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Assessment of Business Incubation Centers Development in Ethiopia

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By

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Declaration

I, Konjit Desalegn, hereby declare that the work which is being presented in this thesis entitled "Assessment of Business Incubation Centers In Ethiopia" is an original work of my own and prepared under the guidance of my thesis supervisor Dr. Mohamed Seid. It has not been presented for any scholastic achievement and level of study (Bachelors or Masters or PhD programs) in any other Institute, College and University. All the sources of the materials used in this thesis paper have been duly acknowledged.

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Konjit Desalegn

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List of Abbreviations and Acronyms

AAU	Addis Ababa University
BIC	Business Incubation Center
BSC	Business Score Card
EU	European Union
EICTDA	Ethiopia ICT Development Agency
FeMSEDA	Federal Micro and Small Enterprises Development Agency
GTP	Growth and Transformation Plan
GOV	Government
GIZ	Germen Development Cooperation
IBI	Innovation Based Incubators
ICT	Information Communication Technology
IP	Internet Protocol
IT	Information Technology
ICTAD	ICT Assist Development
INGO	International Non Governmental Organization
MCIT	Ministry of Communication Information Technology
MFI	Micro Finance Institutions
M&E	Monitoring and evaluation
MoCD	Ministry of Capacity Development
MOI	Ministry of Industry
NGO	Non Governmental Organization
MSE	Micro and Small Enterprises
NBIA	National Business Incubation Association
ReMSEDA	Regional Micro and Small Enterprises Development Agency
SME	Small and Medium Enterprises
SNNPR	Southern Nations and Nationalities People Region
TBI	Technology Business Incubator
TVET	Technical and Vocational Education and Training
UNDP	United Nations Development Program
WB	World Bank

Abstract

The objective of this research is to assess the status of Business Incubation centers development in Ethiopia. This research covered 15 business incubation centers found in five regions of Ethiopia i.e. Addis Ababa, Oromia, Tigray, Amhara and SNNPR. Due to newness of the concept and the absence of complete database on the BICs in Ethiopia, non exhaustive list was developed by the researcher through personal research. The list was taken as both the target population and a sample for the study. The representativeness of the sample per owners category is ensured. The results of the study revealed that Business Incubation Center development in Ethiopia is at the infancy stage (life time less than 2 years for most of them) though the first centers established 2008 and 2009. There are various constraints that need additional effort and support from different actors for the BICs to develop and grow at acceptable rate. Lack of experience with in the BICs, finance, working space, absence of policies and guidelines, incentive programs etc... are among the major challenges the centers facing.. The results found suggest that, BICs are important to improve growth and development of the country if managed properly. The government need to take the leading role in placing operational rules and regulation of the BICs and create a legal framework they could register and function independently.

Chapter 1 : Introduction

1.1. Background of the study

The concept of business incubation is one that is borrowed from the field of medicine where incubation is described as 'an environment of controlled temperature, humidity and oxygen concentration in order to provide optimal conditions for growth and development'. In line with this definition, A business incubator helps entrepreneurs develop their ideas, from inception to commercialization. Thus it is an initiative that systematizes the process of creating successful new enterprises, by providing them with a comprehensive and integrated range of services, which include floor-space made available on a flexible and affordable, but temporary, basis; common services that include secretarial support and shared use of office equipment; hands-on business counseling; access to specialized assistance such as research and development support and venture capital; and networking activities operating as a reference point inside the premises among entrepreneurs and outside to the local community. (Margaret, Andre and Len, 2014)

Business incubators are part of a larger value chain that connects businesses to a vital support system such as local services providers (such as lawyers, corporate service providers or accountants) and establish relationships that will last after the firm leaves the incubator. Business incubation is a means by which visions of new businesses are turned into reality with reduced risks. Incubators aspire to have a positive impact on a community's economic health, by maximizing the success of emerging companies.(Margaret, Andre and Len, 2014)

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(Info Dev , 2009)

NBIA estimates that there are about 7,000 business incubators worldwide. As of October 2012, there were over 1,250 incubators in the United States, up from only 12 in 1980 (NBIA, 2009). In developing countries, incubators are a quite recent phenomenon. There are no comprehensive surveys regarding the current status of business incubation in developing and transition economies. About 500 incubators were estimated in 1997. Today their number is considerably higher, taking into account the average 20 percent annual growth rate estimated in 1998, and, above all, the impressive investments promoted in specific countries. The Republic of Korea alone is reported to have more than 300 incubators. In 2001 there existed some 130 incubators in China, against 110 in 1999. Malaysia and India also invested considerably in incubators, especially in technology-oriented incubators. In Brazil 150 incubators were surveyed in 2010. (Elena, 2002)

Compared to other regions of the world, business incubation is in its infancy in Africa especially in the Sub-Saharan Africa and the opportunities for innovation and entrepreneurial networking are not as developed as in regions with a longer history of incubation, for instance America North, Eastern Europe, Asia and Pacific, and Latin America. Many African counties are now starting business incubation centers to inculcate entrepreneurial culture among youth and women population. Incubators in Africa have transformed and come a long way from the “real estate and shared resources model” in the first generation to the current “in house debt/equity financing and success sharing” 3rd generation model.

In Africa, according to the study carried by Irwin et al, (2009), 21 countries well spread from around the continent have attempted to establish business incubators of which many are providing business development services, sometimes described as virtual incubation, rather than providing physical space. The countries with their percentages include; Angola (3%), Botswana (2%), Djibouti (2%), Ethiopia (6%), Ghana (5%), Kenya (6%), Madagascar (2%), Mauritius (2%), Morocco (2%), Mozambique (3%), Namibia (2%), Nigeria (13%), Rwanda (3%), Senegal (2%), South Africa (27%), Sudan (5%), Swaziland (2%), Tanzania (5%), Tunisia (2%), Zambia (2%) and Uganda (6%). Also according to the study done by the Economic Commission for Africa (Kamoun et al,2009) in selected 17 countries of North Africa and Southern Africa, a total of 18 incubators and 40 business incubators have been created. The majority was located in

Tunisia, Morocco and Egypt where networks of incubators have been created.(Joshua, Joseph, Lena and Kariko, 2010)

In the Case of Ethiopia Incubating business is relatively a new concept like in many other African Counties. Ethiopia has a handful of incubation centers mostly owned by the government like Ministry of Communication and Information Technology and Government owned Universities. The Ministry of Communications and Information Technology(MCIT) used to run 5 BICs in regions of Amhara, Tigray, Oromia, SNNPR and Addis Ababa(Virtual) and among them only Amhara region BIC is operational currently. Universities like AAU, Hawassa University and Bahir Dar University are the only universities having Incubation center operational. Other University based Incubation centers are at the verge of coming to picture following the direction given to them to create linkage with the industry. Such initiatives play a vital role in promoting entrepreneurship in the country which ultimately contributes to the overall development of the economy. Materialization is not easy for the Universities due to the lack of experience. Incubation Center like X-Hub and ICE Addis are private owned incubation Center we have in the country. UNDP and CIC could be mentioned as the two major promoters of BICs among the NGOs working on youth and entrepreneurship. Thus this paper will assess the status and performance of 10 BICs in Ethiopia and incorporate possible challenges they face on their establishment and operation process which would give some insight for future research in the area.

1.2. Statement of the Problem

In this research tries to address the following problems, which call for the assessment of Business incubation Centers development progress

- The absence of comprehensible guidelines, manuals and standard which could support the establishment and operation of Business incubators.
- The absence of standard and rating mechanism of BICs' performance except for the companies own internal M&E process
- The awareness of the centers in the society is minimal
- The actual progress, output, outcome and Impact of BICs in Ethiopia is not known

- How the BICs play their significant role in linking the higher institutes and innovators with the industry is not clearly seen or identified

1.3. Research Question:

In the knowledge led economic era the role of innovation is undeniably big for economic development. Every innovative idea needs a suitable environment to flourish and bring the socio economic impact anticipated by the stakeholders and by the community at large. One such nurturing system is Business incubation. The first five incubation centers in different regions established in 2008 and 2009 in collaboration with World Bank . The current status of these and other BICs are not clearly known. There is no research that shows either their performance or impact except the report done by Leon Lourens (RSA) in collaboration with Rajeev Aggarwal (Rwanda) and Teshome Mergia (Ethiopia) for EICTDA on 'Development Study for the sustainability of the ICT Business Incubation Projects in Ethiopia: December 2009 – March 2010' in March 2010. Thus it's logical to ask the following two questions

- What is the progress and status of Business Incubation Centers in Ethiopia?
- How do BICs managed under different owners perform?

1.4. Objective of the Study

General Objective

The Purpose of the study is to assess and analyze the current status of BICs in Ethiopia. And comparison on status will be made between BICs owned and managed by different organizations like government, NGO, Universities and private.

Specific Objective

The specific objectives of the study are:

- To assess the awareness of the concept, the practice and performance of BICs in the country and the national policy toward it (if any).
- To identify the challenges and setbacks encountered during establishment and operation of BICs
- To assess the impacts of business incubation Centers on the sectors they are engaged

- To assess and take a bench mark of best practices of selected countries, for the performance comparison of the Business incubation centers owned by GOV,NGO, Private and Universities.

1.5. Significance of the study (Rationale)

This study will give insight on the level of development of BICs in Ethiopia, their performance, factors that contribute to their current status and the challenges they encounter in the process of establishment and operation. In Addition to that, it will create awareness on the importance of Business incubation Centers and their Socio- economical impacts on the development endeavors. Finally, policy makers and future researchers will be able to use it as an input for exploring Business Incubation programs.

1.6. Scope of the Study

The study is limited to status assessment of the Business Incubation Centers in Ethiopia. The researcher was only able to assess 15 Business Incubation centers run by different organizations. The absence of complete database forced the researcher to rely on the list created through personal research. The BICs categorized per their owner are listed as follows. Six of them owned by Governmental office like ICT Agency and FEMSEDA, two by private, seven run by Governmental Universities(AAU, Hawassa University and Bahir Dar University), Two of them run by Universities under Ministry of Science and Technology and one BIC named Climate Innovation Center (CIC) run by NGO InfoDev.

The researcher focused the research to the nine of BICs from the above list due to their current operational status. From the 15 BICs four of them are already closed and two of them are at the inception stage. Nine of the BICs are either at start Up stage or operational thus the research will be focusing on them. The researcher tries to ensure the representativeness of the BICs with respect to ownership.

1.7. Organization of the Study

This research paper is organized into five chapters and the chapters brief description is as follows. The first chapter deals with the background of the study. The statement of the research problem, research objectives and hypotheses are discussed in this chapter. The significance of the study, and Scope and limitations of the study and the research methodology are explored. And the chapter provides a comprehensive literature study of BICs including the definitions, history, characteristics, Operation, Performance, Monitoring and evaluation mechanisms and the benchmarks used for adopting the system is explored in detail. Then the third chapter describes the research methodology used in the study. The research methods, procedures and analysis techniques followed are discussed in this chapter. The 4th chapter focuses on the interpretation and a qualitative analysis of the research results. Tables and graphs are used to illustrate the research results. The fifth chapter provides conclusions and recommendations drawn from the research results. The limitations of the study and recommendations for further studies are also provided in this chapter.

1.8. Definition of Key Terms

Business Incubation – the process of nurturing and supporting Businesses till they mature and become marketable

Business Incubation Center – The Center for Business Incubation

Tenants/ Incubates – Customers of BIC receiving Incubation service

Chapter 2 : Literature Review Business incubation Center

2.1. The Concept of Business Incubation

Definition

Several definitions are given to Business Incubation by various institutions and few are listed below.

National Business Incubation Association: Business incubation is a 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(Ratinho et al., 2013).

United Kingdom Business Incubation: Business Incubation is a unique and highly flexible combination of business development processes, infrastructure and people, designed to nurture and grow new and small businesses by supporting them through the early stages of development and change(Ratinho et al., 2013).

United Nation Development Program: incubators exist to support the transformation of selected, early stage business with high potential, into self sufficient, growing, and profitable enterprises. By reducing the risks during the early period of business formation, the incubator is intended to contribute to economic growth through sustaining enterprises that otherwise fail due to a lack of adequate support; creating present and future jobs, and other socio economic benefits(Ratinho et al., 2013).

European Commision: A business incubator is an organization that accelerates and systematizes the process of creating successful enterprises by providing them with a comprehensive and integrated range of support, including: Incubator space, business support

services, and clustering and networking opportunities. By providing their clients with services on a 'one stop shop' basis and enabling overheads to be reduced by sharing costs, business incubators significantly improve the survival and growth prospects of new startups. A successful business incubator will generate a steady flow of new businesses with above average job and wealth creation potential. Differences in stakeholder objectives for incubators, admission and exit criteria, the knowledge intensity of projects, and the precise configuration of facilities and services, will distinguish one type of business incubator from another(Ratinho et al., 2013).

Organization for Economic Cooperation and Development: Technology incubators are a specific type of business incubator: property based ventures which provide a range of services to entrepreneurs and startups, including physical infrastructure (office space, laboratories), management support (business planning, training, marketing), technical support (researchers, data bases), access to financing (venture capital funds, business angel networks), legal assistance (licensing, intellectual property) and networking (with other incubators and government services) (Ratinho et al., 2013).

Canadian Association for Business Incubation: Business Incubation involves dynamic business strategies to help build up strong, viable, companies from an idea and determination. Since starting up a small business can be such a challenge for most, a business incubator is often necessary to help nurture young companies those first few months or years until they have established themselves firmly in the community. The new entrepreneur can look to the incubator for hands on management assistance, education, information, technical and vital business support services, networking resources, financial advice as well as advice on where to go to seek financial assistance (CABI, 2011).

2.2.History of Business Incubation

Credit for the first business incubator, as it is recognized today, is given to the Batavia Industrial Centre purchased in 1959 by the Mancuso family (Charles Mancuso & Son Inc.), located in Batavia, New York (Al Mubaraki et al., 2010). When the 850,000 square foot facility shutdown in 1956 the unemployment rate in the region grew to more than 20% (NBIA, 2009). When the

Mancuso family purchased the facility, the intention was to improve employment conditions by finding one large tenant capable of creating jobs (NBIA, 2009). Joseph (Joe) Mancuso, at the time a hardware store owner, was given the task of filling the building. When he was unable to lease the entire facility to one tenant, he decided to rent space to multiple businesses with the hope that he could achieve an occupancy rate that would generate profit from the investment (Hanadi, et. al., 2010). In order to attract sufficient tenants, not only did he offer businesses the opportunity to share office resources, but also assisted with raising capital, and offered business advice (NBIA, 2009). Thus creating the first business incubator as we see it today. In fact, the coining of term 'business incubator' has been credited to Joe Mancuso. Among the building's tenants was a chicken company, and chickens would fill the building. Joe would jokingly refer to the building as an incubator and the name stuck (NBIA, 2009). The Incubation model evolved through time creating three different generations since the first incubator established in 1960s.

Incubation Generations

"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 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. (Elena, 2002)

"Second Generation" 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.(Elena, 2002)

"Third Generation" Incubators

International Enterprise Centers – International Business Incubators are 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. This incubation model based on the convergence of support mechanisms is already present in China, Korea, and Malaysia. Some of these incubators are beginning to create *Incubator Networks,* 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. There are currently eight incubator networks in China. (Elena, 2002)

2.3. History of BIC in Africa and Ethiopia

In Africa, according to the study carried by Irwin et al, (2009), 21 countries well spread from around the continent have attempted to establish business incubators of which many are providing business development services, sometimes described as virtual incubation, rather than providing physical space. The countries with their percentages include; Angola (3%), Botswana (2%), Djibouti (2%), Ethiopia (6%), Ghana (5%), Kenya (6%), Madagascar (2%), Mauritius (2%), Morocco (2%), Mozambique (3%), Namibia (2%), Nigeria (13%), Rwanda (3%), Senegal (2%), South Africa (27%), Sudan (5%), Swaziland (2%), Tanzania (5%), Tunisia (2%), Zambia (2%) and Uganda (6%). Also according to the study done by the Economic Commission for Africa (Kamoun et al,2009) in selected 17 countries of North Africa and Southern Africa, a total

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2.4. The Goal of BIC

Business Incubation Programs are aimed at promoting economic development of its community by supporting start-up companies and their business development. These programs offer services to support the establishment and development of new/small and medium companies. Business incubators help to strengthen the local economies because their small business tenants and clients survive inside the incubators the survival rate 90% (InfoDev., 2009; Molnar et. al., 1997; Al-Mubaraki. et. al., 2010). This rate lead the governments fund and support business incubators as away to increase the number of successful start up companies in a community. Furthermore, the increment of the companies in the local market leads to the jobs creation. Finally, the total number of jobs created by the incubators affect on the economic development. (Hanadi and Richard, 2013)

In this context, the primary objective of business incubators is to promote economic development, diversification of local economy, the commercialization of research, the technology transfer and to produce income for sponsoring organization (McKinnon and Hayhow, 1998). A National Business Incubation Association (2007) publication observes that "the most common goals of incubation programs are creating jobs in a community, enhancing a community's entrepreneurial climate, retaining businesses in a community, building or accelerating growth in a local industry, and diversifying local economies" (National Business Incubation Association, 2007). The effectiveness of BI is documented in many publications and evidenced by the expansion of the industry globally. Some headline performance indicators are:

- Business Incubation Works (1996), still the most respected study into business incubation outcomes in the USA, reports: good job creation outcomes with an average of 468 direct jobs and 702 total jobs created by each business incubator and with a public subsidy cost per job of $1,109; 87% of business incubator graduates were still in business; healthy average growth in firm sales of $239,535 (on average, 400% since they commenced business incubation); 84% of graduates remain in their local communities; and, a return in terms of public investment in terms of taxation revenues of $4.96 for every $1.0 of public operating subsidies.
- The European Union's approximately 900 business incubators generate 40,000 new jobs per annum at a public cost per job of around €4,000 and with a firm survival rate of 85%. The European Commission Enterprise Directorate General report, Benchmarking of Business Incubators suggests, "business incubators are a very cost effective instrument for the promotion of public policy objectives…they are a very effective method of promoting knowledge intensive, new technology based activities" .
- Many researchers and scholars confirmed the positive impact of business incubators on job creation. Within the developing world, a late 1990s analysis of data available on 77 Chinese incubators sponsored under the Torch program (Lalkaka, Ma & Lalkaka, 2003) indicated that these incubators were providing a good financial return, with the investment for the year of 1998 likely to be covered by tax receipts alone in the following five years.

Whether or not economic development is one of their main objectives, all types of successful incubator programs are likely to help contribute to this indirectly by facilitating business growth and technological innovation. (Hanadi and Richard, 2013) When we talk about the goal of Business incubators one thing we need to be aware is predilection of the leading sponsor(s) influence their primary goal. For instance:

Table 1 Sponsors and their desired goals

Sponsor	Desired goals
Technical university	Innovation, faculty/graduate student involvement
Research institute	Research commercialization
Public/private partnership	Investment, employment, other social goods
State sponsorship	Regional development, poverty alleviation, equity
Private sector initiative	Profit, patents, spin-offs, equity in client, image
Venture capital-based	Winning enterprises, high portfolio returns

Source: Assessing the performance and Sustainability of TBI, by Rustam Lalkaka, 2000

In general, incubators put forward the following proposals as their goal, which are allied to the social, economic and technological development program: Their goal could be Job creation, incentives for entrepreneurialism, Local/regional economic development, University-enterprise relationship, Local/regional economy diversification or to grow a particular sector, Encouragement of entrepreneurialism among minorities, Technological research and development, Bringing in profits and opening up investment opportunities, Obtaining other benefits for the management entity, Encouraging exports and internationalization, Formation of clusters and production arrangements, marketing of research investments, property venture/real estate development, creation of entrepreneurship in transition economies, opportunities for national immigrants and nationals graduating abroad, To reduce business failure rates – typically, in quality business incubation environments, up to 85%+ of firms that have been incubated survive and As a test bed or catalyst for SME development.

2.5. Classifications of BIC

Business incubators can be classified using different variables

1. Operational Mode (BAM, Virtual and mixed)
    - **Bricks and Mortar (BAM):** the most traditional model of the incubator is centered on offering physical facilities to those using it. The entire incubation process and services offered are concentrated in a building. An advantage of this model is that interaction, the formation of partnerships and resolution of common problems can be stimulated by the proximity of the entrepreneurs. Depending on the incubator's focus, this is the "natural" model and is widely used amongst traditional incubators.
    - **Virtual:** also called a Portal or "Without walls", this incubator model does not provide a building for the incubated businesses. Support and services are offered over the Internet. An advantage of this model is that entrepreneurs from different regions can be integrated. This model has been used to support the generation and development of "dot com" companies. NBIA traditionally has defined virtual incubation as the delivery of incubation services solely through electronic means. However, the term may be used interchangeably with "affiliate program" for services delivered to clients that are not in residence in an incubator. "Virtual incubation" also may be used to denote a program that offers services to clients who are located far away from an incubator, when the program does not offer any multi-tenant space
    - **Mixed:** an incubator that offers a building to house some entrepreneurs and also supports the generation and development of companies over the Internet. Some authors designate this the "HUB/Venture Incubator" model.

    Normally, definition of the operational model imposes conditions on the types of services to be offered by the incubator. The BAM model can offer the services of a virtual incubator but may choose to emphasize services offered in its own building/office. The tendency, with widespread use of the World Wide Web, is that incubators will offer many services over the Internet.

2. Location(urban, suburban and rural)
    - **Urban**: incubators located in the city. This is more common for technology-based, traditional, mixed and sectoral incubators that do not need large areas nor have "assembly lines" with high noise levels.

- **Suburban**: these incubators are located in areas surrounding the city and can be part of the overall plan designed to recover, revitalize or develop a given region. Social and cultural incubators commonly use these localities.
- **Rural**: incubators located in rural areas and, generally, connected to centers of agricultural production.

3. Profit Vs Non Profit

The key aspect of the this definition is whether or not the incubator will be a profit seeking organization. This is important because it establishes the objectives, goals and indicators of the incubator. This definition depends on the organization that is leading the incubator planning and implementation. The government (municipal, state or federal) and public universities generally create nonprofit incubators. When the leading institution is a private company, the tendency is to establish a profit-seeking incubator. Nonprofit and profit-seeking incubators usually have different objectives. Despite these differences, incubators can contribute to the development of the region in which they are located; independently of their purpose.

- **Profit seeking**: according to Neal Young (in ARANHA, 2003), this type of incubator tends to receive "equity in incubated companies as either full or partial payment for the incubator". The objectives of this type of incubator depend on the principal organization:
  - **Companies from the traditional sector**: these companies are interested in motivating an entrepreneurial style in their employees. They hope to maintain their best staff, and develop new technologies, processes and products.
  - **Technology companies**: aside from the objective of maintaining talents, incubators created by this type of company want to expand their competitiveness and speed in launching new solutions.
  - **Venture Capitalists**: interested in supporting companies that can generate a higher return than the rates paid by the market.

- **Nonprofit:**
  - **Government**: the objective of the government in supporting an incubator's establishment can vary. The following is highlighted:

- Broadening of employment and income opportunities;
- Development of economic alternatives;
- Enhanced competitiveness among dynamic and/or strategic sectors of the economy;
- Development of new technologies;

- **Universities/Research Centers**: in general, the objective is scientific and technological development and commercialization.
- **Communities**: normally led by charitable organizations, this type of incubator is targeted mainly at expanding employment opportunities in the region.

4. Sponsorship(public, private and mixed)/Host Org (private, Gov, NGO, University)

   Incubators can be classified based on their sponsorship like from the public, private and mix of the two. In developing countries, most incubators are not- for-profit, with funding generally provided by public resources. It should be said, however, that in several developing countries the incubator industry is evolving rapidly, and in some cases incubators show levels of dynamism and innovation, as well as models of partnership and funding, which are comparable to the ones currently observed in industrialized economies. The BICs could also be classified based on their host organizations. They can be hosted by Governmental offices, NGOs, Private owners and Universities.

5. Legal Status(NGO, Foundation, Business)

   The definition of the legal status of the incubator means, whether it is an independent unit (with its own legal structure) or connected to an existing institution (a university, company, research center, etc.). There are advantages to each of the legal situations.

   Advantages of an Independent Unit

   - Flexibility in obtaining funding.
   - Managerial/decision-making agility.
   - Lesser possibility of political interference.
   - Flexibility/agility in complying with agreements/contracts.

Advantages of a Connected Unit:

- Uses the administrative structure of the "maintaining body" (financial statements, finances, materials, etc.);
- Benefit from the "name"/credibility of the "host body";
- Facilitate interaction with other departments of the "host body". For example: in the case of a university, the incubator will have easier access to researchers in different departments.

Specific legal status: Among incubators that are already operating, there are two leading types of legal status: the Non Government Organization (NGO) and Foundations.

6. Sector/Industry Focus (IT, Technology, green business, Social, Cultural, Agro Business...)

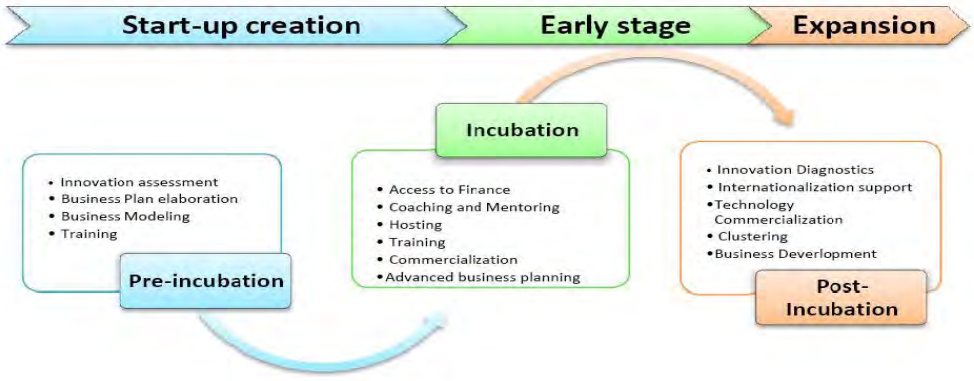
- **Traditional Incubator**: supports development of companies linked to sectors of the economy that possess broadly disseminated technologies, such as textiles and footwear. As Pereira and Pereira (2002) emphasize, "the objective is to aggregate value to products and processes through utilization of new technologies".
- **Technology-based Incubator**: incubators that include companies with products, processes and/or services that are the result of scientific research and represent a high combined value. These incubators support biotechnology, informatics, and electronics companies, among others.
- **Mixed Incubator**: provides support to both traditional companies and technology-based companies.
- **Cultural Incubator**: supports cultural activities such as music, sculpture, photography, and cinema.
- **Social Incubator**: as stressed by Pereira and Pereira (2002), these are incubators that support "undertakings that originate in social projects connected to traditional sectors that have knowledge that is in the public domain and that meets demand for employment and income and improvements in the quality of life of the community".
- **Agribusiness Incubator**: encompasses crop/livestock undertakings and have the objective of stimulating entrepreneurism and technological innovation in the area.

- **Sectoral Incubator**: supports activities in a single area. In this sense, an incubator can be sectoral and technology-based, for instance, supporting only companies in the area of software.

7. Model(*Pre-Incubator, Incubator, Post Incubator(Accelerator), both*) and Target Client development stage (All Firms, Startups Only, or High Growth Firms)

   Incubator could follow different models like Pre incubation, Incubation and Post Incubation(Accelerator) or a mix of two or the three models depending on their goal and their strategy to achieve that. The acceptable development stage of the client company at the entry could also differ accordingly.

Figure 1 Incubation Phases



Source: EU Regional Policy on IBI, 2010

- **Pre-incubation** relates to the overall activities needed to support the potential entrepreneur in developing his business idea, business model and business plan, to boost the chances to arrive to an effective start-up creation. It usually implies a first assessment of the idea, training, and direct one to one assistance necessary to put the client in the conditions to write a fully complete business plan. Some incubators can afford this kind of activity where they can access public support or private risk capital. This is often required in high-tech innovation industries and with incubators closely attached to Universities. Sometimes this innovation comes out of need, rather than opportunity, and is very risky. University-affiliated incubators are usually pre-incubators.

- **Incubation** concerns the support given to the entrepreneur from the start-up to the expansion phase. Typically this is a mid-term process, lasting usually for the first three years of activity of the newly established company, which are the years in which it is safe to say whether the new venture is successful and has a good chance to develop into a fully mature company. The actions activated generally are access to finance, direct coaching and mentoring services, as well as hosting services and specific training. Therefore physical incubation, although a very important service, is a subset of the overall incubation process.

  Post-incubation, relates to the activities to be carried out when the company has reached the maturity phase, and therefore is ready to walk on its own feet. It is the time when, If it has been physically incubated, the company will leave the incubator. Various services might still be needed by the SME for example to increment its sales or improve its productive processes, such as internationalization services or innovation introduction through scouting and detection activities. Incubators positioned as "post incubators" sometime rename themselves as "accelerators".

  Incubators typically provide client companies with programs, services and space for varying lengths of time based on company needs and incubator graduation policies. Most accelerators take a group of companies, or a cohort, through a specific process over a previously-defined period of time, culminating in a public pitch event or demo day. Accelerators also generally make seed-stage investments in each participating company in exchange for equity, while many incubators do not make this type of financial commitment.

  The objective of the post-incubation stage is to offer an opportunity for companies that have graduated to continue benefiting from the services and partnerships available from the incubator. Many incubators act as hosts to some companies, for some period of time, and this relationship with mature companies can be a crucial strategy to assist with and subsidize their other programs.

Most incubators are not single-purpose. They may provide assistance to very early stage companies (germination) as well as mature companies (tenancies). This mixed use model is particularly appropriate where a diversified revenue model is required. To some they perhaps are serving only as a landlord, and to others they are deeply involved providing financial and business development support. The key is to build a model flexible in terms of both on the type of incubation provided, and the kind of companies incubated. A fluid approach can be crucial to survival. (Info Dev, 2009)

2.6. BIC Operation and Performance

Operation

Like any other business or company BICs have their own operations helping them to materialized and achieving their goal. There are various operational processes within the BIC.

1. Tenant selection and recruitment

   An incubation center without tenants is like a fish pond without fish. An Incubation center cannot exist in the absence of tenants thus careful selection of entrepreneurs with the growth potential, as well as a flexible process of entry is essential for the very existence and sustainability of the BICs. BICs based on their pre set entry and exit criteria will assess applicants and admit them. Once the tenants are admitted to the BI they will be provided with services that will help them to develop and grow their business for the agreed period of time. Depending on their performance either they will graduate earlier than the agreed period or at the end of the period per the exit criterion set at the beginning of the incubation process.
2. Providing quality service to tenants

   Services like consultancy, training, information, access to external sources of funding, and supports the synergy among residents will be provided to the tenants. The Incubation centers need to provide quality services to the tenants in order the client companies to become successful during incubation phase and afterwards. Their quality service ensures the continuous flow of customers to their door i.e full occupancy of the center which plays a vital role on its sustainability. BICs provide spaces and other services usually at

lower rates and fees than those on the market and gradually increase depending on the status of their clients and the BI service demand on the market. The BICs can give service to external users to recover their cost and get additional income. The BICs can provide services like training, office space, training room etc.. to external users.

3. Manage the finance

   The biggest failure in business comes from bad financial management. Since the BICs ultimately become profit seeking businesses to survive in the system, appropriate financial management system needs to be in place from the beginning. Collecting money could be easier than managing it sometimes.

4. Manage the Human and Non human resources

   Like any company or unit the BIC has its own structure, infrastructure and human and non human resources that need to be managed properly. Appropriate rules and regulations need to be in place for resource acquiring, usage and disposal. While hiring and managing employees the BIC need to ensure the necessary competence is on board and the role and responsibility is properly stated since the customer satisfaction on the service of the BIC is highly dependent on the core competence of the employees more than the infrastructure.

5. Marketing and Promotion

   BIC needs to have a promotional strategy to ensure the business continuity of the program. Different promotional and marketing mechanisms like social media, flyers, broacher, word of mouth, organizing events, lower rental price at the beginning and increase gradually etc...has to be there

6. Create linkage/Networking

   The tenants need to have a conducive environment where they could collaborate with the absence fear of stealing/losing their innovative idea. When they do collaborate and build a network they will share idea, experience even expenses by buying in bulk and using common services and sharing cost. etc.. The networking has to be not only within the BICs but also with other BICs and experienced business companies.

7. Monitoring &Evaluation of the operation and impact of the program

   Any company or program need to assess its performance and impact in order to know whether it's on the right tract to success or has area of improvement to work on. Having a

monitoring and evaluation system in place will help the BIC to check and balance its program and its impact on the economic development of the society.

8. Partnership and Fund raising

   Running BIC is a very costly business especially the first 5-6 years of the establishment. Thus running the BIC in collaboration with other organizations as a partner is advisable for the following basic reasons, one to share the cost and the risk and two it use the competences found in those companies instead of hiring a new one from external. The third reason is the market share of the partners would be higher than the individual.

Performance

Business incubators help emerging growth companies survive, and grow, during the start-up period when they are most vulnerable. Not all business incubators are successful, however. For this reason, many researchers have investigated the factors that contribute to the success and failure of business incubation. Measures of incubator success and failure vary depending on context and objectives. Incubators fail for some of the same reasons that their client-businesses fail. They fail to perform according to expectations for a variety of reasons, starting in the planning stage and including the following:

Planning factors

The absence of feasibility/biz plan, Inadequate pool of entrepreneurs, weak demand for services, poor governance, inactive board, no committed champion, location with poor business infrastructure and inappropriate building layout/ limited space are the planning factors contributing for the failure of Business Incubators

Operating factors

Some of the operating factors contributing for BIC failures are manager without business experience/skills, inadequate counseling, information and networking services, poor systems for accessing finance for tenants, high investment and operating costs, under-capitalization, Insufficient professional/university linkages, unfriendly government policies, inadequate support, high taxes and little or no involvement of business sector.

The lack of success among incubators often stems from an over-emphasis on physical space and infrastructure, while setting aside "soft" infrastructure factors such as: quality staff and services; and the process of selecting, overseeing and assessing the enterprise. 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.

It is clear that the critical success factors for these incubators include: Comprehensive business plan, Availability of funding, Quality of entrepreneurs, Stakeholder support, Supportive government policies, Financial sustainability, Access to science and technology expertise and facilities, volume of companies co-located is important as it leads to natural clustering & collaboration(combining start-ups with mature companies in same building encourages collaboration) and entrepreneurs will learn more from each other, and other businesses, than 'consultants', diversified models (incubation + office rentals) keep programs sustainable and independent, not being 100% publicly funded keeps incubator focused on tenants and services provided, strict entry criteria (focused on innovation & implementation) can ensure high success rates, investors/entrepreneurs seeking to make new equity investments can be leveraged as mentors, businesses seeking future clients can provide discounted professional services, a strong manager who monitors both mentors and companies is key, Using managers who have entrepreneurial experience and can 'relate', incubation programs can remain lean and cost effective with few employees, ensuring tenants pay for services screens out those that are not somewhat commercialized, Strengthen the capabilities of the management team by continuous learning, Core team of specialists to advise networks of BIs, thus sharing expenses, Develop profitable services /drop others/ recover costs and reduce overheads, interest, insurance charges, Creative financing arrangements, such as equity, royalties, and Islamic banking, Attract affiliates and anchor tenants, donors and patrons, Out-source, bulk-buy, barter for services and supplies, Intensify BI interactions with board/ business/ state/ NGOs/other incubators and their tenants, nationally and internationally and Monitor performance, evaluate, take remedial actions. (Rustam Lalkaka, 2000)

According to NBIA there are two core principles characterizing 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.(NBIA 2009)

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

- 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 (NBIA, 2009)

2.7. Monitoring and Evaluation of BIs

Similar to the business incubation program the history of incubator program evaluation is short and started in the late 1980s with studies by Campbell and Allen (1987), and Allen and

Weinburg (1988). These initial studies evaluated business incubation programs largely in terms of the number of new jobs created and the success or failure rates of incubated business in comparison to some imputed success or failure rate for new businesses in general. An early objective attempt to evaluate business incubation programs in terms of their costs and benefits was a 1990 study of programs in the State of Michigan by Thomas Lyons. In the field of international development, the comprehensive review of incubator programs in seven industrializing countries was the study by Lalkaka and Bishop (1996).

The methodologies for assessing and bench-marking performance are now emerging. Business incubation involves many players, and the efficiency of each affects the overall effectiveness of the system. Likewise, the evaluation process is multi-faceted, calling for step-by-step analyses of the forces within the incubator and some outside. An assessment of Business Incubator's operational and financial performance can be carried in the short term, based on information readily available from the management team. Clearly, the incubator management can perform a continuous internal audit, with the advantage of its insider knowledge. A more comprehensive and definitive evaluation at the maturity of the incubator requires a considerable amount of original data collection and field work, more objectivity and specific experience than the insiders (or an association or advocacy group) alone could provide. Academicians/economists/consultants have their own predilections while some local officials and donors may in fact be averse to learning the true facts. The old-fashioned formula of a tripartite evaluation may be a good compromise, involving the incubator management, the state/community/stakeholder representatives, and independent consultants. Usually BIC is deferred for at least 5 years since it can take years before the benefits of setting up a business incubator are felt.

BIC assessment can cover three main categories: Impacts, effectiveness and sustainability. Good measures of performance of an incubation system are the medium term benefits accruing to the clients, sponsors, local community, region and nation. It is recommended to choose indicators to measure performance in relation to the level of development and the type of incubator. Some measurable criteria include the enterprises and employment created, growth in the company's assets, sales turnover and exports, corporate and personal taxes generated, survival rates of the ventures incubated, and revenues earned by patents and licensing. Less easily quantified benefits include a raised level of public consciousness for small enterprise development, an enhanced

image of the community as pro-entrepreneurship, and social benefits such as skills enhancement, cultural and attitudinal changes, increased optimism and self-esteem with respect to the future. The variety of indicators could be considered including those summarized below:

Impact/Outreach

- Enterprises created: That is, those graduating from the BIC and entering the market
- Survival rate of enterprises: Those terminating over a defined time-horizon are difficult to identify
- Jobs generated (in say 6 years)
    - in incubated/affiliated firms: This is not a primary BIC objective as all ventures, particularly start-ups, need to operate at high productivity and reduce costs
    - in graduated firms: It is difficult to get reliable data from those who have left
    - indirect jobs: Again, a complex but necessary estimation
- Enterprises reached: These indeed are a very small proportion of the new ventures that are created in the region
- Replication of "pilot" model: If demand for space and services is strong, additional BICs can be established on a hub-satellite basis, sharing special personnel and multiplying the outreach.
- cluster development;
- local economic diversification;
- regional regeneration and social inclusion; (Rastum Lalkaka, 2000)

Effectiveness

- Employment per net $ subsidy: Subsidies are often stealth, coming in different guises and from a variety of sources, direct and indirect.
- Taxes paid and returns to state per net $ of subsidy: Some studies indicate returns of $ 4 to 6 per $ subsidized; this is likely to be “taxes payable” rather than amounts actually paid (which are difficult to ascertain)
- Growth of client net worth, sales & exports: In developing and restructuring countries, this information is generally not shared with state officials or rival businesses
- Research commercialized: Depends on the completion of the transfer, the process of patenting and licensing.

- Management dynamics: Important measures of success are the capability of the team to provide needed services at reasonable profit-margins, to access professional services from external sources, and to win the confidence and appreciation of the clients. The management in turn depends for support on a proactive board
- Disadvantaged groups: The extent of facilitated access to resources for peripheral communities, youth, and women, if indeed that is a BI objective.
- Seed venture capital mobilized: This can be a good indication of the BIs effectiveness and reputation in the financial community.
- Overall profitability of incubator: What are the returns on overall investment? What are the direct/indirect subsidies still being received? Does the accounting practice provide for depreciation, taxes, and other expenses?
- Time to break-even: How many years from entry of first client has it taken for the incubator income to exceed operating expenses?
- Additionality: A better justification for incubation is its attribute of enhancing the survival and success of its clients compared to those in the open market.
- Incubator expansion: The willingness of sponsors to expand their BI may be some indication of their satisfaction with outcomes. (Rastum Lalkaka, 2000)

Sustainability

- Revenue surplus (6 years): A BICs cash flow, based on good accounting practices (which do vary among countries) should indicate the overall financial health, towards financial self-sustainability
- Services cost recovery: This depends on the type of services and cross subsidization. Some such as marketing or accounting can provide 100 % + recoveries while others such as training and counseling only 30 – 50 %
- University-business links: Essential, demonstrated qualitatively by the extent of interactions and support.
- Stakeholder satisfaction: Well-structured interviews can indicate the appreciation of BI services provided and their overall usefulness to the respective stakeholders
- Tenant/graduate satisfaction: Same as above.
- Changes in culture: Qualitatively perceptible but difficult to quantify, nevertheless a necessary long-term transformation.
- Enhancement of entrepreneurial skills and self-esteem: Same as above, noting however that BIs do not create entrepreneurs but do nurture nascent aptitudes.
- Leveraging state policies: A major effect in many restructuring countries

- Others specific to the BI: The predilections of the sponsors or board could require other indicators to be assessed. (Rastum Lalkaka, 2000)

2.8. Benchmarks and Standards

Benchmarking is a dynamic process of identifying good outcomes in organizations which could be attributable to their successful practices and adapting these to another group's operations. It is a continuous learning and self-correcting process with quantitative comparisons of performance at participating organizations. It is best undertaken within a region, preferably one which has an association or focal body to help implement the program and compile relevant statistics.

A bench-marking program is intended to assist managements to progressively up-grade their performance, attribute by attribute, in the interests of their sponsors, their tenants, and the incubation industry. Overall, it should help an incubator in the needed transition from the first generation mode (essentially subsidized space and shared facilities), towards a more relevant and dynamic operating model (intensive for-profit services and networking). Benchmarking has had mixed results due to difficulties in changing existing work habits and mindsets. Below is suggested a variety of benchmarks, according to Centre for Strategy and Evaluation Studies, London, 2000 from which pertinent data can be selected.

1.Benchmarks for establishment & operation of incubators

Operational Benchmarks – length of time taken to establish incubator; scope of partnership and number/type of organizations involved; amount of public/private investment; incubator capacity (space for start-ups); range and type of other facilities and services; number of applications/admissions/ graduate businesses; entry and exit criteria; type of firms assisted; charging policy and other financial indicators (see Point 7 below); approach adopted to business planning and monitoring performance against targets.

2. Nature and scope of business incubator support services

Operational Benchmarks – resources available for business planning, training, marketing, innovation and other types of support; number of projects making use of services; availability of seed/venture capital funding and performance of investments.

3. Key tasks of business incubator managers and partners

Operational Benchmarks – staffing/board structure; job descriptions of managers; level and type of qualifications; number and type of partner organizations; level of cross-referrals with other business support service providers; extent of networking with local, regional, national and EU partners.

4. Promotion of business incubator services

Operational Benchmarks – nature and type of promotional activities; approach to defining target market; ratio of inquiries/applications for assistance received; use of ICT in promotion and operation of incubator; awareness of incubator services in local business community.

5. Monitoring and evaluation of business incubator services

Operational Benchmarks – number and type of indicators used; frequency of monitoring activities; level of feedback from clients; procedures for ensuring that client feedback informs management decisions on incubator operations; incubator quality standards and procedures for ensuring compliance with them.

6. Financial Aspects

Operational Benchmarks – proportion of start-up costs from public/private sources; proportion of operating income from clients (rental income, services, etc), public authorities, private sector sponsors; performance of seed/venture capital funds (if relevant) operating surplus.

7. Performance of Assisted Projects and Regional Impacts

Operational Benchmarks – proportion of start-ups/existing SMEs; survival rates; type/sectoral characteristics; growth in turnover of businesses; number of net additional jobs created; extent to which graduate businesses remain located in region.

Standards

Due to the newness of the concept no institution took the initiative to prepare a standard. Thus there is no standard that anyone can refer except for the best practice shared by the good will of the BICs.

Chapter 3 Research Methodology and Design

3.1.Research Type

There are two broad categories of researches named qualitative and quantitative researches. The quantitative research emphasize on collecting and analyzing numeric data to keep the objectivity of the study. Such research used in descriptive and Inferential type of studies. On the other hand qualitative research is more subjective compared to the quantitative ones and focus on the examining and reflecting on non quantifiable data. Such research is useful when one wants to do exploratory research in the areas there is no or few research done. Thus the researcher designs the study to follows qualitative approach due to newness of the concept, the small population size and the absence of sufficient detail study in the area. Purposive sampling mechanism was applied to ensure the representativeness of the sample.

3.2.Source of Data

The researcher tries to define the target group as all BICs reside in Ethiopia. The absence of centralized database concerning the BICs and their profile limited the researcher to use personal research to create database for the BICs. Since the idea or initiative itself is new, the number of BICs the researcher could get is less than 20 in number. Thus the researcher's the total population is the same as the sample.

3.3.Data Collection Methods

The researcher did literature survey to find out what business incubation center means, the history of BIC, their development and the current status globally and in Africa. In addition to that the researcher collected both primary and secondary data necessary for the study conducted.

Literature Survey: The theoretical principles, foundations and performance metrics of Business incubation center is reviewed, history and current status of BIC globally and in Africa is assessed from the literatures written by different authors. These literatures include books, research papers, reviews, manuals, business plans and feasibility study papers.

Primary Data Collection: The primary data is collected through in-depth interview with the representatives of Universities BICs, Private BICs, NGO BIC, Government owned BICs and with professionals related to the topic. A total of 13 business incubation centers' and Ministry of communication Information Technology representatives were interviewed.

Secondary Data Collection: Secondary data of BICs is surveyed and collected from electronic documents and libraries. The BICs establishment document, operational manual, strategic plan, broachers, catalog, implementation manual and performance report. Other sources of these surveys were the Private and Public Business Incubation Centers, Universities, Ministry of Science and Technology and Ministry of communication and Information Technology (MCIT).

3.4.Data Analysis Method

The Data analysis and Interpretation is done following Descriptive techniques since the research is qualitative and exploratory due to the newness of the concept. In the interpretation process quantifiable data are represented using appropriate tables, graphs, charts and percentages . The description of the tables, graphs, charts and percentages is written to elaborate the data**.** To create tables, graphs, charts and percentages necessary software like MS Excel is used. Non quantifiable data were analyzed and interpreted through narration.

Chapter 4 Research Finding and Discussion

4.1.BICs General Information

Based on the primary and secondary data the researcher is able to identify fifteen BIC in Ethiopia geographically distributed in the 5 regions of the country. The highest number of incubator is found in Addis Ababa region for the obvious reason of being the capital city of the country. Addis Ababa has a total of 8 BICs 3 of them are University based, 2 Government owned, 1 NGO owned and 2 run by private owners. The second highest number goes to Amhara and SNNRP regions both having 2 BICs run by Government offices and University. And the least number of BICs seen in Tigray and Oromia regions both having one Incubation center run by governmental office and University respectively.

As we can see in the table below most of the incubation centers have a lifetime of a less than two years except for the five BICs established by EICTDA(Ethiopia ICT Development Agency) in 2008 and 2009 through ICTAD (ICT Assist Development) project funded by World Bank. Six of BICs inaugurated in 2014, one in 2015 and two are at the idea inception and planning stage and their actual starting dates are unknown. The researcher prefer to use the word inaugurated instead of established since most of the BICs after the inauguration due to various reasons couldn't go to operations. Some of them are obliged to pass through a long bureaucratic procedure to get their facility furnished. And some are still waiting to get approval of their operational strategy by higher managements before going for implementation. The BICs affected by such scenarios mostly are those run by the Universities.

Table 2 General Infromation of BICs in Ethiopia

No	Name of Incubator	Owner	Establish ment year	Legal Status	Type	Current Status
1	Mekelle ICT Business Inbubation Center (MICT BIC)	BoCD	2008	Not Registered	Facility based	Closed
2	Oromia ICT Business Incubation Center (OICT BIC) in Adama	Oromia Region ICT Agency	2009	Not Registered	Facility based	Closed
3	SNNRP ICT Business Incubation Center (SICT BIC) in Hawassa	SNNRP Region ICT Agency	2009	Not Registered	Facility based	Closed
4	Addis Ababa ICT Business Incubation Center (Virtual)	A.A Region ICT Agency	2009	Not Registered	Virtual	Closed
5	Bahir Dar ICT Business Incubation Center (TECHNO BIC)	Amhara Region ICT Agency	2009	Not Registered	Facility based	Operational
6	EiABC Addis Incubation Center	Addis Ababa University	2011	Not Registered	Facility based	Operational
7	India Africa Business Incubation Unit	FEMSEDA	2014	Not Registered	Facility Based	Operational
8	Climate Innovation Center	InfoDev	2014	Registered Organization	Virtual	Operational
9	X-Hub	Private Investors	2014	Registered Business	Facility based	Operational
10	ICE Addis Incubation Center	Private Investors	2014	Registered Business	Facility based & Virtual	Operational
11	Bahir Dar University Incubation Center	Bahir Dar Univesity	2014	Not Registered	Facility based	Starting Up
12	Addis Ababa University Technology Incubation Center	Addis Ababa University	2014	Not Registered	Facility based	Starting Up
13	Hawassa University Incubation HUB	Hawassa University	2015	Not Registered	Facility based	Starting Up
14	Addis Ababa Science and Technology University BIC	Ministry of Science and Technology	Not yet	Not Registered	Facility based	Inception Stage
15	Adama Science and Technology University BIC	Ministry of Science and Technology	Not Yet	Not Registered	Facility based	Inception Stage

Source: Collected from Survey Data through interview

The other thing one can understand from the table is most of the BICs are at the infancy stage. Among the oldest BICs the researcher assessed, four of them are already closed and only one (TECHNO BIC) is operational and with experience. Even that BIC has undergone through a process that changed its owners and system. The response get from the interviewee of the TECHNO BIC says that they don't have full knowledge of the EICTDA performance on the ICTAD project related to the Center. They started from evaluating the Project Implementation

Plan(PIP) of the ICTAD project and prepare their own plan based on the PIP and GTP & BSC documents that the government uses. The advantage the agency had was the already built facility.

To get the overall performance of TECHNO BIC the researcher tries to assess the report done by Leon Lourens (RSA) in collaboration with Rajeev Aggarwal (Rwanda) and Teshome Mergia (Ethiopia) for EICTDA on 'Development Study for the sustainability of the ICT Business Incubation Projects in Ethiopia: December 2009 – March 2010' in March 2010. The report shows the progress and performance of the five BICs established by EICTAD. The researcher finds out from the interview that there was a one year transition period(2013/14) for ending the project management / fund and taking over the center by ICT Agency of the Amhara region. This brings the overall experience of the center to become 4-5 years.

From the legality point of view 77.8% of the BICs work under the owners organization as one functional unit. Only the private and NGO run BIC are registered as legal independent entities. In this research the researcher will only analyze the data collected through interview and by other means from the 9 BICs which are currently operational or at start up stage.

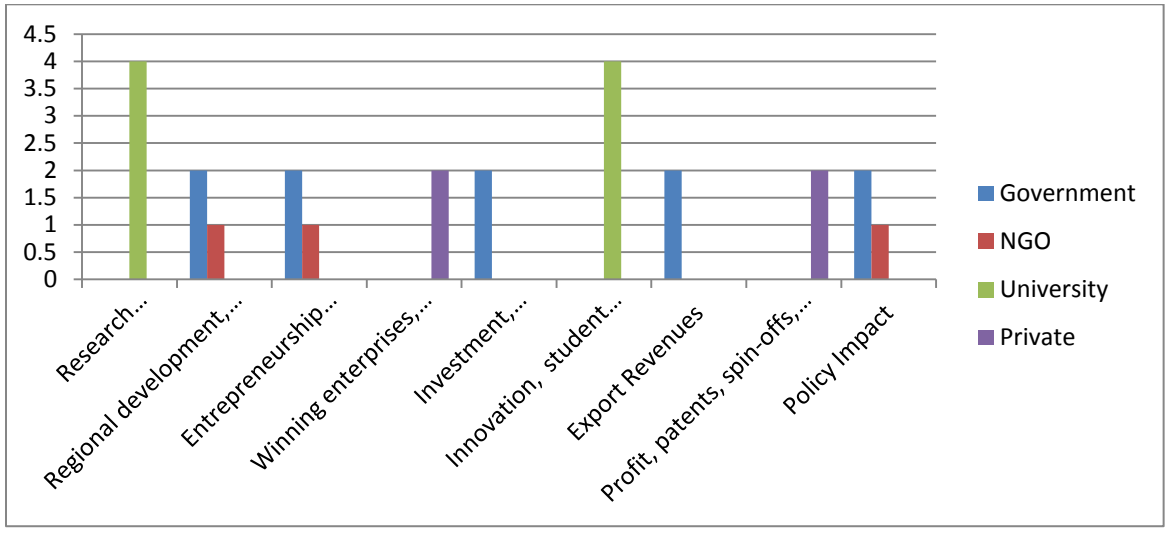
4.2.Goal of the BIC in different owners Category

The main objective/goal of BICs differs depending on the institutional and the donors interest. That implies their purpose could be research commercialization and becoming center of innovation as in the case of Universities. It could also be Economic development, creation of entrepreneurship in the transition economy and creating of new jobs for the society as in the case of government offices led BICs. It could be property venture/real estate development, development of export production etc.

The list of possible objective is found below and is not exhaustive. Research Commercialization, Regional development, poverty alleviation, equity, Entrepreneurship Awareness, Winning enterprises, high portfolio returns, Investment, employment, other social goods, Innovation, student involvement, Profit, patents, spin-offs, equity in client, image, Export Revenues, Policy

Impact etc.. For the purpose of the study they are categorized into 9 groups as shown in the graph.

Figure 2 The Goals of BICs Categorized per Their Owners



Source: Computed from Survey Data, 2015

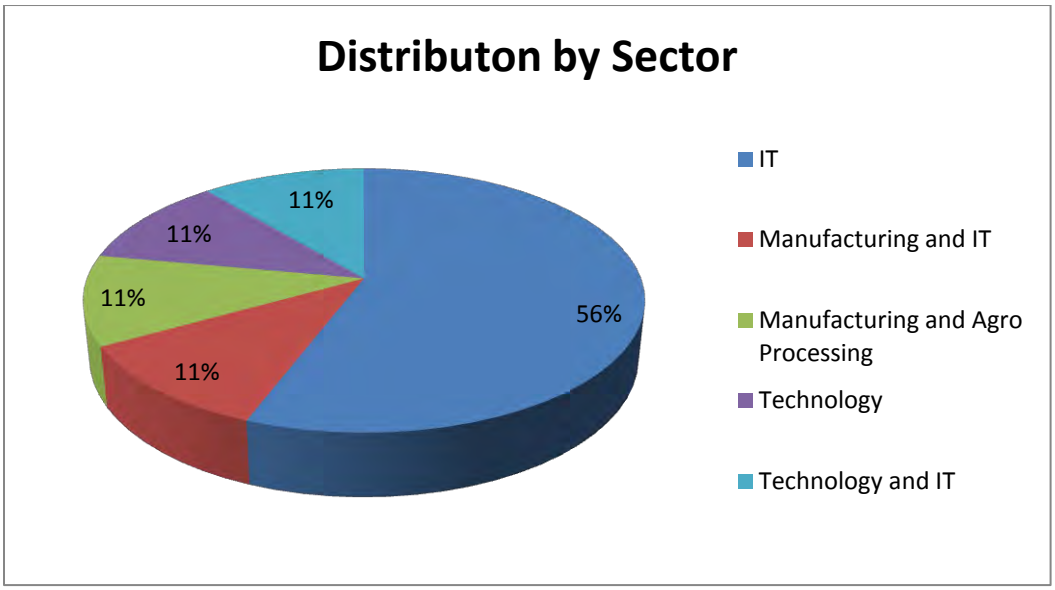
As can be seen in the graph the governmental BICs' objective is to make a socio economic impact and bring development. In the case of the universities their the main purpose is to create and nurture innovative environment and commercialize researches by creating linkage with the industry. Their purpose is definitely align with governments policy of creating linkage with the industry. For the private owned BICs their main purpose is of course making profit through commercializing their innovative products. And that of the NGO is very much aligned with the government goal.

4.3.BIC Sectoral Distribution

Per the response get from the interviewees, among the 9 BICs currently at start up or operational stages researched 78% of them focus on IT as main focus area and/or as an additional area to their main focus area. The rest of the focus areas are Technology, Green Businesses, Manufacturing, Agro processing etc.... The reason why the focus goes to IT sector could be due to the founders interest as an institution or the influence of the global trend on ICT industry. The BICs might believe that they will be successful if they follow that path. For the country like

Ethiopia racing to join the middle income economies ICT innovations would give a great boost if nurtured and used properly.

Figure 3 Sector Distribution of the BICs



Source: Computed from survey data

A survey was conducted on ICT small businesses in Ethiopia by Mergia Consulting on behalf of the ICTDA project. Survey Report on ICT and Non ICT Enterprises indicated that of the ICT enterprises surveyed, 115 (58.4%) are engaged in sales of ICT equipment, Software and Accessories. 36 or 18.3% are engaged in the maintenance of computer and related activities, 26 (13.2%) are doing software training business, 16 (8.1%) are engaged in computer networking and only 4 or 2% of them are engaged in software development businesses. The survey result indicates there is a shortage of technology commercialization and new product development. This indicates that the ICT Market in Ethiopia is still at a very immature stage which creates massive potential for further development. Furthermore it shows the need for small business support and Business incubation in the area.

4.4.Organizational Structure and Number of Employees

It is vital to have competent employees with the right number to succeed in the system. Most BICs try to run with optimized number of employees handling different responsibilities at a time.

The table below shows out of the 9 BICs 56% of them run the center with up to 5 employees, 22% run with more than 10 employees and the rest have 5-10 employees at start up.

Table 3 Number of Employees per BICs Categorized by their Owners

No	No of Employees	No of Employees of the BICs per owners			
		Government	NGO	University	Private
1	0-5			4	1
2	5-10		1		1
3	>10	2			

Source: Computed from the survey data

As can be seen from the table the two government funded BIC have the highest number of employees even at start up. According to the interviewees of those BICs the government supports those initiatives believing that they will play a greater role in bringing change in the development faster. These initiatives are integrated with the GTP plan.

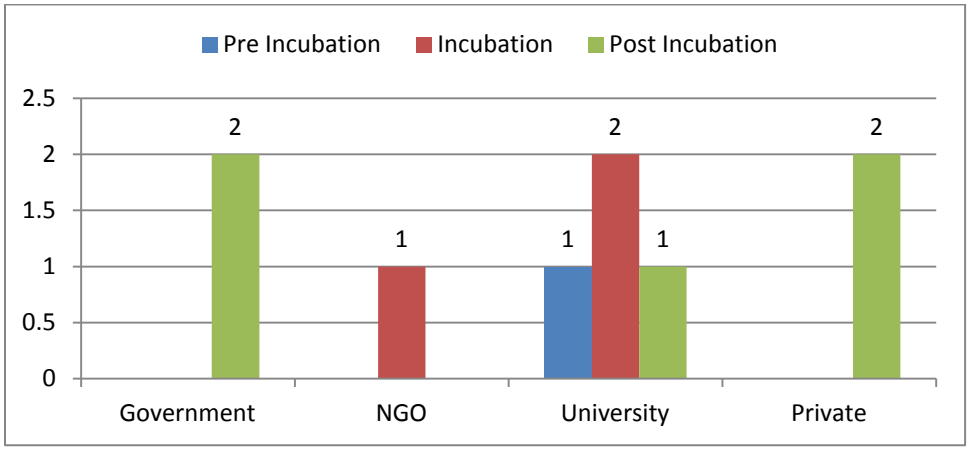
Based on the data collected from the interview 8 out of the 9 BICs' organizational structure covered the basic functional units like Operations and Marketing by General Manager, Finance by Accountant, Office Assistant by secretary and Technical experts by part time experts. EiABC Addis BIC is the only center that doesn't the three basic structure and the staffs to support it. The Center run by two people. One full time employee taking care of the operation and technical support and the other person will oversee the center remotely from the GIZ office. The BICs try to run the center with minimal resource since it is very expensive even with few employees due to its high initial and operational cost. As mentioned in the literature review it has low return on Investment(ROI) especially on the first 5-6 years.

Well structured system is shown in the governmental BICs as compared to the private and NGO owned. One thing we should note here is that structure is good for proper functioning of an organization but the bureaucracy comes with such structure could cripple organizations' performance.

4.5.Incubation Phases

As mentioned in the literature review BIC could support either one or a mix of the three different incubation phases i.e pre incubation, incubation and post incubation. Per the information gathered from the interviewees, one BIC is supporting pre-incubation and 5 of the BICs support post incubation after incubation mostly the government and privately owned centers. And the rest are focusing only on the incubation phase.

Figure 4 Different Incubation Phases Supported by BICs



Source: Computed from survey data

University owned BICs usually try to support the pre incubation and Incubation processes and less and less is done when it comes to the post incubation process. The objective of the post-incubation stage is to offer an opportunity for companies that have graduated to continue benefiting from the services and partnerships available from the incubator. Many incubators act as hosts to some companies, for some period of time, and this relationship with mature companies can be a crucial strategy to assist with and subsidize their other programs. Supporting the post incubation phase is important to BICs since it one of the mechanisms to ensure sustainability. The BICs could use their graduating companies to generate money by giving them services for fee and also use them as a promotion to the incubation centers. In the case of the private BICs the post incubation process is considered as part of their sustainable strategy.

4.6.Incubation Period

56% of the BICs have an incubation period of less than a year, the rest of the incubation centers have an incubation period 1 -3 years. The Addis Ababa University Technology BIC is the only one having a plan to move the graduating tenants to the science parks if their product/service could not be marketed during the incubation phase. In the Case of Bahir Dar University the incubation period is 6 months and at graduation they will be linked with MFIs to get finance.

Table 4 Incubation Period of Each BICs

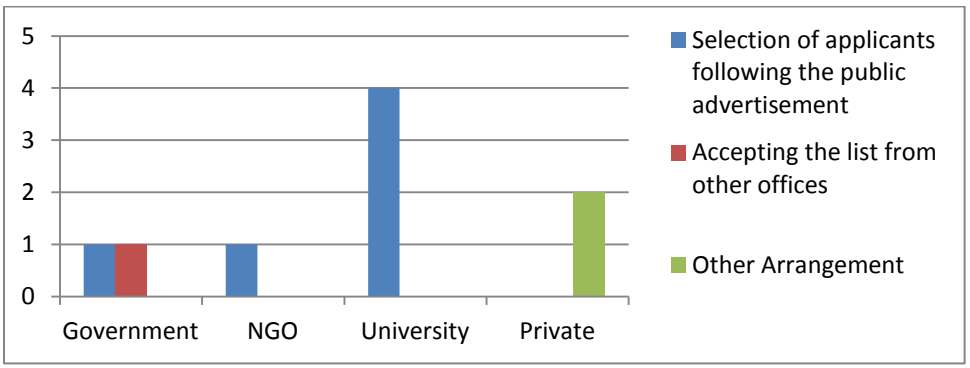
No	Name of BIC	Incubation Period
1	Bahir Dar ICT Business Incubation Center (TECHNO BIC)	2- 2.5 year
2	EiABC Addis Incubation Center	2 years
3	India Africa Business Incubation Unit	3-6 months
4	Climate Innovation Center	6 months
5	X-Hub	6-12 months
6	ICE Addis Incubation Center	6 months
7	Bahir Dar University Incubation Center	6 months
8	Addis Ababa University Technology Incubation Center	3 years
9	Hawassa University Incubation HUB	1 year

Source: computed from survey data

4.7. Tenants Selection and Recruitment Process

The interviewees from the 6 BICs responded they get their potential tenants through official announcement of their vacancy by posting it on public notice board, contacting universities and other organizations like SMEs who have big interest in the area. In the cases of BICs run by Governmental offices like FeMSEDA, the tenants will be selected by ReMSEDA, Sub City Administration or other governmental offices responsible for promoting entrepreneurship and creating job and forwarded to them. The two private BICs use other means like promoting their services over the internet and use personal networks to attract tenants. Once the BICs get their potential tenants they will go through intensive selection process using their pre set selection criteria.

Figure 5 Tenant Selection and Recruitment Process of BICs Categorized by their Owners



Source: Computed from Survey data

4.8.BICs Intake Capacity

The intake capacity of the BICs range from as low as 5 in the case of EiABC Addis Incubation center up to 207 in the case of India Africa Business Incubation Unit run by FeMSEDA. As can be seen in the table almost all of the BICs do have a higher intake capacity than they actually used. Most of the BICs operate below 50% of their capacity. They could have various reasons why they underutilize their resource. One of the reasons the interviewees told the researcher is due to the lack of awareness within the society they were not be able to get sufficient number of tenants per the standard they set. The other possible reason could be they didn't do enough promotion and partnership work with important stockholders like universities, Colleges, MSEs and other enterprises/organizations which have common goal with the BICs.

Table 5 BICs Intake Capacity, Actual Usage and Number of Graduating Tenants per BICs

No	Name of BIC	Intake Capacity	Total number of tenants in different rounds	Total number of Graduated tenants
1	Bahir Dar ICT Business Incubation Center (TECHNO BIC)	20	18	8
2	EiABC Addis Incubation Center	5	3	-
3	India Africa Business Incubation Unit	207	-	-
4	Climate Innovation Center	20	20	8
5	X-Hub	60	21	-
6	ICE Addis IT Consultancy PLc	4 in house & 4 virtual	8	4
7	Bahir Dar University Incubation Center	20	-	-
8	Addis Ababa University Technology Incubation Center	10	-	-
9	Hawassa University Incubation HUB	10	-	-

Source: Computed from Survey data

The other issue that worth mentioning is the number of graduating tenants/companies. The drop rate is above 50% that indicates the BICs do need to work hard to ensure the tenants they recruit are qualified enough at entry and will graduate after the incubation period through proper support.

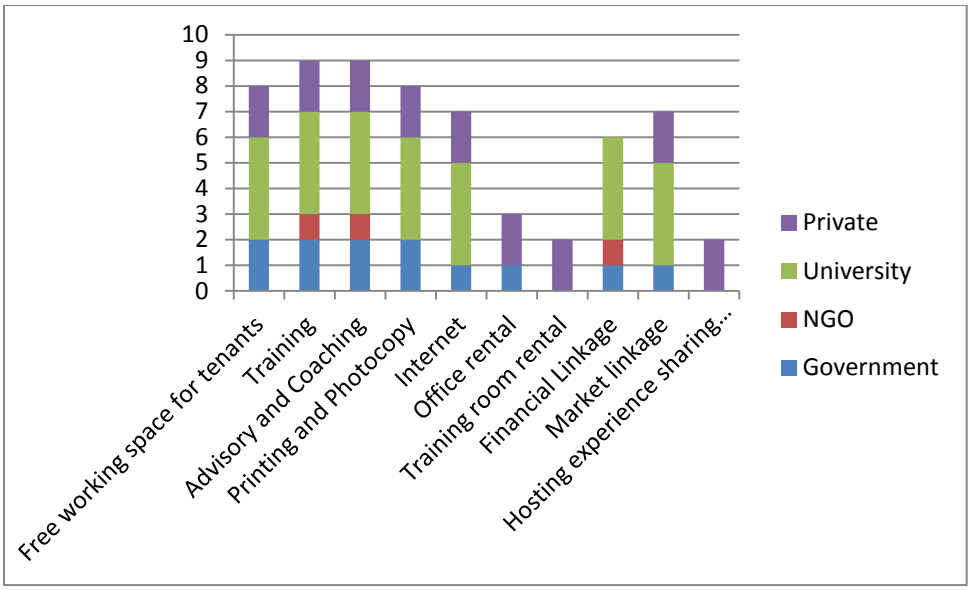
4.9.Services provided by the BICs

Except the private and NGO run BICs all provide free office space to the tenants. Almost all of the BICs give technical and entrepreneurial trainings, mentoring, shared office facilities like secretarial service, internet, legal advice, financial advice etc... In addition to that BICs try to create linkage for the tenants with MFIs, organize events to promote the tenants' products and services.

As can be seen in the graph, among the ten services listed the highest number of service (nine) are provided by the private BICs followed by the governmental (eight) and University (Seven)

based BICs. And few number of services provided by the NGO owned Business Incubation Center.

Figure 6 Services Provided by BICs per the Different Owners



Source : Computed from survey data

4.10. Financial sustainability and Growth Strategy

Financial Sustainability is crucial for the continuity of the BICs. As long as the BICs what to operate competently in the business environment they need to have sustainability strategy specifically the financial one. Except the private ones almost all the BICs are run by either GOV or INGO funded/budgeted projects. And one of the reason for the failure of the first four beginners of BIC in Ethiopia is due to the lack of finance and ownership to continue the program. Since most of them were run as a project and they needed a responsible organization and sufficient finance for their continuity. The two private BICs and TECHNOBIC are the one working hard on their sustainability currently. They rent working space to the tenants and/externals, give trainings for fee, lease training rooms, provide internet service etc... to raise their income and sustain the centers. In addition to that one private BIC use membership for fee approach creating different categories within the membership scheme.

The response the researcher get from the interviewees show the private owned BICs have both growth and sustainability strategy in place since they are working for profit. In the contrary the

most government owned BICs including the ones run by the Universities seem to be highly dependent on the budget allocated by the government and don't give much emphasis on the sustainability. But they do have growth strategy which will still be dependent on the budget they will get from GOV and the fund they might raise from local and international institutions. The only exception the researcher found having sustainability strategy among GOV owned BICs is TECHNO BIC which runs under ICT Agency in Amhara Region. In the case of the NGO run BIC, they seem to be in the process of studying to come up with the sustainability strategy.

Table 6 Means of Sustainability for BICs

No	Name of BIC	Means of Financial Sustainability
1	Bahir Dar ICT Business Incubation Center (TECHNO BIC)	Government Budget and office rent
2	EiABC Addis Incubation Center	GIZ Fund and /or Government Budget
3	India Africa Business Incubation Unit	Government Budget and Paid for service
4	Climate Innovation Center	World Bank 10 years project fund
5	X-Hub	Membership fee, training room rental, fund raising from INGO
6	ICE Addis Incubation Center	Fund raising from INGO, lease cell office and training rooms
7	Bahir Dar University Incubation Center	Government Budget
8	Addis Ababa University Technology Incubation Center	Government Budget
9	Hawassa University Incubation HUB	Government Budget

Source: computed from survey data

According to the report done by Leon Lourens (RSA) in collaboration with Rajeev Aggarwal (Rwanda) and Teshome Mergia (Ethiopia) for EICTDA on 'Development Study for the sustainability of the ICT Business Incubation Projects in Ethiopia: December 2009 – March 2010' in March 2010, to ensure financial sustainability the BICs could apply the following mechanisms. The list is by no means an exhaustive one.

1. Having a significant amount of rental income. I.e the BIC manager has to ensure the occupancy rate of the center is high without undervaluing it.
2. Take advantage of the low or no cost opportunity to market the BIC program
3. Track the BICs success and communicate it to the funders
4. Rent the facility to outsiders like training and conference rooms and vacant office spaces
5. Differentiate the BICs service to avoid redundancy and win competition

6. Make the BIC big enough : The current rule of thumb for incubator size is 2500-3500 sq.m. with no more than 25 percent dedicated to common areas. Common areas include conference rooms, hallways, restrooms and even incubator management offices.
7. Ask graduates for support

4.11. Monitoring and Evaluation System

Monitoring and evaluation is one of the mechanisms used to identify and to know for sure the status, progress and performance of a company or business. Unless the managers monitor the progress and performance of the company they cannot know how they are doing things and whether the strategy they implement will lead them to success or not. The BIC manager will definitely need to monitor and evaluate everything he manages. Both the manager and the employees should have the culture of checking their activity if its aligned with the plan or not. This will enable them to be more efficient since they will be reusing their best practices/experience and will be able to learn from their prior failures after evaluating them.

The replies the researcher get from all the interviewees were, we are just starting the BIC and we don't have as such a standardized M&E system in place but as an internal monitoring and follow up tool we use reporting, face to face meetings and open door policy for the tenants. This shows it is hard if not impossible for the BICs to evaluate their own performance per the criteria applied on other countries used as a benchmark at the moment.

4.12. Effectiveness Strategy

The BICs effectiveness was checked in terms of research commercialized, mgmt dynamics, seed capital, profitability and expansion as mentioned in the literature review. Since most of the BICs are in the infant stage the things that could be checked are their management dynamics and seed capital. When it comes to seed money most government owned BICs try to link their tenants with MFIs though they might not be successful all the time. The government and University run BICs expect the tenants to come in group. This is may be because the main challenge for tenants after incubation is finance and the country MFI loan policy for those who doesn't have a collateral is to come in group and be guarantee for each other. This will be used as a tie for the

MFIs to get back their money. Since 88.9% of the BICs couldn't grant finance to the tenants, they will try to link them with the MFIs. So if tenants came in group having shared goal from the beginning their probability of getting finance for their business is high and so does their success rate.

And the NGO run BICs do provide seed money for their tenants. In the case of the privately owned BICs they don't have that reputation which could be taken as a guarantee/collateral for their tenets. Thus they only give advice to tenants to check and follow the rules and regulations of MFI's in the case they need financial support for their business. In the case of the Universities since they are owned by government the financial linkage will not be as difficult as the private ones.

In terms of BICs management dynamics, most of them do have managers who knows the area very well either through training or having business educational background. But in terms of the system within the BIC some might lack flexibility since they have to follow their owners/sponsors rules and regulations. Some might need to follow lengthy procedures to accomplish certain tasks. One interviewee from University responded that they are stacked at the moment waiting for approval from their owners the University and Government before going for implementation.

4.13. Impact/Out Reach

According to the research done by Rastum Lalkaka 2002, impact or outreach could be measured after 5-6 years of establishment . Thus based on this recommendation the only BIC that fulfill the criteria to be measured would be TECHNO BIC owned by ICT Agency in Amhara Region. To Assess the impact the following relevant metrics among many is used

1. Enterprise Created

   The interviewee responds for the number of enterprise created within their BIC is 'TECHO BIC was able to create 11 companies with 32 members'.
2. Survival Rate

The interviewee was asked about the survival rate of the companies and he responded the 11 companies mentioned above still exist in business in fact one among them created additional company.

3. job created

   The total number of job created within the 11 companies is 31 new employees on top of the members as per the response get from the interviewee.

4. Replication of model

   There is no attempt to replicate TECHNO BIC in the near future. But per the information get from the interviewee TECHNO BIC is collaborating with other offices to build an ICT park in Bahir Dar City. This initiative comes from the success they get in their prior work of the Business Incubation.

4.14. Bench Marks Used

Government and University owned BICs adopt practices from countries like India, South Africa, Ghana, Nigeria and South Korea as a bench mark. They did bench mark these countries experience as mentioned in the literature review in establishment & operation of incubators, Nature and scope of business incubator support services, Key tasks of business incubator managers and partners, Promotion of business incubator services, Monitoring and evaluation of business incubator services, Assets and turnover of business incubator, Performance of Assisted Projects and Regional Impacts.

In the case of X-Hub, it tries to replicate a successful incubation and innovation HUB found in Kenya called iHUB. CIC and ICE Addis IT Consultancy PLC tried to use their prior experience from other projects they were engaged in, since most employees at management position and the owners are foreigner.

4.15. The presence of policy and Standard

All the interviewees responded that due to the newness of the concept there is no policy, procedure and standard to follow as a guideline either at establishment or in operational phases. Thus the BICs try to adopt the experience collected from other countries like South Korea, India, South Africa, Kenya etc.. and use those countries practice as bench mark.

And the lack of awareness is shown not only in the community but also within the governmental structure and offices. One interviewee from the privately owned BIC told the researcher that the concept of social enterprise is not known Ethiopia and because of that they were forced to take a business license for their BIC.

4.16. Partnership and Collaboration

"Two brains thinks better than One" Anonymous. As the quote said it well partnership and collaboration brings the best out of every operation of an organization. Thus partnering with other BICs and respective stakeholders sharing similar vision is vital for the survival of a BIC.

There are close links between universities and business incubation, dating from the first university-sponsored business incubator in 1980. Incubation remains an important means for universities to commercialize academic research and bridge the gap between academia on the one hand and the marketplace and community on the other. In much of Latin America and Asia, many successful business incubators are sponsored or operate in close partnership with universities (infoDev, 2006). Interviewees from the Universities responded that they do build partnership with other universities, governmental offices, MFIs, NGOs etc... to achieve their goal.

On the other hand private BICs collaborate with local and foreign BICs for experience sharing and NGO for fund raising. And when it comes to the governmental BICs they do collaborate and be partner with supporting governmental offices, universities and TVETs.

4.17. Other Support

Since 66.7% of the BICs owned by government directly under governmental offices or indirectly in Governmental Universities, don't seem to have a space issue. They can get space/offices for such purpose for free and don't need to rent them like the private ones. The government tries to facilitate the financial problem the tenants might face to compete in the market by linking the BICs with MFIs with better flexibility as compared to the private. In addition to that the GOV

BICs are run by the public money i.e Government covers either all or part of the budget needed to run the BICs. In the case of the NGO run BICs since they have big fund to cover seed money for the tenants there seem to be no financial problem for the incumbents to run their business. When it comes to the private BICs the interviewees responded they didn't get any support from the government and some International organizations support them financially in one or two occasions.

4.18. Advantage of the Having Different Owners

There is an advantage to having the owner they have for the BICs. The advantage could be having sufficient fund, freedom of space, flexibility etc... Based on the interviewees response the advantage they get per ownership is stated below.

Private Owner: The Interviewee response is that they do have flexibility and less bureaucratic
Government Owner: Financial access since they have government budget to run the BIC, Space acquired for free, Financial and market linkage for the tenants
NGO Owner: Financial Access and flexibility
University Owner: Space to run the Center, Financial access and financial and Industry linkage for Tenants

4.19. Challenges faced

Per the responses get from the interviewees there are internal and external challenges faced by the Incubation centers. Among the internal challenges lack of commitment from tenants and mentors, building trust and synergy, creating clear vision among stakeholders, customizing the experience of other countries to local context, project delay, ambitious business plan coming from tenants and last but not least the lack of team spirit within the tenants that leads to early dissolving of the incubated companies are few to mention.

BIC is a very expensive business. To run it sustainably it needs big capital investment for the first 5 years. Similar to BICs run in any country finance is the biggest challenge for the BICs especially for the private and government owned ones in Ethiopia. The second external challenge

mentioned by the BICs is the absence of policy and guideline towards such initiatives. There is no standard to follow for establishment, operation, M&E, etc... thus each BICs will research other countries practice and try to take what seems to fit for it. Due to this there is double effort everywhere in doing research and resource allocation. The third is especially for those who want to run the BIC in private sector for profit, there is no license in Ethiopia which can register social enterprises thus are forced to have a business license. The fourth challenge is lack of awareness on BIC and entrepreneurship in the society. Since the concept itself is new there is awareness issue among different stakeholders and organizations. The Fifth is there is neither a dedicated office responsible for such initiative nor centralized complete database for BICs. It's may be because most of them run under other organizations which makes it difficult to know their exact number, who is doing what and where they are. Having a BICs profile database is crucial to create a useful network which enable them to utilize the country or their scarce resource effectively. The other challenge mentioned by the private BICs is space. Working space is a big issue for the private BICs and is one of their major monthly expense. Since there is no governmental support system for the private BICs as they responded above their only option is to rent a space and deliver the service.

4.20. Lesson Learned and recommendation for Emerging BICs

Below are the list of the lesson the BICs mentioned they get from the process

- Before starting a BIC one need to secure a finance that at least supports the center for up to 3-5 years since BICs start to generate money after five years
- BICs need to have a well proven sustainability strategy
- BICs should operate independently instead of being as part of some organization or offices since their operation modality somehow different from other organizations.
- Introducing new idea needs time and patience thus BICs need to be patient
- They also need to be resilient
- BICs needs to have the capacity to fix problem on the spot and the management dynamism to change their model if it doesn't fit with the market demand
- BICs should work on awareness creation program to get the best resource and tenants

- BICs should build network and make partnership among themselves and also with other experienced business companies.
- The BICs need to have a close relationship with government which helps and facilitates the creation of policies and procedures to encourage such initiatives since its contribution for development is undeniable.
- Emerging BICs need have a detail plan and various strategies before going for implementation
- Emerging BICs need to know the model that works for them
- They need to expected high investment on the first phase
- They need also to be patient to learn the system first

Chapter 5 Conclusion and Recommendations

5.1.Summary of Major Findings and Conclusion

The research finding shows that 78% of the incubators focus on the IT sector which indicated there is a demand in the market which is sufficient for the companies incubated now and in the coming future. Though there is a high demand for IT products the companies need to focus also on the quality and value addition of their product or services. Since the price of IT products and services are getting lower and lower globally, and to be competent in the market they should be conscious about the production cost and time. Sometime products could be cheaper if imported than made thus BICs should check the Business feasibility critically before incubation.

The other finding shows there is a high dependency of BICs on their sponsors/owners which could be catastrophic if they don't have contingency plan in the cases of the funders wanting to withdraw at some point. In addition to that BICs should be example to the businesses they are supporting by being self-sufficient themselves.

Concerning networking and building partnership BICs seem to have short term strategic alliance with their partners rather than long term collaborating with those having common goal and may be same field of work. BICs in Ethiopia should have a network irrespective of their owner, since the network will give them strength to build their capacity through experience and resource sharing and influence the government to have supporting policy towards such initiatives.

Sustainability being the main challenge for all BICs globally most government owned (directly or indirectly) BICs in Ethiopia doesn't seem to be bother about it much. BICs should have self observing culture to identify their asset that can be commercialize to make themselves independent and sustainable.

There is an inflexibility issue when it comes to the government operating BICs per the findings of the research. Government offices should have a separate procedure to their BICs since they operate differently. If they try to enforce the governmental office procedures it may not work with the BICs environment which needs more flexibility to operate.

The research finding indicates the there is less than 50% capacity utilization of the BICs. Having more than 70% occupancy rate is recommended for BICs to survive in business. Thus BICs need to work hard in promoting their center, awareness creation.

The research finding also showed the tenants drop rate is more than 50 %. Thus BICs need to work on selecting qualified tenant and giving them proper supporting to decrease the drop rate.

5.2.Recommendation Based on Major Findings

I. Most government owned BICs including the university ones are highly dependent on government budget to operate and doesn't seem to have sustainability strategy in place . Single donor dependency is not advisable since it will lead the BICs to closure once the fund stops. Rather the BICs should come up with the plan for sustainability and the government should play the role of non financial support and monitoring.

II. BICs should be run as business without losing the social aspect. The privately owned BICs totally focused on the business aspect where as the governmental once focused on the socio economic aspect only. According to NBIA there are two core principles characterizing effective business incubation:

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

III. The research indicates the awareness level of the various stakeholders is low due to the newness of the concept itself. Thus incubation centers and responsible entities should take the initiative to design and implement an awareness creation program. The BICs need to do lots of promotion from their side also.

IV. The researcher recommend the following best practices recommended by NBIA for the success of BICs in our country. Model business incubation programs are distinguished by a commitment to incorporate industry best practices. Management and boards of incubators should strive to:

- 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

V. Tenant recruitment should follow strict procedures. According to world bank report on the five BICs run by the ICTDA project financed by WB, most BICs specially the governmental ones follow basic selection criteria. In the case of FeMSEDA, tenants will be selected and recruited by other offices. Such practices will gradually degrade the incubation standard.

VI. The government should prepare a policy and procedure to support such initiatives that could play a vital role on the development of the country. The policies and procedures should be open to the public for discussion like any other policies before implementation. The process will help the government to get useful feedback and different perspective on the subject matter.

VII. The BICs need to organize experience sharing events and knowledge sharing HUBs to learn from other's best practice. In addition to that they need to build strong network among themselves and between the tenants and the BICs.

VIII. The occupancy and graduation rate of the BICs in terms of number of tenants is minimal. The BICs should work hard to promote themselves to get the appropriate number of tenants with acceptable quality and also have a system to keep and support the tenants that will ensure higher number of graduates.

5.3.Ares for Further Study

For future study the researcher recommends other researches to study the sponsors perspective on the performance of the BICs. And as another areas of study they can pursue the tenants satisfaction on the center, how the center contribute to their success etc.. Even further study and investigation in the future (may be after five years) can be done on the socio economic impact the BICs brought for the development of our country Ethiopia.

Reference

1. An Evaluation of the Entrepreneurs' Perception of Business-Incubation Services in Kenya, by Abel Kinoti Meru and Miemie Struwig, Published: Nov 21,2011, URL: http://dx.doi.org/10.5430/ ijba.v2n4p112
2. A review of research on the role and effectiveness of business incubation for high-growth start-ups by Nicola Dee, David Gill, Robert Lacher, Finbarr Livesey and Tim Minshall, University of Cambridg, No: 2012/01, January 2012
3. Al Mubaraki H., Al Karaghouli W. & Busler M.(2010). The creation of business incubators in supporting economic developments. European, Mediterranean & MiddleEastern Conference on Information Systems 2010 (EMCIS2010)
4. Assessing the Performance of Business Incubators: Recent France Evidence by Zouhaïer M'Chirgui, Associate Professor, Euromed Management, LAREQUAD, Domaine de Luminy BP 921 - 13 288 Marseille cedex 9, France; Published: March 1, 2012: URL: http://dx.doi.org/10.5430/bmr.v1n1p62
5. Assessing the performance and Sustainability of Technology Business Incubators, by Rustam Lalkaka, 2002
6. Canadian Association of Business Incubation. (2011). Business incubation. http://www.cabi.ca/businessLincubation.php
7. Conceptualizing and Measuring Business Incubation by Daood Hamdani, Science, Innovation and Electronic Information Division (SIEID), 7-A, R.H. Coats Building, Ottawa, K1A 0T6, catalogue no. 88F0006XIE — No. 006, ISSN: 1706-8967, ISBN: 0-662-43796-9
8. European BIC Network Quality Website: http://quality.ebn.be
9. European Journal of Business and Management, ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online), Vol 4, No.10, 2012, A Comparative Study of Incubators' Landscapes in Europe and the Middle East by Dr. Hanadi AL-Mubaraki and Dr. Michael Busler, 2012
10. European Scientific Journal September 2014 /SPECIAL/ edition Vol.1 ISSN: 1857 – 7881 (Print) e - ISSN 1857- 7431, Assessing the Business Incubators' performance referring the local development in Italy by Assistant Professors Christian Corsi and Daniela Di Berardino, 2014
11. European Space Incubators Network (ESINET): http://www.esinet.eu/

12. Hanadi Mubarak Al-Mubaraki and Richard Busler, The effect of Business Incubation in Developing Countries, European Journal of Business and Innovation Research, Vol. 1, No. 1, March 2013, pp.19-25
13. Incubators in Developing Countries: Status and Development Perspective, By Elena Scaramuzzi, Info Dev Program, 2002
14. Info DEV. (2009). 'Mixed-use Incubator Handbook: A Start-up Guide for Incubator Developers'
15. InfoDev. (2005). *The InfoDev global network of business incubators.* Retrieved July 23, 2015, from http://www.infodev.org/en/Publication.6.html
16. International Journal of Business and Public Management (ISSN: 2223-6244) Vol. 2(2): 47-50, by Rajeev Aggarwal, 2011
17. Information for Development Program (InfoDev): http://www.infodev.org
18. International Association of Science Parks (IASP): http://www.iasp.ws/
19. Irwin, D and Jackson, A. (2009), ' Benchmarks for incubator workspace in Africa,' available at www.irwingrayson.com
20. Joshua Mutambi, Joseph K. Byaruhanga, Lena Trojer, and Kariko B. Buhwezi Research on the State of Business Incubation Systems in Different Countries: Lessons for Uganda: African Journal of Science, Technology, Innovation and Development, Vol.2, No.2, 2010, pp. 190 - 214.
21. Key success factors for business incubation in South Africa: the Godisa case study, by A.J. Buys and P. N. Mbewana South African Journal of Science 103, September/October 2007
22. Lalkaka, R., Ma, F.L. and Lalkaka, D. (2003). 'Rapid Growth of Business Incubation in China: Lessonsfor Developing and Restructuring Countries'. World Association of Industrial and Technological Research Organizations. Available at: http://www.waitro.org/modules/wfsection/article.php?articleid=104
23. Margaret Cullen, Andre Calitz and Len Chandler, Business Incubation in Eastern Cape: A Case Study, International Journal for Innovation Education and Research, Vol.2-05, 2014
24. McKinnon, S. and Hayhow, S. (1998). 1998 state of the business incubation industry. Athens, OH: National Business Incubation Association.

25. Measuring the performance of business incubators A critical analysis of effectiveness approaches and performance measurement systems by Johanna Vanderstraeten and Paul Matthyssens, University of Antwerp, Belgium
26. Measuring the Performance of Toronto's Business Incubators, by Geoffrey Smith, 2013
27. National Business Incubation Association (NBIA): http://www.nbia.org/
28. National Entrepreneurship Network 2013, Guideline for metrics and milestones for successful Incubator Development, Version 2
29. NBIA 2009, FAQ on Business Incubation Centers (*http://www.nbia.org/resources/business-incubation-faq*)
30. Promoting Industrial Development in Ethiopia through the establishment of Technology Business Incubation(Case Study on Basic Metal and Engineering Sector) By Aberham Genetu, 2011
31. Rajeev Aggarwal, Singhania University, Rajasthan, India Journal of US-China Public Administration, ISSN 1548-6591, June 2012, Vol. 9, No. 6, 707-717
32. Ratinho, T.,Harms, R. & Groen, A.(2013). Business incubators:(How) do they help their tenants? *New Technology Based Firms in the New Millenium,10*, 161-182.
33. Report on 'Development Study for the sustainability of the ICT Business Incubation Projects in Ethiopia: December 2009 – March 2010', by Leon Lourens (RSA) in collaboration with Rajeev Aggarwal (Rwanda) and Teshome Mergia, March 2010
34. Scaramuzzi, E. (2002). Incubators in Developing Countries: Status and Development Perspectives, InfoDev Program, Washington, DC: The World Bank.
35. Technology and Business Incubation Facility (http://www.kist.ac.rw/tbif/members.php)
36. "The European Business and Innovation Centres (BICs), European Commission, DG Regio Regional Policy, 2000
37. The Smart Guideline to Innovation Based Incubator (IBI), European Union Regional Policy, 2010
38. UK Business Incubation (UKBI): http://www.ukbi.co.uk/

Annex

Interview Questions

1. ***What is the Name of the BIC?***
2. ***When was it established/founded?***
3. ***What is the nature and specialty of the BIC?***
4. ***What is the ownership modality (GOV/NGO/University based/Private/JV)***
5. ***What is the mission and vision of the BIC?***
6. ***How is it structured as an organization/company?***
7. ***How many employees are there (permanent and temporary)?***
8. ***What is the estimate capital(initial and current)?***
9. ***How do you raise money to run the BIC?***
10. ***How do you operate?***
11. What is the incubation process you follow and what is the ideal period for incubation?
12. How do you screen your tenants??
13. What are the services you provide for the tenants and external users??
14. How do you see and rate the BICs awareness and progress in our country?
15. What is the status and progress of your BIC? How are did you go in terms of meeting your goal and BIC goal
16. Do you have a means or tool to evaluate the performance of the BIC? Tell us about it
17. How do you rate the performance of your BIC?
18. What metrics do you use to evaluate the performance of the BIC?
19. Do you have M&E system?? If so, could you tell us about the process you follow to control and evaluate the BIC?
20. Do you know any standard(Ethiopian) that you can use to evaluate BIC performance??
21. Do you bench mark other countries BICs to rate and rank your performance? if so tell us about it
22. When you compare your BIC with similar BICs where do you place your BIC and why??
23. what advantage do you get having the owner you have(private, NGO, GOV, University)??

24. Do you have a knowledge/experience sharing scheme/opportunity with other BICs??? how frequent and in what basis???
25. How do you work with other BICs(collaborate/cooperate/compete/partnership)???
26. What do you think should be the role of the government in the Process??
27. How do you describe the government support(if any) in the establishment and operation process??
28. What is your sustainability strategy???
29. What is your growth strategy?? How do you measure??
30. What is your effectiveness strategy and performance?? research commercialized/mgmt dynamics/seed capital/profitability/expansion
31. What is your impact/outreach??? enterprise created/survival rate/job created/replication of model
32. How do you rate the service provided by your BIC??
33. What was your goal in terms of impact and sustainability? revenue surplus/cost recovery/university-business link/stakeholder satisfaction/tenant satisfaction/
34. How do you rate the impact of your BIC on the community???
35. What are the challenges you faced while establishing and operating the BIC??
36. How do you pass them??
37. What are the lesson you took from the whole business incubation process??
38. What is your future plan?
39. What do you recommend for beginners?
40. Do you have any suggestion/comment/idea/ last thing to say to us?