0)$, where “X” is a random variable corresponding to some way of summarizing data (such as a mean or proportion), and “x” is the observed value of that summary in the current data. This is shown graphically in Figure 5.13. The curve represents the probability of every observed outcome under the null hypothesis. The P

value is the probability of the observed outcome (x) plus all “more extreme” outcomes, represented by the shaded “tail area” (Goodman, 2008).

Figure: (5.12) Graphical Depiction of the Definition of a (one-sided) P value



Source: (Goodman, 2008)

5.10 Validity of Questionnaire

Validity refers to the degree to which an instrument measures what it is supposed to be measuring. Validity has a number of different aspects and assessment approaches. Statistical validity is used to evaluate instrument validity, which includes internal validity and structure validity.

5.10.1 Internal Validity

Internal validity of the questionnaire is the first statistical test that used to test the validity of the questionnaire. It is measured by a scouting sample, which consisted of 30 questionnaires through measuring the correlation coefficients between each paragraph in one field and the whole field.

Table (5.7) clarifies the correlation coefficient for each paragraph of the "The role of business incubators in the optimal exploitation of the resources of incubated start-ups and companies" and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table (5.7): Correlation coefficient of each paragraph of "the role of business incubators in the Optimal exploitation and utilization of available resources of incubated start-ups" and the total of this field

| No. | Paragraph | Pearson Correlation Coefficient | P-Value (Sig.) |
|-----|---|---------------------------------|----------------|
| 1. | The incubator contributes in exploiting resources at the lowest cost for productive factors involved in the production process. | .591 | 0.000* |
| 2. | The incubator contributes in reducing environmental losses resulting from start-ups and small businesses. | .732 | 0.000* |
| 3. | The incubator helps in minimizing the social costs and challenging poverty and unemployment among graduates. | .713 | 0.000* |
| 4. | The incubator contributes in orienting the production of the incubated companies with the necessary directions, instructions and environmental regulations. | .725 | 0.000* |
| 5. | The incubator contributes in providing information about the costs of environmental protection, investment expenditures and the impact of environmental protection on the profit and loss accounts. | .737 | 0.000* |
| 6. | The incubator contributes in analyzing the environmental and economic feasibility of small-scale projects. | .776 | 0.000* |
| 7. | The incubator contributes in giving advice and analysis of problems and studying the prospects for the future | .718 | 0.000* |
| 8. | The incubator contributes in providing information and advice that helps in making decisions. | .799 | 0.000* |

* Correlation is significant at the 0.05 level

Table (5.8) clarifies the correlation coefficient for each paragraph of the "the role of business incubators in transforming the innovative ideas into small start-up companies " and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table (5.8): Correlation coefficient of each paragraph of " the role of business incubators in transforming the innovative ideas into small start-up companies " and the total of this field

| No. | Paragraph | Pearson Correlation Coefficient | P-Value (Sig.) |
|-----|---|---------------------------------|----------------|
| 1. | The incubator encourages pioneers and entrepreneurs towards creativity, entrepreneurship, and innovation. | .726 | 0.000* |
| 2. | The incubator contributes in providing new atmosphere for the application of creative and innovative ideas on the ground. | .788 | 0.000* |
| 3. | The incubator contributes in meetings with businessmen and investors through match-making sessions to take advantage of their experiences. | .758 | 0.000* |
| 4. | The incubator provides links between companies and investors. | .781 | 0.000* |
| 5. | The incubator links the incubated and graduated companies with different financing and investment programs | .716 | 0.000* |
| 6. | The incubator contributes in helping in the design of new products. | .631 | 0.000* |
| 7. | The incubator contributes in building the capacity of the entrepreneurs to implement their ideas and to succeed in the management of their start-ups. | .590 | 0.000* |
| 8. | The incubator provides facilities, services and tools that are necessary for the success of the incubated companies | .738 | 0.000* |

* Correlation is significant at the 0.05 level

Table (5.9) clarifies the correlation coefficient for each paragraph of the " the role of business incubators in increasing the success potential of start-up companies " and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table (5.9): Correlation coefficient of each paragraph of "the role of business incubators in increasing the success potential of start-up companies." and the total of this field

| No. | Paragraph | Pearson Correlation Coefficient | P-Value (Sig.) |
|-----|---|---------------------------------|----------------|
| 1. | The incubator contributes in creating an entrepreneurial generation that can be responsible for creating new businesses | .691 | 0.000* |
| 2. | The incubator contributes in providing a suitable working place for projects work | .626 | 0.000* |
| 3. | The incubator contributes in preparing feasibility study and market analysis to assess the real current and future situation. | .594 | 0.000* |
| 4. | The incubator contributes in expanding and widening the relationships of the incubated small businesses | .685 | 0.000* |
| 5. | The incubator contributes in shortening time that is required companies registration and legal procedures | .719 | 0.000* |
| 6. | The incubator contributes to access to specialized databases for target markets. | .759 | 0.000* |
| 7. | The incubator contributes in ensuring the success opportunities by removing the obstacles faced by emerging companies. | .726 | 0.000* |
| 8. | The incubator contributes in providing logistics and other resources for the incubated businesses. | .667 | 0.000* |
| 9. | The incubator contributes in providing a suitable financial support for small businesses. | .727 | 0.000* |
| 10. | The incubator contributes in creating new ideas and trends for the development of the small businesses. | .749 | 0.000* |

* Correlation is significant at the 0.05 level

Table (5.10) clarifies the correlation coefficient for each paragraph of the " the role of business incubators in generating new job opportunities " and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table (5.10): Correlation coefficient of each paragraph of "the role of business incubators in generating new job opportunities" and the total of this field

| No. | Paragraph | Pearson Correlation Coefficient | P-Value (Sig.) |
|-----|---|---------------------------------|----------------|
| 1. | The incubator contributes in creating new jobs and getting a role in reducing unemployment in The Gaza Strip. | .722 | 0.000* |
| 2. | Working within the framework of a business incubator contributes in the increase of the employment | .631 | 0.000* |
| 3. | The incubator helps small businesses and start-ups to access a large number of qualified graduates. | .659 | 0.000* |
| 4. | There is a considerable demand on the incubator services from the entrepreneurs and fresh graduates. | .750 | 0.000* |
| 5. | The incubator contributes in improving the social status of graduates through encouraging them to start their own businesses. | .820 | 0.000* |
| 6. | The incubator contributes in advancing economic development. | .791 | 0.000* |
| 7. | The incubator offers suitable training programs for graduates to help them to get sustainable jobs. | .765 | 0.000* |
| 8. | The incubator offers coaching and mentoring programs to graduates and individuals. | .731 | 0.000* |

* Correlation is significant at the 0.05 level

Table (5.11) clarifies the correlation coefficient for each paragraph of the " The role of business incubators in increasing marketing opportunities for incubated companies " and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table (5.11): Correlation coefficient of each paragraph of "The role of business incubators in increasing marketing opportunities for incubated companies" and the total of this field

| No. | Paragraph | Pearson Correlation Coefficient | P-Value (Sig.) |
|-----|---|---------------------------------|----------------|
| 1. | The incubator contributes in studying external factors that influence the market share (social, cultural and economic) | .804 | 0.000* |
| 2. | The incubator contributes in studying internal factors affecting the market (motivation, perception, learning, personal) | .829 | 0.000* |
| 3. | The incubator contributes in studying and analyzing the consumer behavior. | .854 | 0.000* |
| 4. | The incubator contributes in continuous communication with customers to see and determine their level of satisfaction with the services provided. | .822 | 0.000* |
| 5. | The incubator contributes in collecting information about the current and potential competitors of the companies. | .788 | 0.000* |
| 6. | The incubator contributes in making a marketing plans for the products and services provided by the incubated start-ups. | .758 | 0.000* |
| 7. | The incubator contributes in reaching new markets for start-up companies. | .663 | 0.000* |

* Correlation is significant at the 0.05 level

Table (5.12) clarifies the correlation coefficient for each paragraph of the "the role of business incubators in enhancing the success and growth of the innovative graduation projects " and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table (5.12): Correlation coefficient of each paragraph of " the role of business incubators in enhancing the success and growth of the innovative graduation projects " and the total of this field

| No. | Paragraph | Pearson Correlation Coefficient | P-Value (Sig.) |
|-----|---|---------------------------------|----------------|
| 1. | The incubator contributes in incubating outstanding and innovative graduation projects. | .722 | 0.000* |
| 2. | The incubator contributes in increasing opportunities to reach creative graduation projects. | .709 | 0.000* |
| 3. | The incubator contributes in increasing opportunities of adopting patents and innovative research. | .808 | 0.000* |
| 4. | The incubator contributes in providing a suitable working environment for the start-ups. | .774 | 0.000* |
| 5. | The incubator contributes to overcome the problems and challenges facing graduation projects. | .816 | 0.000* |
| 6. | The incubator helps graduation projects to getting funds. | .820 | 0.000* |
| 7. | The incubator helps graduation projects by providing an appropriate environment for the completion of the projects. | .798 | 0.000* |

* Correlation is significant at the 0.05 level

Table (5.13) clarifies the correlation coefficient for each paragraph of the " The role of business incubators in linking the academic institutions with industry " and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table (5.13): Correlation coefficient of each paragraph of "The role of business incubators in linking the academic institutions with industry" and the total of this field

| No. | Paragraph | Pearson Correlation Coefficient | P-Value (Sig.) |
|-----|---|---------------------------------|----------------|
| 1. | The incubator contributes in fostering the development of the capacity of entrepreneurs' graduates in harmony with the requirements of the labor market. | .542 | 0.000* |
| 2. | The incubator conducts studies on the trends of the local and global markets to use it mentoring the companies. | .879 | 0.000* |
| 3. | The incubator implements workshops for professionals to discuss linking the academic and the industrial sectors. | .857 | 0.000* |
| 4. | The incubator contributes in the development of the academic curriculum to become more integrated with the local market. | .805 | 0.000* |
| 5. | The incubator cooperates with the private sector for the benefit of graduates and entrepreneurs. | .815 | 0.000* |
| 6. | The incubator enhances the role of academic institutions in the development of the industry through supplying the market with groups of small businesses. | .764 | 0.000* |
| 7. | The incubator contributes in sharing the experiences between entrepreneurs and successful business models | .550 | 0.000* |
| 8. | The incubator contributes in linking entrepreneurs with successful known business personalities and leaders to benefit from their experiences. | .628 | 0.000* |

* Correlation is significant at the 0.05 level

5.10.2 Structure Validity of the Questionnaire

Structure validity is the second statistical test that used to test the validity of the questionnaire structure by testing the validity of each field and the validity of the whole questionnaire. It measures the correlation coefficient between one field and all the fields of the questionnaire that have the same level of liker scale.

Table (5.14) clarifies the correlation coefficient for each field and the whole questionnaire. The p-values (Sig.) are less than 0.05, so the correlation coefficients of all the fields are significant at $\alpha = 0.05$, so it can be said that the fields are valid to be measured what it was set for to achieve the main aim of the study.

Table (5.14): Correlation Coefficient of Each Field and the Whole of Questionnaire

| No. | Field | Pearson Correlation Coefficient | P-Value (Sig.) |
|-----|---|---------------------------------|----------------|
| 1. | The role of business incubators in the Optimal exploitation and utilization of available resources of incubated start-ups | .758 | 0.000* |
| 2. | The role of business incubators in transforming the innovative ideas into small start-up companies. | .869 | 0.000* |
| 3. | The role of business incubators in increasing the success potential of start-up companies. | .856 | 0.000* |
| 4. | The role of business incubators in generating new job opportunities | .785 | 0.000* |
| 5. | The role of business incubators in increasing the marketing opportunities for incubated start-ups | .734 | 0.000* |
| 6. | The role of business incubators in enhancing the success and growth of the innovative graduation projects | .700 | 0.000* |
| 7. | The role of business incubators in linking the academic institutions with industry | .779 | 0.000* |

* Correlation is significant at the 0.05 level

5.11 Reliability of the Research

The reliability of an instrument is the degree of consistency which measures the attribute; it is supposed to be measuring (Polit & Hunger, 1985). The less variation an instrument produces in repeated measurements of an attribute, the higher its reliability. Reliability can be equated with the stability, consistency, or dependability of a measuring tool. The test is repeated to the same sample of people on two occasions and then compares the scores obtained by computing a reliability coefficient (Polit & Hunger, 1985).

5.11.1 Cronbach's Coefficient Alpha

This method is used to measure the reliability of the questionnaire between each field and the mean of the whole fields of the questionnaire. The normal range of Cronbach's coefficient alpha value between 0.0 and +1.0, and the higher values reflects a higher degree of internal consistency. The Cronbach's coefficient alpha was calculated for each field of the questionnaire.

Table (5.15) shows the values of Cronbach's Alpha for each field of the questionnaire and the entire questionnaire. For the fields, values of Cronbach's Alpha were in the range from 0.862 and 0.896. This range is considered high; the result ensures the reliability of each field of the questionnaire. Cronbach's Alpha equals 0.960 for the entire questionnaire which indicates an excellent reliability of the entire questionnaire.

Table (5.15): Cronbach's Alpha for Each Field of the Questionnaire

| No. | Field | Cronbach's Alpha |
|------------|---|-------------------------|
| 1. | The role of business incubators in the Optimal exploitation and utilization of available resources of incubated start-ups | 0.873 |
| 2. | The role of business incubators in transforming the innovative ideas into small start-up companies. | 0.862 |
| 3. | The role of business incubators in increasing the success potential of start-up companies. | 0.878 |
| 4. | The role of business incubators in generating new job opportunities | 0.877 |
| 5. | The role of business incubators in increasing the marketing opportunities for incubated start-ups | 0.896 |
| 6. | The role of business incubators in enhancing the success and growth of the innovative graduation projects | 0.891 |
| 7. | The role of business incubators in linking the academic institutions with industry | 0.881 |
| | All paragraphs of the questionnaire | 0.960 |

The Thereby, it can be said that the researcher proved that the questionnaire was valid, reliable for distribution for the population sample.

Chapter 6

Data Analysis and Discussion

Chapter 6: Data Analysis and Discussion

6.1 Introduction

In this chapter, researcher tests the thesis hypothesis. The findings of this chapter are responding to the objectives of the study. All of these findings were discussed in the context of the previous literature.

6.2 Personal Data

6.2.1 Age

Table No.(6.16) shows that 10.2% of the sample are " Less than 22 years ", 67.8% of the sample are of "22 – Less than 26 years ", 18.6% of the sample are of "26 – Less than 30 years " and 3.4% of the sample are of "30 years and more ". From the table, it is clear that entrepreneurs aged from 22 to 26 years form the majority of the served entrepreneurs and start-ups. This proves that this age group is more qualified than others to start a business rather than seeking traditional jobs.

It is worthy to say that the total number in this table is 59 participants. This means that this table is for incubated and graduated entrepreneurs and businesses and not for staff and experts.

Table (6.16): Age Classification of Respondents

| Age in years | Frequency | Percent |
|-------------------------|------------------|----------------|
| Less than 22 years | 6 | 10.2 |
| 22 – Less than 26 years | 40 | 67.8 |
| 26 – Less than 30 years | 11 | 18.6 |
| 30 years and more | 2 | 3.4 |
| Total | 59 | 100.0 |

6.2.2 Gender

Table No.(6.17) shows that 69.5% of the sample are males and 30.5% of the sample are Females during the distribution of questionnaires process, researcher unintentionally distributed the questionnaires that may also refer that males tend to startup companies more than females while there is a considerable a percentage of females is starting their business. That should be encouraged.

Table (6.17): Gender Classification

| Gender | Frequency | Percent |
|---------------|------------------|----------------|
| Male | 41 | 69.5 |
| Female | 18 | 30.5 |
| Total | 59 | 100.0 |

6.2.3 Education

Table No.(6.18) shows that most interested for startup company have Bachelor degrees. This group of entrepreneurs have more knowledge, experience and skills rather than diploma or other studies.

Table (6.18): Education

| Education | Frequency | Percent |
|------------------|------------------|----------------|
| High school | 0 | 0 |
| Diploma | 5 | 8.5 |
| Bachelor | 50 | 84.7 |
| Graduate studies | 4 | 6.8 |
| Total | 59 | 100.0 |

6.2.4 Years of Experience in the Field of Entrepreneurship and Start-ups

Table No. (6.19) shows that most entrepreneurs have experience in the field of start-ups From 1 to less than 3 year which is 67.8% of the sample because there were a boom of the business incubation programs and activities started in 2010 and moving on after that where 15.3% have experience in the field of start-ups Less than 1 year, and 13.6 % From 3 to less than 5 years. This means that most of the beneficiaries of the business incubator are new entrepreneurs and have start-up their businesses within the BTI.

Table (6.19): Experience

| Experience (Years) | Frequency | Percent |
|---------------------------|------------------|----------------|
| Less than 1 | 9 | 15.3 |
| From 1 to less than 3 | 40 | 67.8 |
| From 3 to less than 5 | 8 | 13.6 |
| More than 5 | 2 | 3.4 |
| Total | 59 | 100.0 |

6.2.5 Year of Establishment

Table No. (6.20) shows that 29.0% of the sample are 2010, 35.5% of the sample are 2011, and 35.5 % of the sample are 2012 this due to the business incubation activities and projects implemented by BTI during these years.

Table (6.20): Establishment

| Establishment | Frequency | Percent |
|----------------------|------------------|----------------|
| 2010 | 9 | 29.0 |
| 2011 | 11 | 35.5 |
| 2012 | 11 | 35.5 |
| Total | 31 | 100.0 |

6.2.6 Legal Status

Table No. (6.21) shows that 30.5% of the sample are unregistered businesses, 55.9% of the sample are registered company, 11.9% of general partnership company and 1.7% of the sample are Other. This means that the beneficiaries and the sample selected is considered to be normally distributed between different kind of businesses. BTI is keen to register the incubated companies if they appear a success potential.

Table (6.21): Legal Status

| Legal Status | Frequency | Percent |
|-----------------------------|------------------|----------------|
| Unregistered businesses | 18 | 30.5 |
| Registered Company | 33 | 55.9 |
| General Partnership Company | 7 | 11.9 |
| Other | 1 | 1.7 |
| Total | 59 | 100.0 |

6.2.7 Number of employees in the business

Table No. (6.22) shows that 89.8% of the sample are 1 – 5 employees, 8.5% of the sample are 6 – 10 employees, 1.7% of the sample are 11-15 employees.

All the start-ups have started with 1-5 employees and after the development and achieving the success they can increase the employees according to the business progress.

Table (6.22): No. of Employees

| No. of Employees | Frequency | Percent |
|------------------|-----------|--------------|
| 1 – 5 employees | 53 | 89.8 |
| 6 – 10 employees | 5 | 8.5 |
| 11-15 employees | 1 | 1.7 |
| Total | 59 | 100.0 |

6.2.8 Incubation period of the company

Table No. (6.23) shows that 61.0% of the sample are incubated 6 months – less than 1 year of the Incubation period, 32.2% of the sample are 1 year – less than 1.5 years, 6.8% of the sample are 1.5 yrs – less than 2yrs and 0% of the sample are more than 2 years. So the standard Incubation period at BTI between 6 months – less than 1 year but if a project needs to increase the incubation period the BTI is allowing this. There are different kinds of incubation duration according to each incubated SME. Generally, the incubation duration starts from 6 months up to 2 years which is standard duration of incubation according to the BTI Policies Document (2012).

Table (6.23): Incubation Duration

| Incubation Duration | Frequency | Percent |
|------------------------------|-----------|--------------|
| 6 months – less than 1 year | 36 | 61.0 |
| 1 year – less than 1.5 years | 19 | 32.2 |
| 1.5 yrs – less than 2yrs | 4 | 6.8 |
| more than 2 years | 0 | 0 |
| Total | 59 | 100.0 |

6.2.9 Origin of the Business Idea

Table No. (6.24) shows that most of business ideas are new business ideas. The participants were mostly entrepreneurs and have their innovative new ideas.

Table (6.24): Origin of the Business Idea

| Origin | Frequency | Percent |
|--------------------------|------------------|----------------|
| Inheriting from family | 2 | 3.4 |
| new business idea | 57 | 96.6 |
| from investors | 0 | 0 |
| buying existing business | 0 | 0 |
| Total | 59 | 100.0 |

6.2.10 Did you prepare a Feasibility Study before Starting your Business?

Table No. (6.25) shows that 89.8% of the sample prepared a feasibility study before starting their businesses, and 10.2% of the sample did not prepared a feasibility study before starting their business. BTI trains all the incubated start-ups on preparing feasibility studies and other business skills. It is important for the entrepreneur to prepare a technical and financial feasibility study for the business idea to avoid any failure or future problems of the business.

Table (6.25): Feasibility Study Preparation

| Feasibility Study Preparation | Frequency | Percent |
|--------------------------------------|------------------|----------------|
| Yes | 53 | 89.8 |
| No | 6 | 10.2 |
| Total | 59 | 100.0 |

6.2.11 Did you Prepare a Written Business Plan for Your Business?

Table No. (6.26) shows that 98.3% of the sample prepared a written business plan for their businesses. BTI accepts the incubated SMEs mostly as winners of a business plan competition. Most of the incubated companies have prepared such a plan.

Table (6.26): Business Plan Preparation

| Business Plan Preparation | Frequency | Percent |
|----------------------------------|------------------|----------------|
| Yes | 58 | 98.3 |
| No | 1 | 1.7 |
| Total | 59 | 100.0 |

6.2.11.1 If yes, What is the Duration of your Business Plan?

Table No. (6.27) shows that 49.2% of the sample are Less than 1 year for the duration of their business plan, 45.8% of the sample are 1 yr – less than 3 yrs the duration of their business plan, 5.1% of the sample are 3 yrs – less than 5 yrs the duration of their business plan. This means that most of the incubated SMEs prepare business plans for less than 3 years which is the most important factor in the success of any small enterprise.

Table (6.27): Business Plan Duration

| Business Plan Duration | Frequency | Percent |
|-------------------------------|------------------|----------------|
| less than 1 yr | 29 | 49.2 |
| 1 yr – less than 3 yrs | 27 | 45.8 |
| 3 yrs – less than 5 yrs | 3 | 5.1 |
| more than 5 years | 0 | 0 |
| Total | 59 | 100.0 |

6.2.12 Did you Get a Package of Business Development Services in the BTI?

Table No. (6.28) shows that most of entrepreneurs have got a package of business development services from the BTI. This means that the tenants agree that BTI provides business development services for incubated SMEs.

Table (6.28): Business Development Services

| Business development services | Frequency | Percent |
|--------------------------------------|------------------|----------------|
| Yes | 58 | 98.3 |
| No | 1 | 1.7 |
| Total | 59 | 100.0 |

6.2.12.1 If yes, what kind of services did you receive?

From Table No. (6.39), it is clear that entrepreneurs have received a diversity of business development services from the BTI ranging from receiving funding and financing programs, having business and technical training and other business development services.

Table (6.29): Services Perceived from BTI

| Services perceived | Frequency | Percent |
|----------------------------------|------------------|----------------|
| funding or financing | 53 | 20.5 |
| Technical and business training | 50 | 19.4 |
| Networking services | 22 | 8.5 |
| Coaching and mentorship | 41 | 15.9 |
| logistic services and facilities | 33 | 12.8 |
| technical services | 11 | 4.3 |
| providing working place | 47 | 18.2 |
| other | 1 | 0.4 |

6.2.13 To What Extent Did the BTI Assist you to Optimal Utilization of the Available Resources?

From Table No. (6.30), a considerable amount of respondent see that BTI assists them in the optimal utilization and exploitation of the available resources. BTI has to improve its plans towards an increasing assistance of entrepreneurs in this.

Table (6.30): BTI Assistance in the Optimal Utilization of Available Resources

| optimal utilization of resources | Frequency | Percent |
|---|------------------|----------------|
| Significantly | 12 | 20.3 |
| moderately | 40 | 67.8 |
| weakly | 7 | 11.9 |
| Total | 59 | 100.0 |

6.3 Testing Thesis Hypotheses

The thesis hypotheses as mentioned before are:

- 1- The services produced by a business incubator along with its activities affect positively in optimal exploitation and utilization of available resources of incubated start-ups to a statistical level of 0.05
- 2- The services produced by a business incubator along with its activities affect positively in transforming the innovative ideas into small start-up companies to a statistical level of 0.05
- 3- The services produced by a business incubator along with its activities affect positively in increasing the success potential of start-up companies to a statistical level of 0.05
- 4- The services produced by a business incubator along with its activities affect positively in generating new job opportunities to a statistical level of 0.05
- 5- The services produced by a business incubator along with its activities affect positively in increasing the marketing opportunities for incubated start-ups to a statistical level of 0.05
- 6- The services produced by a business incubator along with its activities affect positively in enhancing the success and growth of the innovative graduation projects to a statistical level of 0.05
- 7- The services produced by a business incubator along with its activities affect positively in linking the Academic institutions with industry to a statistical level of 0.05
- 8- There are differences with a statistical level of 0.05 between the means of the questionnaire participants opinions about the role of the business incubators in the achievement of the sustainable development in the Gaza Strip referred to the following personal variables (gender, age, education, and years of experience)

6.3.1 Hypothesis No. 1

The hypothesis states that the services produced by a business incubator along with its activities affect positively in optimal exploitation and utilization of available resources of incubated start-ups to a statistical level of 0.05.

Table (6.31) shows the following results:

- The mean of paragraph #7 “The incubator contributes in giving advice and analysis of problems and studying the prospects for the future” equals 4.15 (83.01%), Test-value = 12.67, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3. We conclude that the respondents agreed to this paragraph.
- The mean of paragraph #5 “The incubator contributes in providing information about the costs of environmental protection, investment expenditures and the impact of environmental protection on the profit and loss accounts” equals 3.52 (70.41%), Test-value = 4.86, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3. We conclude that the respondents agreed to this paragraph.
- The mean of the field “the role of business incubators in the Optimal exploitation and utilization of available resources of incubated start-ups” equals 3.89 (77.74%), Test-value = 13.28, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3.
- It is concluded that respondents agreed that services produced by a business incubator along with its activities have a considerable role in optimal exploitation and utilization of available resources of incubated start-ups where the incubator contributes in giving advice and analysis of problems and studying the prospects for the future. From the other hand, the incubator should stress more on providing information about the costs of environmental protection, investment expenditures and the impact of environmental protection on the

profit and loss accounts. This hypothesis is consistent with Jabah (2000) who revealed that the most important success factors are the capital, the management, and then the geographical location. It is also consistent with Wilber and Dixon, (2003) who showed show that business incubators play an intricate part in small businesses' potential for long-term survival.

Table (6.31): Means and Test values for “The role of business incubators in the optimal exploitation of the resources of incubated companies”

| | Item | Mean | Proportional mean (%) | Test value | P-value (Sig.) | Rank |
|----|---|-------------|------------------------------|-------------------|-----------------------|-------------|
| 1. | The incubator contributes in exploiting resources at the lowest cost for productive factors involved in the production process. | 3.92 | 78.36 | 11.50 | 0.000* | 4 |
| 2. | The incubator contributes in reducing environmental losses resulting from start-ups and small businesses. | 3.83 | 76.67 | 8.98 | 0.000* | 6 |
| 3. | The incubator helps in minimizing the social costs and challenging poverty and unemployment among graduates. | 3.99 | 79.72 | 10.51 | 0.000* | 3 |
| 4. | The incubator contributes in orienting the production of the incubated companies with the necessary directions, instructions and environmental regulations. | 3.89 | 77.81 | 10.32 | 0.000* | 5 |
| 5. | The incubator contributes in providing information about the costs of environmental protection, investment expenditures and the impact of environmental protection on the profit and loss accounts. | 3.52 | 70.41 | 4.86 | 0.000* | 8 |
| 6. | The incubator contributes in analyzing the environmental and economic feasibility of small-scale projects. | 3.81 | 76.16 | 8.70 | 0.000* | 7 |
| 7. | The incubator contributes in giving advice and analysis of problems and studying the prospects for the future | 4.15 | 83.01 | 12.67 | 0.000* | 1 |
| 8. | The incubator contributes in providing information and advice that helps in making decisions. | 3.99 | 79.73 | 10.43 | 0.000* | 2 |
| | All paragraphs of the field | 3.89 | 77.74 | 13.28 | 0.000* | |

* The mean is significantly different from 3

6.3.2 Hypothesis No. 2

The hypothesis states that the services produced by a business incubator along with its activities affect positively in transforming the innovative ideas into small start-up companies to a statistical level of 0.05

Table (6.32) shows the following results:

- The mean of paragraph #1 “The incubator encourages pioneers and entrepreneurs towards creativity, entrepreneurship, and innovation.” equals 4.31 (86.11%), Test-value = 12.33 and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3. We conclude that the respondents agreed to this paragraph.
- The mean of paragraph #4 “The incubator provides links between companies and investors.” equals 3.33 (66.58%), Test-value = 2.66, and P-value = 0.005 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3. We conclude that the respondents agreed to this paragraph.
- The mean of the field “the role of business incubators in transforming the innovative ideas into small start-up companies.” equals 3.71 (74.14%), Test-value = 8.88, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3.
- It is concluded that respondents agreed that services produced by a business incubator along with its activities have a considerable role in transforming the innovative ideas into small start-up companies where BTI is encouraging pioneers and entrepreneurs towards creativity, entrepreneurship, and innovation. From the other hand the BTI should focus on match-making between incubated companies and potential investor in order to ensure the success of the SMES.

- This study is consistent with M'Chirgui (2012) who concluded that business incubators generally continue to create innovative entrepreneurial firms, often technology or science-based where Incubatees lack access to complementary financing structures, crucial to the sustainable development of new ventures. It is also consistent with Lesáková (2012) who revealed that business incubation helps to meet a variety of economic and socio-economic policy needs in a country.

Table (6.32): Means and Test values for “The role of business incubators in transforming creative ideas into start-up companies”

| | Item | Mean | Proportional mean (%) | Test value | P-value (Sig.) | Rank |
|----|---|-------------|------------------------------|-------------------|-----------------------|-------------|
| 1. | The incubator encourages pioneers and entrepreneurs towards creativity, entrepreneurship, and innovation. | 4.31 | 86.11 | 12.33 | 0.000* | 1 |
| 2. | The incubator contributes in providing new atmosphere for the application of creative and innovative ideas on the ground. | 3.82 | 76.44 | 6.19 | 0.000* | 4 |
| 3. | The incubator contributes in meetings with businessmen and investors through match-making sessions to take advantage of their experiences. | 3.34 | 66.85 | 2.70 | 0.004* | 7 |
| 4. | The incubator provides links between companies and investors. | 3.33 | 66.58 | 2.66 | 0.005* | 8 |
| 5. | The incubator links the incubated and graduated companies with different financing and investment programs | 3.42 | 68.49 | 3.98 | 0.000* | 5 |
| 6. | The incubator contributes in helping in the design of new products. | 3.36 | 67.12 | 3.49 | 0.000* | 6 |
| 7. | The incubator contributes in building the capacity of the entrepreneurs to implement their ideas and to succeed in the management of their start-ups. | 4.10 | 81.94 | 12.06 | 0.000* | 2 |
| 8. | The incubator provides facilities, services and tools that are necessary for the success of the incubated companies | 3.97 | 79.45 | 10.18 | 0.000* | 3 |
| | All paragraphs of the field | 3.71 | 74.14 | 8.88 | 0.000* | |

* The mean is significantly different from 3

6.3.3 Hypothesis No. 3

The hypothesis states that the services produced by a business incubator along with its activities affect positively in increasing the success potential of start-up companies to a statistical level of 0.05

Table (6.33) shows the following results:

- The mean of paragraph #8 “The incubator contributes in providing logistics and other resources for the incubated businesses.” equals 3.88 (77.53%), Test-value = 8.50, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3. We conclude that the respondents agreed to this paragraph.
- The mean of paragraph #6 “The incubator contributes to access to specialized databases for target markets.” equals 3.15 (63.01%), Test-value = 1.21, and P-value = 0.115 which is greater than the level of significance $\alpha = 0.05$. Then the mean of this paragraph is insignificantly different from the hypothesized value 3. We conclude that the respondents (Do not know, neutral) to this paragraph.
- The mean of the field “the role of business incubators in increasing the success potential of start-up companies.” equals 3.64 (72.77%), Test-value = 8.66, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3.
- It is concluded that the respondents agreed that services produced by a business incubator along with its activities have a considerable role in increasing the success potential of start-up companies where BTI contributes in providing logistics and other resources for the incubated businesses. From the other hand it is worthy to say that BTI should focus more on providing access to databases and information for target markets to the incubated and graduated SMEs.

- This study is consistent with Wilber and Dixon (2003) who hypothesized that business incubators will improve small businesses' chances for long-term survivability. It is consistent also with Ratinho et al., (2008) who concluded that BIs indeed facilitate their tenants' development by having a significant role in helping them to solving their problems

Table (6.33): Means and Test values for “The role of business incubators in increasing the success potential of start-up companies.”

| | Item | Mean | Proportional mean (%) | Test value | P-value (Sig.) | Rank |
|-----|---|-------------|------------------------------|-------------------|-----------------------|-------------|
| 1. | The incubator contributes in creating an entrepreneurial generation that can be responsible for creating new businesses | 3.85 | 76.99 | 8.77 | 0.000* | 2 |
| 2. | The incubator contributes in providing a suitable working place for projects work | 3.70 | 73.97 | 6.17 | 0.000* | 4 |
| 3. | The incubator contributes in preparing feasibility study and market analysis to assess the real current and future situation. | 3.60 | 72.05 | 6.48 | 0.000* | 7 |
| 4. | The incubator contributes in expanding and widening the relationships of the incubated small businesses | 3.82 | 76.44 | 8.72 | 0.000* | 3 |
| 5. | The incubator contributes in shortening time that is required companies registration and legal procedures | 3.62 | 72.33 | 4.68 | 0.000* | 6 |
| 6. | The incubator contributes to access to specialized databases for target markets. | 3.15 | 63.01 | 1.21 | 0.115 | 10 |
| 7. | The incubator contributes in ensuring the success opportunities by removing the obstacles faced by emerging companies. | 3.52 | 70.41 | 5.43 | 0.000* | 9 |
| 8. | The incubator contributes in providing logistics and other resources for the incubated businesses. | 3.88 | 77.53 | 8.50 | 0.000* | 1 |
| 9. | The incubator contributes in providing a suitable financial support for small businesses. | 3.55 | 70.96 | 4.68 | 0.000* | 8 |
| 10. | The incubator contributes in creating new ideas and trends for the development of the small businesses. | 3.70 | 73.97 | 7.87 | 0.000* | 4 |
| | All paragraphs of the field | 3.64 | 72.77 | 8.66 | 0.000* | |

* The mean is significantly different from 3

6.3.4 Hypothesis No. 4

The hypothesis states that the services produced by a business incubator along with its activities affect positively in generating new job opportunities to a statistical level of 0.05

Table (6.34) shows the following results:

- The mean of paragraph #7 “The incubator offers suitable training programs for graduates to help them to get sustainable jobs.” equals 3.86 (77.26%), Test-value = 9.16, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3. We conclude that the respondents agreed to this paragraph.
- The mean of paragraph #2 “Working within the framework of a business incubator contributes in the increase of the employment” equals 3.67 (73.42%), Test-value = 8.59, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3. We conclude that the respondents agreed to this paragraph.
- The mean of the field “the role of business incubators in generating new job opportunities” equals 3.80 (76.00%), Test-value = 11.85, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3.
- It is concluded that respondents agreed services produced by a business incubator along with its activities have a considerable role in generating new job opportunities where BTI offers suitable training programs for graduates to help them to get sustainable jobs.

- This study is consistent with Lesáková, (2012) who revealed that business incubation helps to meet a variety of economic and socio-economic policy needs in a country, which may include business creation and retention, technology commercialization, creating jobs and wealth as well as fostering a community's entrepreneurial climate.

Table (6.34): Means and Test values for “The role of business incubators in generating new job opportunities”

| | Item | Mean | Proportional mean (%) | Test value | P-value (Sig.) | Rank |
|----|---|-------------|------------------------------|-------------------|-----------------------|-------------|
| 1. | The incubator contributes in creating new jobs and getting a role in reducing unemployment in The Gaza Strip. | 3.86 | 77.26 | 11.69 | 0.000* | 1 |
| 2. | Working within the framework of a business incubator contributes in the increase of the employment | 3.67 | 73.42 | 8.59 | 0.000* | 8 |
| 3. | The incubator helps small businesses and start-ups to access a large number of qualified graduates. | 3.77 | 75.34 | 7.78 | 0.000* | 7 |
| 4. | There is a considerable demand on the incubator services from the entrepreneurs and fresh graduates. | 3.82 | 76.34 | 7.16 | 0.000* | 4 |
| 5. | The incubator contributes in improving the social status of graduates through encouraging them to start their own businesses. | 3.81 | 76.16 | 9.12 | 0.000* | 5 |
| 6. | The incubator contributes in advancing economic development. | 3.82 | 76.44 | 8.72 | 0.000* | 3 |
| 7. | The incubator offers suitable training programs for graduates to help them to get sustainable jobs. | 3.86 | 77.26 | 9.16 | 0.000* | 1 |
| 8. | The incubator offers coaching and mentoring programs to graduates and individuals. | 3.79 | 75.71 | 8.07 | 0.000* | 6 |
| | All paragraphs of the field | 3.80 | 76.00 | 11.85 | 0.000* | |

* The mean is significantly different from 3

6.3.5 Hypothesis No. 5

The hypothesis states that the services produced by a business incubator along with its activities affect positively in increasing the marketing opportunities for incubated start-ups to a statistical level of 0.05

Table (6.35) shows the following results:

- The mean of paragraph #6 “The incubator contributes in preparing marketing plans for the products and services provided by the incubated start-ups.” equals 3.37 (67.40%), Test-value = 3.62, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3. We conclude that the respondents agreed to this paragraph.
- The mean of paragraph #4 “The incubator contributes in continuous communication with customers to see and determine their level of satisfaction with the services provided.” equals 3.05 (61.10%), Test-value = 0.51, and P-value = 0.304 which is greater than the level of significance $\alpha = 0.05$. Then the mean of this paragraph is insignificantly different from the hypothesized value 3. We conclude that the respondents (Do not know, neutral) to this paragraph.
- The mean of the field “the role of business incubators in increasing the marketing opportunities for incubated start-ups” equals 3.21 (64.23%), Test-value = 2.47, and P-value=0.008 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3.
- It is concluded that the respondents agreed that services produced by a business incubator along with its activities has a role in increasing the marketing opportunities for incubated start-ups where BTI is contributing in preparing marketing plans for the products and services provided by the incubated start-ups. From the other hand, BTI should focus on continuous improvement

processes of the incubated SMEs and its operations in order to ensure the customer satisfaction to its services.

- This study is consistent with (Abdul Khalid, Gilbert, and Huq, 2012) who revealed that product-based selection, market and managerial-based selection, and financial-based selection underlie important components in the business incubation process. It is also consistent with Dee et al. (2011) who suggested matching incubator services to the needs of firms.

Table (6.35): Means and Test values for “the role of business incubators in increasing the marketing opportunities for incubated start-ups”

| | Item | Mean | Proportional mean (%) | Test value | P-value (Sig.) | Rank |
|----|---|------|-----------------------|------------|----------------|------|
| 1. | The incubator contributes in studying external factors that influence the market share (social, cultural and economic) | 3.26 | 65.21 | 2.32 | 0.012* | 4 |
| 2. | The incubator contributes in studying internal factors affecting the market (motivation, perception, learning, personal) | 3.32 | 66.30 | 2.91 | 0.002* | 3 |
| 3. | The incubator contributes in studying and analyzing the consumer behavior. | 3.08 | 61.64 | 0.83 | 0.205 | 5 |
| 4. | The incubator contributes in continuous communication with customers to see and determine their level of satisfaction with the services provided. | 3.05 | 61.10 | 0.51 | 0.304 | 7 |
| 5. | The incubator contributes in collecting information about the current and potential competitors of the companies. | 3.07 | 61.37 | 0.57 | 0.284 | 6 |
| 6. | The incubator contributes in preparing marketing plans for the products and services provided by the incubated start-ups. | 3.37 | 67.40 | 3.62 | 0.000* | 1 |
| 7. | The incubator contributes in reaching new markets for start-up companies. | 3.33 | 66.58 | 2.89 | 0.003* | 2 |
| | All paragraphs of the field | 3.21 | 64.23 | 2.47 | 0.008* | |

* The mean is significantly different from 3

6.3.6 Hypothesis No. 6

The hypothesis states that the services produced by a business incubator along with its activities affect positively in enhancing the success and growth of the innovative graduation projects to a statistical level of 0.05

Table (6.36) shows the following results:

- The mean of paragraph #1 “The incubator contributes in incubating outstanding and innovative graduation projects” equals 4.11 (82.25%), Test-value = 12.88, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3 . We conclude that the respondents agreed to this paragraph.
- The mean of paragraph #5 “The incubator contributes to overcome the problems and challenges facing graduation projects.” equals 3.42 (68.33%), Test-value = 4.00, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3 . We conclude that the respondents agreed to this paragraph.
- The mean of the field “the relationship of business incubators in enhancing the success and growth of the innovative graduation projects” equals 3.79 (75.87%), Test-value = 10.05, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3.
- It is concluded that the respondents agreed that services produced by a business incubator along with its activities have a considerable role in enhancing the success and growth of the innovative graduation projects where BTI contributes in incubating outstanding and innovative graduation projects as It incubates a number of these projects. From the other hand, BTI should focus more on these

innovative project in order to overcome the problems and challenges facing graduation projects.

- This study is consistent with Scott (2000) who concluded that business services are needed concurrent with continued research and development in most university- related start up. It is also consistent with Smith (2010) who recommended a statewide and regional policy to support incubators in gateway cities and their partnerships with state universities and community colleges.

Table (6.36): Means and Test values for “the role of business incubators in enhancing the success and growth of the innovative graduation projects”

| | Item | Mean | Proportional mean (%) | Test value | P-value (Sig.) | Rank |
|----|---|------|-----------------------|------------|----------------|------|
| 1. | The incubator contributes in incubating outstanding and innovative graduation projects. | 4.11 | 82.25 | 12.88 | 0.000* | 1 |
| 2. | The incubator contributes in increasing opportunities to reach creative graduation projects. | 4.06 | 81.11 | 11.97 | 0.000* | 2 |
| 3. | The incubator contributes in increasing opportunities of adopting patents and innovative research. | 3.81 | 76.11 | 7.48 | 0.000* | 3 |
| 4. | The incubator contributes in providing a suitable working environment for the start-ups. | 3.75 | 75.00 | 7.20 | 0.000* | 4 |
| 5. | The incubator contributes to overcome the problems and challenges facing graduation projects. | 3.42 | 68.33 | 4.00 | 0.000* | 7 |
| 6. | The incubator helps graduation projects to getting funds. | 3.75 | 75.00 | 6.43 | 0.000* | 4 |
| 7. | The incubator helps graduation projects by providing an appropriate environment for the completion of the projects. | 3.67 | 73.33 | 6.61 | 0.000* | 6 |
| | All paragraphs of the field | 3.79 | 75.87 | 10.05 | 0.000* | |

* The mean is significantly different from 3

6.3.7 Hypothesis No. 7

The hypothesis states that the services produced by a business incubator along with its activities affect positively in linking the Academic institutions with industry to a statistical level of 0.05

Table (6.37) shows the following results:

- The mean of paragraph #8 “The incubator contributes in linking entrepreneurs with successful known business personalities and leaders to benefit from their experiences.” equals 4.21 (84.17%), Test-value = 14.84, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3. We conclude that the respondents agreed to this paragraph.
- The mean of paragraph #4 “The incubator contributes in the development of the academic curriculum to become more integrated with the local market.” equals 3.00 (60.00%), Test-value = 0.00, and P-value = 0.500 which is greater than the level of significance $\alpha = 0.05$. Then the mean of this paragraph is insignificantly different from the hypothesized value 3. We conclude that the respondents (Do not know, neutral) to this paragraph.
- The mean of the field “The role of business incubators in linking the academic institutions with industry” equals 3.60 (72.08%), Test-value = 8.02, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3.
- It is concluded that the respondents agreed that services produced by a business incubator along with its activities has a considerable role in linking the academic institutions with industry where BTI contributes in linking entrepreneurs with successful known business personalities and leaders to benefit from their experiences. From the other hand, BTI should stress on linking entrepreneurship with the academic sector through contributing in the development of the academic curriculum to become more integrated with the local market.

- This study is consistent with InfoDev (2010) which recommended that there should be a consistency between objectives and the broader strategic framework where incubators should not be treated as stand-alone operations where monitoring and appraisal for a business incubation program is critical to identifying unexpected problems where networking and public private partnerships (PPP) are a very important key of success. It is consistent with Scott (2000), who concluded that business services are needed concurrent with continued research and development in most university-related start-ups.

Table (6.37): Means and Test values for “The Role of business incubators in linking the Academic institutions with industry”

| | Item | Mean | Proportional mean (%) | Test value | P-value (Sig.) | Rank |
|----|---|------|-----------------------|------------|----------------|------|
| 1. | The incubator contributes in fostering the development of the capacity of entrepreneurs' graduates in harmony with the requirements of the labor market. | 3.86 | 77.22 | 10.18 | 0.000* | 3 |
| 2. | The incubator conducts studies on the trends of the local and global markets to use it mentoring the companies. | 3.35 | 66.94 | 3.25 | 0.001* | 7 |
| 3. | The incubator implements workshops for professionals to discuss linking the academic and the industrial sectors. | 3.50 | 70.00 | 4.40 | 0.000* | 4 |
| 4. | The incubator contributes in the development of the academic curriculum to become more integrated with the local market. | 3.00 | 60.00 | 0.00 | 0.500 | 8 |
| 5. | The incubator cooperates with the private sector for the benefit of graduates and entrepreneurs. | 3.39 | 67.78 | 3.39 | 0.001* | 6 |
| 6. | The incubator enhances the role of academic institutions in the development of the industry through supplying the market with groups of small businesses. | 3.42 | 68.33 | 3.86 | 0.000* | 5 |
| 7. | The incubator contributes in sharing the experiences between entrepreneurs and successful business models | 4.11 | 82.22 | 13.41 | 0.000* | 2 |
| 8. | The incubator contributes in linking entrepreneurs with successful known | 4.21 | 84.17 | 14.84 | 0.000* | 1 |

| | | | | | | |
|--|---|------|-------|------|--------|--|
| | business personalities and leaders to benefit from their experiences. | | | | | |
| | All paragraphs of the field | 3.60 | 72.08 | 8.02 | 0.000* | |

* The mean is significantly different from 3

6.3.8 Hypothesis No. 8

The hypothesis states that there are differences with a statistical level of 0.05 between the means of the questionnaire participants' opinions about the role of the business incubators in the achievement of the sustainable development in the Gaza Strip referred to the following personal variables (gender, age, education, and years of experience)

6.3.8.1 Differences According to Age

Table (6.38) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each field, then there is insignificant difference in respondents' answers toward each field due to Age. The researcher concludes that age has no effect on each field because most of the beneficiaries of the BTI are from youth and educated people.

Table (6.38): ANOVA Test of the Fields and their p-values for Age

| No | Field | Test value | P-value(Sig.) |
|----|---|------------|---------------|
| 1. | the relationship of business incubators with the Optimal exploitation and utilization of available resources of incubated start-ups | 0.973 | 0.384 |
| 2. | the relationship of business incubators in Transforming the innovative ideas into small start-up companies. | 0.596 | 0.554 |
| 3. | the relationship of business incubators in increasing the success potential of start-up companies. | 0.261 | 0.771 |
| 4. | the relationship between business incubators and generating new job opportunities | 1.114 | 0.335 |
| 5. | the relationship of business incubators in increasing the marketing opportunities for incubated start-ups | 0.365 | 0.696 |
| 6. | the relationship of business incubators in enhancing the success and growth of the innovative graduation projects | 1.122 | 0.333 |
| 7. | Business incubators relationship of Linking the Academic institutions with industry | 0.061 | 0.941 |
| | All fields together | 0.359 | 0.700 |

6.3.8.2 Differences According to Gender

Table (6.39) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each field, then there is insignificant difference in respondents' answers toward each field due to Gender. The researcher concludes that gender has no effect on each field because services are produced for both male and female entrepreneurs without any differentiation. In addition, both male and female entrepreneurs have equal opportunities within BTI through applying to business plan competitions.

Table (6.39): Independent Samples T-Test of the Fields and their p-values for Gender

| No | Field | Test Value | P-value(Sig.) |
|----|---|------------|---------------|
| 1. | the relationship of business incubators with the Optimal exploitation and utilization of available resources of incubated start-ups | -0.097 | 0.923 |
| 2. | the relationship of business incubators in Transforming the innovative ideas into small start-up companies. | -0.567 | 0.573 |
| 3. | the relationship of business incubators in increasing the success potential of start-up companies. | -0.270 | 0.788 |
| 4. | the relationship between business incubators and generating new job opportunities | 0.668 | 0.507 |
| 5. | the relationship of business incubators in increasing the marketing opportunities for incubated start-ups | 0.456 | 0.650 |
| 6. | the relationship of business incubators in enhancing the success and growth of the innovative graduation projects | -0.448 | 0.656 |
| 7. | Business incubators relationship of Linking the Academic institutions with industry | 0.208 | 0.836 |
| | All fields together | -0.076 | 0.939 |

6.3.8.3 Differences According to Qualification

Table (6.40) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each field, then there is insignificant difference in respondents' answers toward each field due to Qualifications. The researcher concludes that qualifications

characteristics have no effect on each field. This means that entrepreneurship does not depend on academic qualifications. It depends on the personality and the willing to become successful and taking risks.

Table (6.40): ANOVA test of the Fields and their p-values for Qualifications

| No | Field | Test value | P-value(Sig.) |
|----|---|------------|---------------|
| 1. | the relationship of business incubators with the Optimal exploitation and utilization of available resources of incubated start-ups | 1.229 | 0.300 |
| 2. | the relationship of business incubators in Transforming the innovative ideas into small start-up companies. | 0.719 | 0.492 |
| 3. | the relationship of business incubators in increasing the success potential of start-up companies. | 1.300 | 0.281 |
| 4. | the relationship between business incubators and generating new job opportunities | 0.411 | 0.665 |
| 5. | the relationship of business incubators in increasing the marketing opportunities for incubated start-ups | 0.480 | 0.621 |
| 6. | the relationship of business incubators in enhancing the success and growth of the innovative graduation projects | 1.130 | 0.330 |
| 7. | Business incubators relationship of Linking the Academic institutions with industry | 2.188 | 0.122 |
| | All fields together | 0.846 | 0.434 |

6.3.8.4 Differences According to Experience

Table (6.41) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each field, then there is insignificant difference in respondents' answers toward each field due to years of experience. The researcher concludes that respondent's years of experience has no effect on each field. This means that all beneficiaries within the BTI have the same stages of development and customized services according to their progress.

Table (6.41): ANOVA Test of the Fields and their p-values for Years of Experience

| No | Field | Test value | P-value(Sig.) |
|----|---|------------|---------------|
| 1. | the relationship of business incubators with the Optimal exploitation and utilization of available resources of incubated start-ups | 1.641 | 0.203 |
| 2. | the relationship of business incubators in Transforming the innovative ideas into small start-up companies. | 1.473 | 0.238 |
| 3. | the relationship of business incubators in increasing the success potential of start-up companies. | 0.032 | 0.968 |
| 4. | the relationship between business incubators and generating new job opportunities | 0.601 | 0.552 |
| 5. | the relationship of business incubators in increasing the marketing opportunities for incubated start-ups | 1.584 | 0.214 |
| 6. | the relationship of business incubators in enhancing the success and growth of the innovative graduation projects | 0.813 | 0.449 |
| 7. | Business incubators relationship of Linking the Academic institutions with industry | 1.154 | 0.323 |
| | All fields together | 1.227 | 0.301 |

Chapter 7

Conclusions and Recommendations

Chapter 7: Conclusions and Recommendations

7.1 Introduction

This chapter provides the most important conclusions, and recommendations. These conclusions and recommendations are useful for incubator staff, universities, policy makers, researchers, and other stakeholders of business incubation.

7.2 Conclusions

This study investigates the role of business incubators in achieving the sustainable development in the Gaza Strip through studying a case study of The Business and Technology Incubator at IUG. It aims at exploring the barriers facing the startups and entrepreneurs in the Gaza Strip; Identifying the business incubators and its services offered to start ups; studying the reasons of success and failure of incubated and graduated companies in business incubators, clarifying the role of business incubators in linking academic institutions with the industrial sectors, and then investigating the role of business incubators in the overall economic development in Palestine. The most notable conclusions were:

1. The study concludes that the respondents agreed that services produced by a business incubator along with its activities affect positively in optimal exploitation and utilization of available resources of incubated start-ups with a mean of 77.74% where the incubator contributes in giving advice and analysis of problems and studying the prospects for the future. From the other hand, respondents gave a mean of 70.41% for providing information about the costs of environmental protection, investment expenditures and the impact of environmental protection on the profit and loss accounts.
2. The study concludes that respondents agreed that services produced by BTI along with its activities affect positively in transforming the innovative ideas into small start-up companies with a mean of 74.14% where BTI is encouraging pioneers and entrepreneurs towards creativity, entrepreneurship, and innovation. From the other

hand respondents gave a mean of 66.58% for match-making between incubated companies and potential investor in order to ensure the success of the SMES.

3. The study concludes that respondents agreed that the services produced by a business incubator along with its activities affect positively in increasing the success potential of start-up companies with a mean of 72.77% where BTI contributes in providing logistics and other resources for the incubated businesses. From the other hand it is worthy to say that respondents gave a mean of 63.01% for providing access to databases and information for target markets to the incubated and graduated SMEs.
4. The study concludes that respondents agreed that the services produced by a business incubator along with its activities affect positively in generating new job opportunities with a mean of 76% where BTI offers suitable training programs for graduates to help them to get sustainable jobs.
5. The study concludes that respondents agreed that the services produced by a business incubator along with its activities affect positively in increasing the marketing opportunities for incubated start-ups with a mean of 64.23% where BTI is contributing in preparing marketing plans for the products and services provided by the incubated start-ups. From the other hand, respondents gave a mean of 61.10% for continuous improvement processes of the incubated SMEs and its operations in order to ensure the customer satisfaction to its services.
6. The study concludes that respondents agreed that the services produced by a business incubator along with its activities affect positively in enhancing the success and growth of the innovative graduation projects with a mean of 75.87% where BTI contributes in incubating outstanding and innovative graduation projects as It incubates a number of these projects. From the other hand, respondents gave a mean of 68.33% for supporting these innovative projects in order to overcome the problems and challenges facing graduation projects.

7. The study concludes that respondents agreed that the services produced by a business incubator along with its activities affect positively in linking the Academic institutions with industry with a mean of 72.08% where BTI contributes in linking entrepreneurs with successful known business personalities and leaders to benefit from their experiences. From the other hand, respondents gave a mean of 60% for linking entrepreneurship with the academic sector through contributing in the development of the academic curriculum to become more integrated with the local market.
8. The differences among the respondents' opinions, about the role of the business incubators in achieving the sustainable development in the Gaza Strip referred to the following personal variables (gender, age, education, and years of experience), have no effect on the results of the study.
9. Most of the incubated SMEs are youth, prepared business plans, and start their businesses from new ideas which are key indicators for success.

7.3 Recommendations

7.3.1 General Recommendations

1. Business Incubators should focus on provide the required facilities for incubated SMEs to ensure its success. Green Business and environmentally friendly business seem to be a new trend for entrepreneurs. In addition, a business should take into account the environmental costs while preparing a feasibility study. From the other hand, should the incubator should stress more on providing information about the costs of environmental protection, investment expenditures and the impact of environmental protection on the profit and loss accounts.
2. Business incubators should follow more systematic approach in their selection processes in order to recruit the most innovative ideas, and then providing them with business development services to ensure a high success rate. From the other hand BIs should focus on match-making between incubated companies and potential investors in order to ensure the success of the SMES..
3. It is highly recommended for entrepreneurs who are willing to start their businesses to join a business incubator where they can avoid any failure at the early stages of the business. From the other hand it is worthy to say that BIs should focus more on providing access to databases and information for target markets to the incubated and graduated SMEs.
4. Business Incubators are considered to be a cost-effective approach for generating new job opportunities. Thus, policy and decision makers should support such initiative in order to increase employment and then reduce poverty.
5. Business incubators should focus more on the success of the incubated and graduated businesses through increasing the investment potential through match-making. From the other hand, BIs should focus on continuous improvement processes of the incubated SMEs and its operations in order to ensure the customer.

6. It is recommended to focus on the innovative graduation projects and a pool of entrepreneurial ideas. These projects usually survive due to its high level of professionalism and technique. From the other hand, BID should focus more on overcoming the problems and challenges facing graduation projects.
7. Business Incubators can play the role of a vehicle to bridge the gap between universities and academic sectors with industrial and private sector. Through this, research and development can be integrated to the overall sustainable development. From the other hand, BIs should stress on linking entrepreneurship with the academic sector through contributing in the development of the academic curriculum to become more integrated with the local market.
8. It is important to encourage female, youth entrepreneurs, and other marginalized groups to start new businesses to increase the employability among these groups.

7.3.2 Proposed Incubator Activities Framework

Business Incubators support the establishment of new small to medium sized enterprises through incubation via providing coaching, training, business development and consultancy services and other necessary funds and tools to run their businesses and create new sustainable jobs.

In this section, there is a detailed frame work for a typical business incubation program. The proposed frame will lead definitely to a considerable output. A workshop has been implemented for this purpose resulted in a 6-step program frame work as follows:

7.3.2.1 Pre-incubation:

As the first stage of the incubation cycle activities, pre-incubation phase introduces incubation and business development services to the target groups and the society. Particular activities like:

- Implementing a study for 'market needs assessment' to define market trends and opportunities for entrepreneurs and graduates to find jobs and another 'Graduates needs' study for assessing the skills and qualities that local graduates are lacking towards becoming successful entrepreneurs.
- Capacity building for the incubator and project staff to be able to provide business development services and consultancy support to the beneficiaries.
- Implementing Awareness campaigns for target groups to discuss the topics of: Small businesses, entrepreneurship and incubation services. This will include conducting promotional activities (Posters, brochures ... etc.) to achieve maximum attendance and awareness of the local community.
- Conducting preliminary workshops for targeted group (estimated 1000 persons) in issues including: Creative thinking, innovative ideas, brain storming, focus groups and teamwork.
- Preparation and conducting preliminary capacity building for entrepreneurs on:
 - Generating business ideas.
 - Personal skills.
 - Business markets and ICT Commercialization.
 - Success stories

7.3.2.2 Collecting Preliminary Ideas (Pool of concepts)

Depending on the previous stage and the results, a consulting committee does the required guidance and monitoring for the selection of the ideas for the next phase. This phase includes a number of activities including:

- Conducting a promotional campaign for the idea selection process including (advertisements on street boards, publications, media activities, TV and radio advertisements ... etc). These advertisements will attract entrepreneurs with new business ideas to approach the project.
- Preparing short list and formulating working teams. (Three members each)
- Finalization of the ideas and preparing final presentation for innovative ideas.
- Selection for an expected number of distinctive, high potential business ideas.

7.3.2.3 Business Development and Capacity Building of Entrepreneurs

This stage includes the capacity building for candidates short listed from the previous step. Training consultants will be notified to do this activity in cooperation with the main staff, in order to deliver the training required in two main fields of: Business development including (Business plan, feasibility study, project and small business management, financial management, marketing and promotion skills.

This activity will be followed by the development of the 1st draft of the business plans and feasibility studies by the candidates. Then the ideas will be classified into 5 major categories: (Multimedia-Programming-Electronics-General Business-Agriculture ... etc).

The technical training comes to provide advanced technical skills according the defined ideas through a intensive technical training program.

7.3.2.4 Developing Mature Ideas for Small Businesses

This stage will include finalizing the ideas regarding the feasibility and business plans. This will be achieved through appointing technical consultants to guide the activity, who will provide candidates with different supportive data, services statistics and other professional tools.

The output of this phase will be final presentations for the different shortlisted ideas and business plans to be evaluated and approved to go to the selection and contracting phase with a number of innovative ideas.

7.3.2.5 Incubation

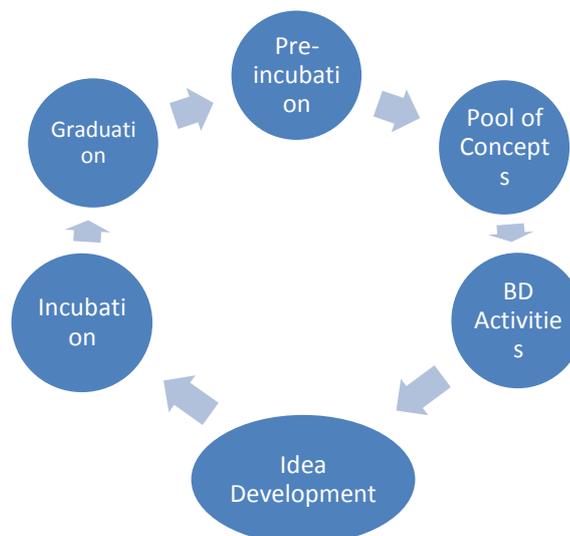
Individuals representing SMEs will be incubated. Those will be supported by a group of mentors giving a step-by-step guidance for the start-up companies and assist in implementing the business plans of the start-ups.

During this phase, SMEs will receive an integrated package of specialized business development services including coaching, mentoring and guiding progress and provide shared facilities to host the companies providing them with tools and equipment necessary to run their businesses, in addition to contacting the potential markets and companies according to the expected products. Monitoring and evaluation procedure will be adopted through this phase.

7.3.2.6 Companies Graduation and Micro-Financing

By the end of the incubation phase, SMEs will have graduated from the incubation, and are ready to enter the local, regional and international markets. A group of micro- financing consultants will be appointed to carry out the micro-financial management for the expected start-up graduates and providing hosting facilities and services, reaching the evaluation and follow-up phase to judge the whole process, results and impacts.

Figure 7.13: Proposed Incubation Framework



Source: Adapted by the Author

7.3.3 Incubator Evaluation Criteria

In addition to that, the researcher recommends that the evaluation process for an incubation program should include assessment of the following Components:

1. Success of incubator businesses;
2. Sustainability of the incubator;
3. Services and facilities used by clients; and
4. Management processes.

The steps required to evaluate and assess the incubator program should be adapted based on proven models already established by the *infoDev* Incubator Support Center and will include the following:

- Develop goals, performance objectives, and performance measures;
- Define performance objectives that relate to benefits expected by resource network partners;
- Define performance objectives that relate to the needs of the incubator;
- Measure performance using a clear data collection method;
- Prepare annual reports documenting results;
- Provide feedback to the management;
- Seek partner/stakeholder input to identify weaknesses and discuss progress; and
- Develop and implement an improvement plan for the next evaluation period.

The implementation of an incubator performance evaluation system is expected to increase BTI effectiveness. A thorough evaluation of the services provided will suggest ways to improve or expand operations, point out strengths and weaknesses, and help implement corrective procedures to achieve success. The evaluation is part of the BTI feedback process.

The evaluation survey is to be administered to all BTI clients (those companies currently in the incubation program and those companies that have graduated), resource network partners, and the staff of the BTI. Results will be documented and shared among all those surveyed. Business assistance services such as the following will be rated as part of the BTI evaluation process:

- Provides coaching on business skills and business model development;
- Provides assistance in developing business and marketing plans;
- Provides proposal development support;
- Facilitates business support services from external providers;
- Provides workshops on entrepreneurship and business development;
- Provides market research and product marketing assistance;
- Provides introductions to potential security technology customers;

- Provides an opportunity to qualify for technology demonstration funding;
- Facilitates access to IUG resources, such as engineering consultation;
- Provides opportunities for networking with other incubator clients; and
- Provides introductions to venture capitalists and private funding sources.

In addition, features of the incubator facility will be evaluated, including:

- Offices;
- Office equipment;
- Telecommunications;
- Laboratory/prototyping/testing equipment;
- Conference and meeting rooms; and
- Reception area.

The management practices of the BTI should be evaluated in terms of its mission and operations, governance and finances, management team, and tenant selection, monitoring, and graduation policies. Several aspects of these management practices that will be evaluated are listed below.

Mission and Operations

- a. Has clearly identified mission and program goals;
- b. Has developed a strategic plan with quantifiable objectives to achieve its mission;
- c. Has a business plan to guide and monitor growth;
- d. Maintains effective strategic alliances and collaborations with service area providers.
- e. Has financing capable of ensuring continued operations and effectiveness;
- f. Has a board of directors supporting the mission of the BTI; and
- g. Has an organizational structure that contributes to effective program operations and client services.

Management

- a) Has management that is informed of industry best practices;
- b) Sets staff salaries at appropriate level to attract and retain experienced employees;
- c) Is adequately staffed to meet the needs of BTI clients and provides efficient service;
- d) Has written job descriptions for staff and evaluates staff annually through performance reviews; and
- e) Strongly supports professional development of staff.

Tenant Selection, Monitoring and Graduation Procedures

- Has well defined tenant selection criteria and selects only those applicants that meet the criteria;
- Regularly collects information on client performance results;
- Effectively utilizes effective business management tools in tracking client progress; and
- Has a formal benchmark-based graduation policy

In addition to the evaluation criteria described above, several outcomes will be measured to provide information on the effectiveness of the BTI. These outcomes include the graduation rate of incubator companies, the growth of client companies after graduation, number of jobs and revenue generated in the region by graduated companies, number of security technologies successfully marketed and employed, and the long-term financial sustainability of the incubator.

7.4 Future Studies and Trends

Researcher recommends the following topic as future studies:

- Using Balanced Score Card as a tool to assess the performance of Business Incubators.
- Investigating The Possibilities and Best Practices of Establishing Science and Technology Park in The Gaza Strip.
- Integrating The Strategic Sustainable Development within Business Incubators Operations
- Investigating the Trends of the Donors towards supporting entrepreneurship

References

Books

- Bizzotto, C. 2003. The Incubation Process, infoDev Incubator Support Center (Idisc), P3.
- Center for Strategy & Evaluation Services (CSES), 2002. Benchmarking of Business Incubators. European Commission.
- Davies, M., 2009. Mixed-use Incubator Handbook: A Start-up Guide for Incubator Developers, infoDev.
- Davies, M., 2009. Mixed-use Incubator Handbook: A Start-up Guide for Incubator Developers.
- Dornelas, Assis , J. 2001. Planejando incubadoras de empresas: como desenvolver um plano de negócios para incubadoras (Planning business incubators: how to develop a business plan for incubators). Editora Campus.
- European Union, 2011. Connecting Universities to Regional Growth: A Practical Guide, Regional Policy.
- Goodman, S. 2008. A Dirty Dozen: Twelve P-Value Misconceptions. PP 135 – 140.
- infoDev, 2010. Global Good Practice in Incubation Policy Development and Implementation, The World Bank.
- Lalkaka, R., 2001. Technology Business Incubators: Characteristics, Potential Benefits and Performance.
- NBIA, 1995. Growing New Ventures, Creating New Jobs: Principles and Best Practices of Successful Business Incubation, Rice & Matthews, Quorum.
- NBIA, 2012. State of the Business Incubation Industry.
- OECD, 2004. Effective Policies for Small Business, A Guide for the Policy Review Process and Strategic Plans for Micro, Small, and Medium Enterprise Development, Chapter 11, P71.
- Poilt, D., and Hungler, B., 1985. Essentials of Nursing Research; Methods and Applications, J. B. Lippincott Company.
- Rice, M., Matthews J., 1995. Growing New Ventures, Creating New Jobs: Principles and Practices of Successful Business Incubation. Quorum Book.
- Sheila, O, 2003. Incubator Leadership and Management. infoDev Incubator Support Center (idisc).
- The Organisation for Economic Co-operation and Development (OECD), 2008. Sustainable Development: Linking Economy, Society, Environment. P24

Theses

- Abdul Khalid, F., Gilbert, D., and Huq, A., 2012. Investigating the Underlying Components in Business Incubation Process in Malaysian ICT Incubators.
- Akçomak, 2009. Incubators as a Tool for Entrepreneurship Promotion in Developing Countries.
- AKhmais, S., 2006. The Role of Non-Governmental Organizations in Supporting Small businesses and their Relationship to Economic Development.
- ALmushtary, S. 2007. The Role of Business incubators and Technical Invention in Developing Innovation and Encouraging Entrepreneurs.
- Ayash, Q., 2002. Small and Medium Enterprises as A competitive Advantage and Global Challenges, p 187.
- Blankenship, H., Kulhavý, V., Lagneryd, J., 2007. Introducing Strategic Sustainable Development in A Business Incubator. Corporate Responsibility Research Conference, 15-17 July 2007 Devonshire Hall, University of Leeds, United Kingdom. From Master Thesis at Blekinge Institute of Technology, Karlskrona, Sweden. BTH: Karlskrona.
- Chandra, A., He, W., and Fealey, T. 2007. Business Incubators in China: A Financial Services Perspective, *Asia Pacific Business Review*, 13(1), pp 79-94.
- Coopers and Lybrand L.L.P, 1995. Growth Companies with University Ties Have Productivity Rates Almost Two-Thirds Higher Than Peers," *Trendsetter Barometer*.
- Costa-David, J., Malan, J., Lalkaka, R., 2002. Improving Business Incubator Performance through Benchmarking and Evaluation: Lessons Learned from Europe. 16th International Conference on Business Incubation National Business Incubation Association, April 28 – May 1, 2002, Canada.
- Dahleez, Kh., 2009. The Role of Business Incubators in Developing Entrepreneurship and Creating New Business Start-ups in Gaza Strip.
- Dee, N., Livesey F., Gill, D., and Minshall, T. 2011. Incubation for Growth: A Review of the Impact of Business Incubation on New Ventures with High Growth Potential.
- Dee, N., Livesey F., Gill, D., and Minshall, T., 2011. Incubation for Growth: A review of the Impact of Business Incubation on New Ventures with High Growth Potential, Appendix A.
- Der Zee, P., 2007. Business Incubator Contributions to the Development of Business in the Early Stages of the Business Life Cycle.
- DiGiovanna, S., Lewis, D., 1998. The Future of Incubation is New Jersey: A Strategy for the New Jersey Commission on Science and Technology. Project of Regional Economics, Rutgers University.
- Fredrikson, G., List J., and Millimet, D., 2001. The International Dimension of Environmental Policy in Maratea Italy.

- Ghandra, A., 2007. Approaches to Business Incubation: A Comparative Study of the United States, China and Brazil. PP14-15
- Harman, P., Read, L., 2003. Supporting Incubation in the UK through the Development of Benchmarks.
- Jabah, A., 2000. Trends of Expected Graduates Towards Starting New Small Business in The West Bank.
- Johnsrud, C., 2004. Business Incubation: Profitability v.s Economic Development.
- Kasem, Kh. 2007. The Role of Business Incubators in Developing the Competitive Capacities of Small and Medium Businesses"
- Lee, L., Hunt, A. 2008, Business Incubators: Do They Matter? A Qualitative Study of Business Incubators in Idaho's Treasure Valley.
- Lesáková, L. 2012. The Role of Business Incubators in Supporting the SME Start-up"
- Lewis, David, 2003. Innovation, Incubation, and Place: An Evolutionary Theory on the Performance of Technology Business Incubators, PhD Dissertation, Rutgers University.
- M'Chirgui, Z., 2012. Assessing the Performance of Business Incubators: Recent France Evidence.
- Masoud, R., 2005. The Impact of Business Incubators Existing in The Jordanian Business Women Forum.
- Mian, S.A., 1996. Assessing Value Added Contributions of University Technology Business Incubators to Tenant Firms. *Research Policy*, 25, pp. 325-335.
- Qawasmi, M. 2010. The Reality of Business Incubators and their Role in Supporting Small Enterprises in the West Bank.
- Raetz, G., 2001. Technology Incubation: An Instrument to Support New Enterprises.
- Ratinho, T., Harms, R., and Groen, A., 2008. Are Business Incubators helping? The Role of BIs in facilitating tenants' development.
- Robinson, D. F., 2008. The Development and Diffusion of Business Incubation Capabilities in Five Emerging Markets in South America.
- Sakit, A., 2005. Business Incubators: Studying the Experience of Jordanian Business and Professions Women Forum.
- Scott, J., 2000. The Role of a University Incubator in Creating Successful Startup Firms.
- Smith, S. 2010. Evaluating Strategies to Create Successful Business Incubators in Massachusetts Gateway Cities.
- Stefanovic, M., Devedžic, G., Eric, M., 2008. Incubators in Developing Countries: Development Perspectives University of Kragujevac, Serbia. P3.

Articles and Papers

- Broman, G., John, H., and Karl-Henrik R.. 2000. Simplicity without Reduction: Thinking Upstream Towards the Sustainable Society. *Interfaces* 30, no. 3: 13-25.
- Hackett, S. M. and Dilts, D. M. (2004b). A Systematic Review of Business Incubation Research, *Journal of Technology Transfer*, 29: 55-82.
- Khalil, A., Hana, N., 2006. The Role of Business Incubators in Supporting Creativity in Small Enterprises in the Arab countries, the International Forum: Qualification Requirements of Small and Medium Enterprises in the Arab countries. p 2.
- Lewis, D.A., 2002. Does Technology Incubation Work? A Critical Review of the Evidence, National Business Incubation Association.
- Malan J., 2007. Benefits of virtual incubation systems” Science Alliance Conference.
- Molnar, L., Dinah, A., Yolanda, B., Donald, G., Hugh, S., and Louis, T., 1997. *Business Incubation Works*, NBIA Publications (1997).
- O'Neal, T. 2005. Evolving a Successful University-based Incubator: Lessons Learned from the UCF Technology Incubator.
- Peters, L., Rice, M. and Sundararajan, M. 2004. The Role of Incubators in the Entrepreneurial Process, *The Journal of Technology Transfer*, Vol. 29 No. 1, pp 83-91.
- Robèrt, K. 2000. Tools and Concepts for Sustainable Development, How do they Relate to a General Framework for Sustainable Development, and to Each Other? *Journal of Cleaner Production* 8, no. 3: 243-254.
- Sarfraz, A. M., 1996. The University Business Incubator: A Strategy for Developing New Research/Technology-Based Firms. *Dot.Com Ventures, Incubators*, Article no. 3.
- Vanderstraeten, J., Matthyssens, P., 2000. Measuring the Performance of Business Incubators: A Critical Analysis of Effectiveness Approaches and Performance Measurement Systems.
- Voisey, P., Gornall, L., Jones, P., Thomas, B., 2006. The Measurement of Success in a Business Incubation Project"
- Wilber, P., Dixon, L. 2003: "The Impact of Business Incubators on Small Businesses Survivability"

Reports and Documents

- Bearse, P., 1998. A Question of Evaluation: NBIA's Impact Assessment of Business Incubators, *Economic Development Quarterly*, 12:4 pp 322-333.
- BTI, 2012. Business and Technology Incubator Brochure.
- BTI, 2012. Business and Technology Incubator Policies Document.

- BTI, 2012. Business and Technology Incubator Strategies Document.
- Center for Strategy & Evaluation Services (CSES), 2002. Benchmarking of Business Incubators. European Commission.
- Palestinian Central Bureau of Statistics (PCBS), 2011. Labour Force Survey (April-June, 2011) Round (Q2/2011) Report, P 5.
- Rouwmaat, V, Reid, A, 2003. Business Incubation: Review of Current Situation and Guidelines for Government Intervention in Estonia. P21
- Scaramuzzi, E., 2002, Incubators in Developing Countries: Status and Development, infoDev Program, The World Bank, Washington DC, pp 3-6.
- The World Bank, 2008. Palestinian Economic Prospects: Aid, Access and Reform.
- UNDP and UNCTAD, 2009. Creative Economy Report. The Challenge of Assessing the Creative Economy: Towards Informed Policy-making.
- UNDP, 2010. Human Development Report in Palestine 2009/2010.
- UNDP, 2010. Report of the United Nations Development Programme in the Palestinian territories: The Current Situation and Trends of Human Development 2009 - 2010, p 39.
- White, S., Kawasmi, H., 2010. Micro, Small and Medium-sized Enterprises Assessment Report: Towards a Policy Framework for the Development of Micro, Small and Medium-sized Enterprises in the Occupied Palestine Territory. International Labour Organization (ILO) and Ministry of National Economy.

Websites References

- BTI, 2012. Website of Business and Technology Incubator, www.bti.ps. Accessed on December 15th, 2012.
- European Commission. Enterprise Directorate-General. Benchmarking of Business Incubation. Available online at: http://europa.eu.int/comm/enterprise/entrepreneurship/support_measures/incubators/benchmarking_bi_part_one_2002.pdf
- Loftus, P., 2000. Something Ventured: Incubators Scaled Back, Narrow Focus, Dow Jones News Service at Dow Jones Interactive Newsstand, available at <http://nrstg2s.djnr.com> accessed on September 21, 2000.
- National Business Incubation Association, 2012. What Is Business Incubation. Through www.nbia.org, http://www.nbia.org/resource_library/what_is/, as of December 15, 2012.
- The Organisation for Economic Co-operation and Development (OECD), 2010: Technology Incubators, <http://www.oecd.org/innovation/policyplatform/48136826.pdf>. Accessed on December 20th, 2012.

Appendices

Appendix 1 – Questionnaire judging Committee

| No. | Name of Judge | University |
|-----|----------------------|--------------------------------|
| 1 | Prof. Majed ElFarra | The Islamic University of Gaza |
| 2 | Dr. Sami Abu AlRoss | The Islamic University of Gaza |
| 3 | Dr. Samir Safi | The Islamic University of Gaza |
| 4 | Dr. Akram Samour | The Islamic University of Gaza |
| 5 | Dr. Yousof Bahar | The Islamic University of Gaza |
| 6 | Dr. Rushy Wady | The Islamic University of Gaza |
| 7 | Dr. Ramez Budair | Al-Azhar University |
| 8 | Dr. Bassam Abu Hamad | The Islamic University of Gaza |

Appendix 2 – Questionnaire Arabic Version

السيدة/ المحترم/ة

السلام عليكم ورحمة الله وبركاته ،،

تحية طيبة وبعد؛

نظراً لأهمية حاضنات الأعمال كأداة من أدوات التنمية الاقتصادية والمستدامة، حيث تركز عملها الأساسي حول دعم ريادة الأعمال وتطوير الإبداع من خلال تبني ودعم وتوجيه رواد الأعمال والشركات المحتضنة عبر تقديم مجموعات متكاملة من خدمات تطوير الأعمال بما يضمن نجاح المشروع الصغير أو الفكرة المبتكرة التي هي بحاجة إلى رعاية، وبيئة مساعدة، وبما يحقق النمو، والاستمرار، ومن ثم ينطلق رواد الأعمال باتجاه إقامة شركات اقتصادية واسعة، ومتطورة، خاصة أن من أهم ما يميز المشاريع المنبثقة عن حاضنات الأعمال: الابتكار، والجودة، والنمو، فضلاً عن دور الحاضنات في دفع عجلة الاقتصاد من ناحية، وتشجيع عمليات نقل التكنولوجيا من ناحية أخرى.

وتأتي هذه الاستبانة ضمن استكمال متطلبات الحصول على درجة الماجستير للباحث في إدارة الموارد البشرية، حيث تهدف الاستبانة إلى عمل دراسة حول:

" دور حاضنات الأعمال في تحقيق التنمية المستدامة في قطاع غزة "

دراسة حالة (حاضنة الأعمال والتكنولوجيا بالجامعة الإسلامية)

لذا يرجى منكم التكرم بتعبئة الاستبانة المرفقة، بعد قراءة جميع الفقرات والبنود الواردة فيها بعناية، وإننا إذ نضع بين أيديكم هذه الاستبانة آمليين تعاونكم معنا في إنجاز هذه الدراسة، علماً بأن البيانات التي سيتم جمعها سوف تعامل بسرية تامة ولن تستخدم إلا في أغراض البحث العلمي، وتتوقف على دقتها صحة النتائج التي تتوصل إليها الدراسة.

وتقبلوا مني فائق الاحترام والتقدير،،

الباحث

م. محمد زكريا سكيك

أولاً/ معلومات عامة:

يرجى الإجابة بوضع علامة (X) في المربع المناسب فيما يلي:

١. بيانات عامة:

العمر: أقل من ٢٢ سنة من ٢٢ - أقل من ٢٦ سنة من ٢٦ - أقل من ٣٠ سنة ٣٠ سنة فأكثر

الجنس: ذكر أنثى

٢. المؤهل العلمي

ثانوية عامة فما دون دبلوم متوسط بكالوريوس دراسات عليا

٣. سنوات الخبرة في مجال ريادة الأعمال والشركات الناشئة

أقل من سنة من سنة - أقل من ٣ سنوات من ٣ - أقل من ٥ سنوات ٥ سنوات فأكثر

٤. المركز الوظيفي (الوظيفة الحالية)

٥. بيانات عامة عن الشركة

اسم الشركة: عنوان الشركة:

سنة التأسيس: هاتف الشركة:

الموقع الإلكتروني: البريد الإلكتروني:

تاريخ بداية احتضان الشركة: تاريخ تخرج الشركة:

٦. الوضع القانوني للشركة:

ملكية فردية (غير مسجلة) شركة خاصة (مسجلة) شركة تضامن

غير ذلك حدد:

٧. عدد العاملين والموظفين في الشركة:

١-٥ موظف ٦-١٠ موظف ١١-١٥ موظف أكثر من ١٥ موظف

٨. فترة احتضان الشركة

٦ شهور - أقل من سنة سنة - أقل من سنة ونصف سنة ونصف - أقل من ٢ سنة أكثر من سنتين

٩. أصل فكرة الشركة

وراثه من العائله تأسيس مشروع جديد مستثمرين شراء مشروع قائم

١٠. هل أعددت دراسة جدوى قبل البدء بتأسيس الشركة ؟

نعم لا

١١. قمت باعداد خطة عمل مكتوبة لشركتك ؟

نعم لا

١٢. إذا كانت الإجابة نعم فما هي الفترة الزمنية التي تغطيها الخطة ؟

أقل من سنة من ١ - أقل من ٣ سنوات من ٣ - أقل من ٥ سنوات ٥ سنوات فأكثر

١٣. هل تلقيت مجموعة من خدمات تطوير الأعمال من قبل الحاضنة؟

نعم لا

إذا كانت الإجابة نعم، ما هي خدمات تطوير الأعمال التي تلقتها الشركة:

تمويل تدريب إداري وفني

خدمات تسويق استشارات وتوجيه

خدمات لوجستية خدمات تقنية

توفير مكان للعمل غير ذلك/ حدد:

١٤. إلى أي مدى ساعدتك الحاضنة في الاستغلال الأمثل للموارد المتاحة؟

بدرجة كبيرة بدرجة متوسطة بدرجة ضعيفة

ثانيا/ دور حاضنات الأعمال في تحقيق التنمية المستدامة:

فيما يلي محاور تتعلق بدور حاضنات الأعمال وعلاقتها بتحقيق التنمية المستدامة، ويرجى وضع علامة (X) أمام الخيار الأنسب من وجهة نظرك:

| 1 | 2 | 3 | 4 | 5 | م | يرجى الإجابة بوضع علامة (X) في الخيار المناسب فيما يلي |
|---|-----------|-------|-------|------------|---|---|
| غير موافق بشدة | غير موافق | محايد | موافق | موافق بشدة | | |
| المحور الأول: دور حاضنات الأعمال في الاستغلال الأمثل لموارد الشركات المحتضنة | | | | | | |
| | | | | | 1 | تساهم الحاضنة باستغلال الموارد بأقل تكلفة بالنسبة للعوامل الإنتاجية الداخلة في العملية الإنتاجية |
| | | | | | 2 | تساهم الحاضنة بالتقليل من الخسائر البيئية الناجمة عن أعمال الشركات الناشئة والصغيرة |
| | | | | | 3 | تعمل الحاضنة على التقليل من التكاليف الاجتماعية ومحاربة الفقر والبطالة لدى الخريجين |
| | | | | | 4 | تساهم الحاضنة في توجيه إنتاج الشركات المحتضنة بما تقتضيه التوجيهات والتعليمات واللوائح البيئية |
| | | | | | 5 | تساهم الحاضنة بتوفير المعلومات حول تكاليف حماية البيئة ونفقات الاستثمار وتأثير حماية البيئة على حسابات الأرباح والخسائر |
| | | | | | 6 | تساهم الحاضنة بتحليل الجدوى البيئية والاقتصادية للمشاريع الصغيرة |
| | | | | | 7 | تساهم الحاضنة بإعطاء النصائح وتحليل المشاكل ودراسة آفاق المستقبل |
| | | | | | 8 | تساهم الحاضنة في تقديم المعلومات والاستشارات التي يمكن على أساسها اتخاذ القرارات |
| المحور الثاني: دور حاضنات الأعمال في تحويل الأفكار الإبداعية إلى شركات ناشئة | | | | | | |
| | | | | | 1 | تشجع الحاضنة الرواد على الإبداع والابتكار |
| | | | | | 2 | تساهم الحاضنة بتوفير الأجواء الجديدة لتطبيق |

| | | | | | | |
|---|-----------|-------|-------|------------|---|---|
| | | | | | الأفكار الإبداعية على أرض الواقع | |
| | | | | | تساهم الحاضنة في عقد اجتماعات مع رجال أعمال للاستفادة من تجاربهم | 3 |
| 1 | 2 | 3 | 4 | 5 | يرجى الإجابة بوضع علامة (X) في الخيار المناسب فيما يلي | م |
| غير موافق بشدة | غير موافق | محايد | موافق | موافق بشدة | | |
| | | | | | توفر الحاضنة روابط بين الشركات والمستثمرين | 4 |
| | | | | | تقوم الحاضنة بربط الشركات الصغيرة لديها ببرامج تمويل واستثمار مختلفة | 5 |
| | | | | | تساهم الحاضنة بالمساعدة في تصميم المنتجات الجديدة | 6 |
| | | | | | تعمل الحاضنة على تدريب رواد الأعمال من أجل تطبيق أفكارهم والنجاح في إدارة شركاتهم الناشئة | 7 |
| | | | | | توفر الحاضنة المرافق والخدمات والأدوات اللازمة لنجاح الشركات المحتضنة لديها | 8 |
| المحور الثالث: دور حاضنات الأعمال في زيادة فرصة نجاح الشركات الصغيرة | | | | | | |
| | | | | | تساهم الحاضنة بإنشاء جيل ريادي قادر على إدارة المشروعات الصغيرة | 1 |
| | | | | | تساهم الحاضنة بتوفير مكان مناسب بأعمال المشروع | 2 |
| | | | | | تساهم الحاضنة بعمل دراسة جدوى وتحليل السوق لتقييم بها الوضع الحقيقي القائم والمستقبلي للمشروع | 3 |
| | | | | | تساهم الحاضنة بتوسيع شبكة علاقات الشركات الصغيرة | 4 |
| | | | | | تساهم الحاضنة باختصار الوقت اللازم للحصول على تراخيص ومعاملات رسمية | 5 |
| | | | | | تساهم الحاضنة بالحصول على قواعد بيانات متخصصة للأسواق المستهدفة | 6 |
| | | | | | تساهم الحاضنة في ضمان الحصول على | 7 |

| | | | | | | |
|--|-----------|-------|-------|------------|---|----|
| | | | | | فرص أكبر للنجاح عبر إزالة العقبات التي تواجه الشركات الناشئة | |
| | | | | | تساهم الحاضنة بتوفير الموارد اللوجستية للشركات الصغيرة | 8 |
| | | | | | تساهم الحاضنة بتوفير الدعم المالي المناسب للشركات الصغيرة | 9 |
| | | | | | تساهم الحاضنة في خلق أفكار جديدة لتطوير الشركات الناشئة | 10 |
| 1 | 2 | 3 | 4 | 5 | يرجى الإجابة بوضع علامة (X) في الخيار المناسب فيما يلي | م |
| غير موافق بشدة | غير موافق | محايد | موافق | موافق بشدة | | |
| المحور الرابع: دور حاضنات الأعمال في زيادة فرص العمل | | | | | | |
| | | | | | تساهم الحاضنة في خلق وظائف جديدة ومعالجة جزء من البطالة القائمة في قطاع غزة | 1 |
| | | | | | يسهم العمل في إطار حاضنة الأعمال في زيادة متنامية في معدلات حجم التشغيل | 2 |
| | | | | | تساعد الحاضنة الشركات الصغيرة في الوصول إلى عدد كبير من الخريجين | 3 |
| | | | | | يوجد إقبال على الحاضنة من قبل الجمهور | 4 |
| | | | | | تساهم الحاضنة بتحسين الوضع الاجتماعي للخريجين من خلال مساعدتهم في بناء أعمالهم الخاصة | 5 |
| | | | | | تساهم الحاضنة في دفع عجلة التنمية الاقتصادية | 6 |
| | | | | | تقدم الحاضنة برامج تدريبية ملائمة للخريجين لمساعدتهم للحصول على فرص عمل مستدامة | 7 |
| | | | | | تقدم الحاضنة برامج إرشاد وتوجيه للخريجين والأفراد | 8 |
| المحور الخامس: دور حاضنات الأعمال في زيادة الفرص التسويقية للشركات المحتضنة | | | | | | |
| | | | | | تساهم الحاضنة بدراسة العوامل الخارجية المؤثرة على الحصة السوقية (الاجتماعية، | 1 |

| | | | | | | |
|---|-----------|-------|-------|------------|---|---|
| | | | | | و الثقافية والاقتصادية) | |
| | | | | | تساهم الحاضنة بدراسة العوامل الداخلية المؤثرة على الحصة السوقية (الدوافع، الإدراك، التعلم، الشخصية) | 2 |
| | | | | | تساهم الحاضنة بدراسة وتحليل سلوك المستهلك | 3 |
| | | | | | تساهم الحاضنة بالاتصال المستمر بالزبائن لمعرفة وتحديد مستوى رضاهم عن الخدمات المقدمة | 4 |
| | | | | | تساهم الحاضنة في جمع المعلومات عن طبيعة المنافسين الحاليين والمحتملين للشركات | 5 |
| | | | | | تساهم الحاضنة بعمل خطة لتسويق المنتج والخدمات المقدمة من المشاريع المحتضنة | 6 |
| | | | | | تساهم الحاضنة بايجاد أسواق جديدة للشركات الناشئة | 7 |
| 1 | 2 | 3 | 4 | 5 | يرجى الإجابة بوضع علامة (X) في الخيار المناسب فيما يلي | م |
| غير موافق بشدة | غير موافق | محايد | موافق | موافق بشدة | | |
| المحور السادس: دور حاضنات الأعمال في نجاح وتطور مشاريع التخرج المتميزة | | | | | | |
| | | | | | تساهم الحاضنة في تبني مشاريع التخرج المتميزة | 1 |
| | | | | | تساهم الحاضنة بزيادة فرص التعرف على مشاريع التخرج المتميزة | 2 |
| | | | | | تساهم الحاضنة بزيادة فرص تبني براءات الاختراع والأبحاث الابتكارية | 3 |
| | | | | | تساهم الحاضنة بتوفير بيئة عمل ملائمة لخروج مشاريع التخرج للحياة | 4 |
| | | | | | تساهم الحاضنة بالتغلب على المشاكل والمعوقات التي تواجه مشاريع التخرج | 5 |
| | | | | | تساعد الحاضنة مشاريع التخرج بالحصول على تمويل | 6 |

| | | | | | | |
|--|-----------|-------|-------|------------|---|---|
| | | | | | 7 | تساعد الحاضنة مشاريع التخرج بتوفير البيئة المناسبة لإنجاز المشروع . |
| المحور السابع: دور حاضنات الأعمال في ربط المؤسسات الأكاديمية بالصناعة | | | | | | |
| | | | | | 1 | تساهم الحاضنة بتطوير قدرات رواد الأعمال من الخريجين بما يتواءم ومتطلبات سوق العمل |
| | | | | | 2 | تقوم الحاضنة بإجراء دراسات تتعلق بتوجهات السوق المحلي والخارجي للاستفادة منها في توجيه الشركات |
| | | | | | 3 | تقوم الحاضنة بعقد ورش عمل لمختصين لمناقشة ربط القطاع الأكاديمي بالصناعي |
| | | | | | 4 | تساهم الحاضنة في تطوير المناهج الأكاديمية لتصبح أكثر مواءمة مع السوق المحلي |
| | | | | | 5 | تشارك الحاضنة القطاع الخاص بما يعود بالنفع على الخريجين ورواد الأعمال |
| | | | | | 6 | تعزز الحاضنة دور المؤسسات الأكاديمية في تطوير الصناعة عبر رفد السوق بمجموعات من الشركات الصغيرة |
| | | | | | | |
| 1 | 2 | 3 | 4 | 5 | | |
| غير موافق بشدة | غير موافق | محايد | موافق | موافق بشدة | م | يرجى الإجابة بوضع علامة (X) في الخيار المناسب فيما يلي |
| | | | | | 7 | تساهم الحاضنة بتعريف المبادرين على نماذج الشركات الناجحة |
| | | | | | 8 | تساهم الحاضنة بتعريف المبادرين على الشخصيات الناجحة للاستفادة من خبراتهم |

نشكركم لحسن تعاونكم ،،

الباحث

م. محمد زكريا سكيك

Appendix 3 – Questionnaire English Version

Questionnaire Explanatory letter

Questionnaire

The Role of Business Incubators in Achieving The Sustainable Development In The Gaza Strip

Dear Entrepreneur,

Looking at the uprising importance of the business incubators as a tool for economic and sustainable development, as it focuses on supporting entrepreneurship and innovation through incubating, supporting, and orienting entrepreneurs and startups by providing integrated packages of business development services to ensure the success of the startup or the innovative idea. After achieving this success, entrepreneurs will proceed towards building bigger and wider firms. This is the main aim of the business incubators towards supporting the local economy and the technology transfer.

This questionnaire is a part of my thesis and a main requirement to accomplish the study of the researcher. It aims to reach your trends about:

The Role of Business Incubators in Achieving The Sustainable Development in The Gaza Strip / Case Study (Business and Technology Incubator)

It is highly appreciated if you filled in the attached questionnaire after a careful reading of all paragraphs. Your cooperation is appreciated. Knowing that, all data will be guaranteed confidentially. It will be used only for research purposes. The accuracy of the results depends on these valuable data.

With best wishes,

Mohammed Skaik

The Researcher

Firstly: Please put the sign (X) in the most suitable answer in the following:

1. Personal Information

Age:

Less than 22 yrs from 22 – less than 26 yrs from 26 – less than 30 yrs
more than 30 yrs

Gender: male Female

2. Education

high school Diploma Bachelor Graduate studies

3. Years of Experience in the field of entrepreneurship and startups

less the 1 year from 1 – less than 3 years from 3 – less than 5 yrs
 more than 5 yrs

4. Year of Establishment:

5. Legal status

Unregistered businesses Registered Company General Partnership
Company Other, Please specify:

6. Number of workers and employees in your company:

1 – 5 employees 6 – 10 employees 11- 15 employees
 more than 15 employees

7. Incubation period of the company

- 6 months – less than 1 yr 1 yr – less than 1.5 yrs 1.5 yrs – less than 2yrs more than 2 years

8. Origin of the business idea

- Inheriting from family new business idea from investors
 buying existing business

9. Did you prepare a feasibility study before starting your business?

- yes no

10. Did you prepare a written business plan for your business?

- yes no

11. If yes, what is the duration of your business plan?

- less than 1 yr 1 yr – less than 3 yrs 3 yrs – less than 5 yrs
 more than 5 years

12. Did you get a package of business development services in the BTI?

- yes no

13. If yes, what kind of services did you receive?

- funding or financing Technical and business training
 Networking services Coaching and mentorship
 logistic services and facilities technical services
 providing working place other, please specify:

14. To what extent did the BTI assist you to best utilization of the available resources?

- Significantly moderately weakly

Secondly: The Role of Business Incubators in Achieving the Sustainable Development:

The following topics are related to the role of business incubators and their relationship in achieving the sustainable development. Please tick (X) to the most appropriate option from your point of view:

| # | Please answer by putting "X" in the suitable place as follows | 1 | 2 | 3 | 4 | 5 |
|---|---|----------------|-------|---------|----------|-------------------|
| | | Strongly agree | agree | neutral | disagree | Strongly disagree |
| The first field: the role of business incubators in the Optimal exploitation and utilization of available resources of incubated start-ups | | | | | | |
| 1. | The incubator contributes in exploiting resources at the lowest cost for productive factors involved in the production process. | | | | | |
| 2. | The incubator contributes in reducing environmental losses resulting from start-ups and small businesses. | | | | | |
| 3. | The incubator helps in minimizing the social costs and challenging poverty and unemployment among graduates. | | | | | |
| 4. | The incubator contributes in orienting the production of the incubated companies with the necessary directions, instructions and environmental regulations. | | | | | |
| 5. | The incubator contributes in providing information about the costs of environmental protection, investment expenditures and the impact of environmental protection on the profit and loss accounts. | | | | | |
| 6. | The incubator contributes in analyzing the environmental and economic feasibility of small-scale projects. | | | | | |
| 7. | The incubator contributes in giving advice and analysis of problems and studying the prospects for the future | | | | | |
| 8. | The incubator contributes in providing information and advice that helps in making decisions. | | | | | |

| # | Please answer by putting "X" in the suitable place as follows | 1 | 2 | 3 | 4 | 5 |
|--|---|----------------|-------|---------|----------|-------------------|
| | | Strongly agree | agree | neutral | disagree | Strongly disagree |
| The Second field: the role of business incubators in Transforming the innovative ideas into small start-up companies. | | | | | | |
| 1. | The incubator encourages pioneers and entrepreneurs towards creativity, entrepreneurship, and innovation. | | | | | |
| 2. | The incubator contributes in providing new atmosphere for the application of creative and innovative ideas on the ground. | | | | | |
| 3. | The incubator contributes in meetings with businessmen and investors through match-making sessions to take advantage of their experiences. | | | | | |
| 4. | The incubator provides links between companies and investors. | | | | | |
| 5. | The incubator links the incubated and graduated companies with different financing and investment programs | | | | | |
| 6. | The incubator contributes in helping in the design of new products. | | | | | |
| 7. | The incubator contributes in building the capacity of the entrepreneurs to implement their ideas and to succeed in the management of their start-ups. | | | | | |
| 8. | The incubator provides facilities, services and tools that are necessary for the success of the incubated companies | | | | | |
| The Third field: the role of business incubators in increasing the success potential of start-up companies. | | | | | | |
| 1. | The incubator contributes in creating an entrepreneurial generation that can be responsible for creating new businesses | | | | | |
| 2. | The incubator contributes in providing a suitable working place for projects work | | | | | |
| 3. | The incubator contributes in preparing feasibility study and market analysis to assess the real current and future situation. | | | | | |
| 4. | The incubator contributes in expanding and widening the relationships of the incubated small businesses | | | | | |
| 5. | The incubator contributes in shortening | | | | | |

| | time that is required companies registration and legal procedures | | | | | |
|--|---|----------------|-------|---------|----------|-------------------|
| # | Please answer by putting "X" in the suitable place as follows | 1 | 2 | 3 | 4 | 5 |
| | | Strongly agree | agree | neutral | disagree | Strongly disagree |
| 6. | The incubator contributes to access to specialized databases for target markets. | | | | | |
| 7. | The incubator contributes in ensuring the success opportunities by removing the obstacles faced by emerging companies. | | | | | |
| 8. | The incubator contributes in providing logistics and other resources for the incubated businesses. | | | | | |
| 9. | The incubator contributes in providing a suitable financial support for small businesses. | | | | | |
| 10. | The incubator contributes in creating new ideas and trends for the development of the small businesses. | | | | | |
| The fourth field: the role of business incubators in generating new job opportunities | | | | | | |
| 1. | The incubator contributes in creating new jobs and getting a role in reducing unemployment in The Gaza Strip. | | | | | |
| 2. | Working within the framework of a business incubator contributes in the increase of the employment | | | | | |
| 3. | The incubator helps small businesses and start-ups to access a large number of qualified graduates. | | | | | |
| 4. | There is a considerable demand on the incubator services from the entrepreneurs and fresh graduates. | | | | | |
| 5. | The incubator contributes in improving the social status of graduates through encouraging them to start their own businesses. | | | | | |
| 6. | The incubator contributes in advancing economic development. | | | | | |
| 7. | The incubator offers suitable training programs for graduates to help them to get sustainable jobs. | | | | | |
| 8. | The incubator offers coaching and mentoring programs to graduates and individuals. | | | | | |

| # | Please answer by putting "X" in the suitable place as follows | 1 | 2 | 3 | 4 | 5 |
|---|---|----------------|-------|---------|----------|-------------------|
| | | Strongly agree | agree | neutral | disagree | Strongly disagree |
| Fifth field: the role of business incubators in increasing the marketing opportunities for incubated start-ups | | | | | | |
| 1. | The incubator contributes in studying external factors that influence the market share (social, cultural and economic) | | | | | |
| 2. | The incubator contributes in studying internal factors affecting the market (motivation, perception, learning, personal) | | | | | |
| 3. | The incubator contributes in studying and analyzing the consumer behavior. | | | | | |
| 4. | The incubator contributes in continuous communication with customers to see and determine their level of satisfaction with the services provided. | | | | | |
| 5. | The incubator contributes in collecting information about the current and potential competitors of the companies. | | | | | |
| 6. | The incubator contributes in preparing marketing plans for the products and services provided by the incubated start-ups. | | | | | |
| 7. | The incubator contributes in reaching new markets for start-up companies. | | | | | |
| Sixth field: the role of business incubators in enhancing the success and growth of the innovative graduation projects | | | | | | |
| 1. | The incubator contributes in incubating outstanding and innovative graduation projects. | | | | | |
| 2. | The incubator contributes in increasing opportunities to reach creative graduation projects. | | | | | |
| 3. | The incubator contributes in increasing opportunities of adopting patents and innovative research. | | | | | |
| 4. | The incubator contributes in providing a suitable working environment for the start-ups. | | | | | |
| 5. | The incubator contributes to overcome the problems and challenges facing graduation projects. | | | | | |
| 6. | The incubator helps graduation projects to getting funds. | | | | | |

| # | Please answer by putting "X" in the suitable place as follows | 1 | 2 | 3 | 4 | 5 |
|--|---|----------------|-------|---------|----------|-------------------|
| | | Strongly agree | agree | neutral | disagree | Strongly disagree |
| 7. | The incubator helps graduation projects by providing an appropriate environment for the completion of the projects. | | | | | |
| Seventh field: The role of business incubators in linking the academic institutions with industry | | | | | | |
| 1. | The incubator contributes in fostering the development of the capacity of entrepreneurs' graduates in harmony with the requirements of the labor market. | | | | | |
| 2. | The incubator conducts studies on the trends of the local and global markets to use it mentoring the companies. | | | | | |
| 3. | The incubator implements workshops for professionals to discuss linking the academic and the industrial sectors. | | | | | |
| 4. | The incubator contributes in the development of the academic curriculum to become more integrated with the local market. | | | | | |
| 5. | The incubator cooperates with the private sector for the benefit of graduates and entrepreneurs. | | | | | |
| 6. | The incubator enhances the role of academic institutions in the development of the industry through supplying the market with groups of small businesses. | | | | | |
| 7. | The incubator contributes in sharing the experiences between entrepreneurs and successful business models | | | | | |
| 8. | The incubator contributes in linking entrepreneurs with successful known business personalities and leaders to benefit from their experiences. | | | | | |

The Researcher

Mohammed Skaik