

**INDRA GANDHI NATIONAL OPEN UNIVERSITY SCHOOL
OF CONTINUING EDUCATION**

MA THESIS

On

***Assessment of the Challenges and Prospects of
Information Communication Technology Business
Incubation Centers in Ethiopia***

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Submitted

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DECLARATION

I hereby declare that the Dissertation entitled “**ASSESSMENT OF THE CHALLENGES AND PROSPECTS OF INFORMATION COMMUNICATION TECHNOLOGY BUSINESS INCUBATION CENTERS IN ETHIOPIA**” submitted by me for the partial fulfillment of the M.A. in Rural Development to Indira Gandhi National Open University, (IGNOU) New Delhi is my own original work and has not been submitted earlier either to IGNOU or to any other institution for the fulfillment of the requirement for any course of study. I also declare that no chapter of this manuscript in whole or in part is lifted and incorporated in this report from any earlier work done by me or others.

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Acronyms

ABIC	Adama Business Incubation Centre
BBIC	Bahirdar Business Incubation Centre
BICs	Business Incubation Centers
CSES	Centre for Strategy & Evaluation Services
EICTDA	Ethiopian Information Communication Technology Development Agency
EMIS	Education Management Information System
ESA	Ethiopian Statistical Agency
EU	European Union
FGD	Focus Group Discussion
GIZ	German Development Cooperation
HBIC	Hawassa Business Incubation Centre
ICT	Information Communication Technology
ICT BICs	Information Communication Technology Business Incubation Centers
ICTAD	Information Communication Technology Assisted Development
ICR	Implementation Completion Results Report
IT	Information Technology
MBIC	Mekele Business Incubation Centre

MCIT	Ministry of Communication and Information Technology
MoE	Ministry of Education
NGOs	Non Governmental Organizations
RICTDA	Regional Information Communication Technology Development Agency
SMEs	Small & Medium Enterprises
SNNPR	South Nations Nationalities and Peoples Region
SPSS	Statistical Package for Social Scientists
TVET	Technical & Vocational Educational Training
WB	World Bank

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Abstract

Information Communication Technology (ICT) has been acknowledged by the Government as enabler for development, economic growth, and combat poverty. ICT Business Incubation Centers' were established in Ethiopia as part and parcel of poverty reduction strategy for the country in generating employment opportunities and self-employment of young youth university graduates within the country. On top of this, promoting of the private sector through support of entrepreneurial skill development has been another strategy to exploit the sector's benefit. For the country, supporting the establishment of ICT BICs is a recent beginning as the sector itself has not yet developed.

The rationale of this study was to assess the challenges and prospects of ICT BICs established in four regional national states, Ethiopia. In this study the emphasis has been given to BICs, Tenant-companies, company members, and Service users of the companies. The analysis and discussions were mainly focused on contribution of BICs, the current status, sustainability and factors affecting it, and exploring satisfaction of service users. Furthermore, the analysis of the study has incorporated the ideas, and opinions of interviewees at different level including the informant interviewees, and feedback from group discussions.

The study results reveal that with the given number of BICs employments generated and tenant-companies realized are very few, current financial position is weak, and contribution to rural development is not significant yet. The centers lack clear institutional structure and hierarchical accountability norm. The analysis of assessment of Tenant-companies result shows support from government is inadequate, access to credit is deprived which resulted for less performance in ICT services. The result of the assessment of Service Users shows there is satisfaction on the services/products provided by tenant-companies although service users recommend ideal office location for the companies.

By and large, the findings of this study demonstrate, long way to go in enabling the BICs institutionally well-built, technically efficient, structurally well-organized, and financially self-sufficient.

CHAPTER 1 INTRODUCTION

1.1 Background of the Study

ICT infrastructure development in Ethiopia is still at its infant stage though the government has started an aggressive move in promoting the sector and for further public and community use.

While the contribution of the service sector to the economy has been growing (comprising about 41%) the impact of its ICT sector remained relatively small – the ICT sector contributes less than 2% to the economy ([Lishan Adam, 2010](#)).

The ICT policy has also emphasized private sector development's role and its contribution in Research and Technology Transfer. The scope of Ethiopia's ICT policy covers knowledge and information as a tool for development & ICT as a sector or industry. Apart from being an enabler of socio-economic development, ICT also supports Ethiopia's ongoing process of democratization and good governance. Even though the private sector contribution to ICT development is limited or it is at its foundation stage, individuals and small businesses are providing services, which its contribution to employment opportunity is promising. It is obvious that the development of the economy in general and ICT in particular, critically depends on active participation of the private sector ([ICT policy, 2009](#)).

Private sector can intervene in diverse forms of ICT development, software development, dissemination of the technology, skill development within the sector, technical support, and etc. The other most important area of development is participation in the development of ICT Business Incubation for self-employment and entrepreneurship development.

Business Incubators (BIs) come in a variety of shapes and sizes in the modern economy. There are three different kinds of BIs i.e. Public, private, and university based BIs. BIs are commonly classified by ownership. Many of the BIs are attached to the universities, technical and technological institutes and management institutes. And most of them are under public

ownership and are being run as not for profit initiatives (Zablocki 2007 as indicated by [Koshy Perumal 2010](#)).

There are around 4000 various types of Business and Technology Incubators in operation in the world. The USA alone has more than 1000 incubators while in Europe there are nearly 1000. Germany alone has more than 300 incubators. Among developing countries, China is leading with about 400 incubators, India, Brazil, Korea, Malaysia and Singapore have also progressed with many a program for business incubation ([Chiranjibi, 2006](#)).

ICT infrastructure supports business activity in virtually every industry in Africa, from government to healthcare, banking, transportation, tourism, and even agriculture. The importance of developing capabilities to connect these various entities cannot be exaggerated as a priority for development. ICT incubators in Africa represent one means of facilitating the spread of these communications technologies, and are seen as a means of rapidly developing an entrepreneurial class in regions that did not previously have such a group. However, the development of ICT incubation programs requires a plan that takes into account the environment in which the incubators will operate, and assists prospective incubator managers in achieving a financially sustainable level of operations ([InfoDev, 2009](#)).

In Ethiopia, ICT Business Incubations are attached to the Ministry of Communication and Information Technology and Regional ICT Agencies; they provide the tenant-companies working spaces, coaching, and business development support until these tenants graduate within two years time after the starting.

This study has critically assessed the status, character of ICT BICs in the country and their contribution to the employment and self employment generation. Moreover, challenges and prospects of Business Incubation Centers have been assessed.

1.2 Statement of the Problem

Development of ICT Business Incubation centers is part of the support of government to develop private initiatives in the ICT sector. Strategic Medium-Term Development Program of the ICT sector portrays that the Ethiopian government recognizes that the role of the private sector in attaining the country's on-going program for sustainable development and poverty reduction.

There are several reasons for partnership with the private sector in ICT development. First, there are definite cost advantages in the use of resources, for example, inefficient utilization of scarce human capital. Second, the private sector has the potential and expertise that can be *tapped for national ICT development. Third, private investment in general and direct foreign investment in particular will result in technology transfer and contribute to the country's overall ICT development. Fourth, the involvement of the private sector will enhance implementation of ICT development initiatives including government-to-citizens business initiatives that will facilitate improvements in the provision of information to citizens and businesses in the context of the e-government initiative* (EICTDA, 2005).

ICT business Incubation or Software incubator helps in promoting and grow local capacity for software development to address both business and community development needs.

Governments the world over are giving high priority to job creation, self-employment and enterprise creation. One way of facilitating the emergence small- and medium-size information and communication technology (ICT) enterprises is business incubation. ((Makerere University of Uganda, http://www.idrc.ca/en/ev-121187-201-1-DO_TOPIC.html).

Every year numerous quantities of young IT technology graduates are emerging from different government and private universities, colleges, and TVET institutions. Accommodating this large number of educated labor force of youth graduates in government and non government organizations and private companies would not be an everlasting solution. Therefore, among various alternatives fostering the opportunities of sustainable self-employment in the ICT sector is unavoidable. In a country like Ethiopia, where major sectors (industry, agriculture and services) growth and development is at an infant stage, facilitating self-employment milieu is worthwhile. Alongside, entrepreneurial development program & strategies can nurture the enhancement of economic growth and development.

ICT BICs sustainability issue is an important emphasis of this research work, which includes acceptability of the business within the community, issue of market problem and capacity of penetrating the local market and client generation by the newly emerging start-ups within BICs. Although ICT Business Incubation is not a new start in many countries of the world, the researcher is aware with the Ethiopian context that ICT BIC is a new beginning. Attempts will be made to investigate the local efforts in promoting and developing of such entrepreneurship

scheme to adequately supplement the growth of self-employment and entrepreneurial skill for educated youth.

ICT BICs are aimed at the development of SMEs, self-employment of young university/college graduates, and entrepreneurship development. The Current Status of the ICT as a sector and ICT BICs as an element of the sector's undertaking, so far, no sufficient studies have been conducted, which can show its current clear image since it is a new start. Sustainability issues, Infrastructure, and market accessibility for the start-ups were considered as additional focus areas of this study.

In line to the stated problems, this thesis has been devoted and designed to obtain solutions/answers for the following questions.

1. What is the current situation of ICT Business Incubation in Ethiopia, and how the number of companies' scales up to ensure sustainability & contribution to rural development?
2. What multi-dimensional role is expected from ICT BICs to the educated young youth self-employment endeavor, and entrepreneurial development in the ICT sector?
3. What are the main challenges observed in disseminating the ICT BIs and its prospects for employment, entrepreneurial development, and technology dissemination?
4. What are the situation of policy environment and infrastructure facility used and needed for ICT BIs development in the country?

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study is to assess the contribution of ICT business incubations for self-employment creation of young university graduates that can foster entrepreneurial development so as to mitigate the hardships of educated unemployed labor force in the rural and urban areas of the country.

1.3.2 Specific Objectives

- To depict the status of currently functioning ICT Business Incubation Centers (ICT BICs) in the country and assess their competitiveness in the given business environment, and sustainability;
- To reveal the options of employment and self-employment opportunity for the growing number of young university graduates in the ICT sector, and its linkage and contribution towards Rural Development;
- To identify major ICT software developed by the start-up companies in each BICs in fulfilling the needs of clients and major challenges of their business;
- To recommend possible policy options for expansion of BICs and its implication in contributing to the rural development.

1.4 Significance of the Study

New Technology companies are better suited to new ideas; Technology transfer gave way to technology commercialization. Actually, the terms are often used interchangeably but the shift in focus is what became important. Generally, technology commercialization is more focused

on making sure that research or laboratory concepts are transformed into commercial products or services (Nanette, 2001).

The job market for today's graduates can be a rather cruel place. Not only are graduates competing with each other, but the recession has forced experienced workers to take demotions or go after the lower paid/entry level positions that would otherwise be going to graduates. This is likely to become much worse after the coalition has taken its axe to public sector job, and further benefit reductions could hurt those on jobseeker's allowance, already doing everything they can to try and find work (www.youngfabians.org.uk).

While the graduate labor force is growing, many graduates with tertiary diplomas and degrees are not being appointed despite the observed structural shifts in labor demand (www.commerce.uct.ac.za/.../).

In the Ethiopian context, it has been apparently revealed that aggressive development in higher education expansion and tremendous annual growth of new graduates from universities. Education Statistics of EMIS/Ministry of Education (MoE) for the last five years shows that the annual growth rate of graduates is 27.5% for undergraduate degrees and 36.9% for postgraduate degrees and this shows improved efficiency, and the likelihood of an improved labor market, (EMIS, 2010).

Nationwide data for graduates from all Programs of higher Education Institutions over the past five years is shown in the following Table.

Table 1 Graduates from all Programs of Higher Education

Year	Undergraduate Degree			Postgraduate Degree		
	Male	Female	Total	Male	Female	Total
2005/06	21240	4095	25335	1252	136	1388
2006/07	24474	5371	29845	2412	259	2671
2007/08	38048	9931	47979	2380	284	2664
2008/09	39231	16539	55770	2856	401	3257
2009/10	51300	15699	66999	4194	679	4873
AAGR	24.7	39.9	27.5	35.3	49.5	36.9

Source: Education Statistics Annual Abstract, EMIS (MoE, 2010)

This study has emphasized on ICT BICs for self-employment, ICT technology service dissemination as well as on sustaining development, and poverty reduction endeavor. Currently, the unemployment rate of young graduates is becoming a sensitive issue as unemployment and underemployment are major manifestations of the poverty situation. Sustainability and entrepreneurial development of the start-up companies are also major focuses of this study.

Moreover, the study result would enable federal and regional governments, researchers, policy makers, members of the intellect community, and expatriates grasp preliminary insights to get them doing further research in the field to promote ICT sector in general and BICs in particular, so as to develop the Small and Medium Enterprises (SME's), self-employment generation, and entrepreneurship development.

1.5 Scope and Limitations of the Study

The study shall be limited itself to four Business Incubation centers (BICs) located in four regional states of the country (Tigray, Oromia, Amhara, South Nations, Nationalities, peoples Regional States) as there is no other similar businesses established elsewhere.

ICT as a sector in general and Business Incubation in particular is a new venture in its kind for the country; as a result, getting lessons from similar studies shall not be a simple job. On top of these, an inadequacy of the locally published materials in the research area adds up the researcher's job more difficult.

Data collection and administration into four groups i.e. BICs, Tenant-companies, company members/entrepreneurs, and Service users has made the tediousness of the study and consumed more weeks than the planned time.

CHAPTER 2 LITERATURE REVIEW

2.1 Concept of ICT Business Incubation

One of the tools that have been used by many countries to successfully enhance employment and wealth creation is Business Incubation. Business incubation can be seen as 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 resources and services are developed or orchestrated by prudent incubator management offered both inside the business incubator and through its network of contacts otherwise known as virtual incubation. A business incubator's main goal is to produce successful firms that leave the program financially viable and freestanding. These incubator graduates have the potential to commercialize new technologies, revitalize neighborhoods, create jobs, and strengthen local and national economies. Business Incubation in Ethiopia has been targeted to optimize the impact of SMEs in the economy, stakeholders in the sector need to coordinate and harmonize their interventions through strategic alliances ([Leon Lourens, 2010](#)).

Leon Lourens's study further shows that the ICT Business Incubations are intended mainly to foster the direct participation of the private sector in all ICT related aspects by creating opportunities for their growth in the ICT sector. Participation of the private sector in this new venture could bring differences in development of ICT sector and entrepreneurship, which are ladders of growth and development.

Business Incubators nurture the development of entrepreneurial companies helping them survive and grow during the start-up period, when they are most vulnerable. These programs provide their client companies with business support services and resources tailored to young

firms. 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 Incubators Website, USA, 2006](#)).

In the IT-led global knowledge village, there is a seamless potential for study, earning a degree and education outside of the college campuses Virtual campuses are the reality today. What are needed then would be centers for imparting practical lessons on commercializing the knowledge, innovative ideas, and technical skills. Also it is important to impart real training in starting, managing making profit and pursuing the growth of enterprise & ventures that a youth entrepreneur could launch. In the knowledge economy, business Incubations can be real learning centers. Business Incubators foster the growth of Entrepreneurial companies, helping them continues to stay alive and grow during the initial period ([Koshy, 2010](#)).

Job creation is a global challenge. In this context, Business Incubation can contribute in building youth entrepreneurship and youth owned companies so as to create employment opportunities in the local market, within the neighborhood economy. Building youth owned enterprises is critical to innovation. Creation of jobs for the growing population can be addressed only by developing youth entrepreneurship as they could probably grasp global market dynamics and provide better enterprise leadership ([Koshy, 2010](#)).

Koshy (2010), illustrated the contribution of business incubation for employment generation in the local market as follows, "Job creation is a global challenge, in this context, BIs can contribute in building youth entrepreneurship and youth owned companies so as to create employment opportunities in the local market, within the neighboring economy. Building *youth*

owned enterprises is critical to innovation. Creation of jobs for the growing population can be addressed only by developing youth entrepreneurship as they could probably grasp global market dynamics and provide better enterprise leadership.” It also substantiates the youth’s competitiveness, efficiency and innovativeness, however, youth who come out from the academic world need to be empowered for being self employed, to start new ventures and commercialize their knowledge. Business Incubators are also tools for Small Medium Enterprises (SME) development.

ICT nowadays has been used in different parts of the world to bridge the gap between the rich and the poor and the urban and rural community in terms of technology changes and development initiatives especially for the purpose of information seeking ([Shaffril, 2009](#)).

It has become evident that this revolutionary expansion of communications technology can provide some of the most sophisticated forms of telecommunications access to people who would otherwise have no means of communicating to the rest of the world. It is also relatively inexpensive, once the infrastructure is in place it facilitates distance learning, remote support of all kinds, and the ability to share knowledge and skills. For Africa, ICT represents a game changing new aspect in economic development because areas once considered too undeveloped to embrace technology, suddenly are capable of receiving information and program content that can educate, and help them achieve a level of knowledge competitive with other parts of the world. For the incubation industry, this means that small companies in incubators can order parts, communicate with their suppliers, seek investors, be counseled by advisors, advertise their products and services, and in general, avail themselves of much of the same kinds of technical support as SMEs in the United States, France, or China ([infoDev, 2009](#)).

2.2 Definition and Historical Development of ICT BICs

2.2.1 Global Situation

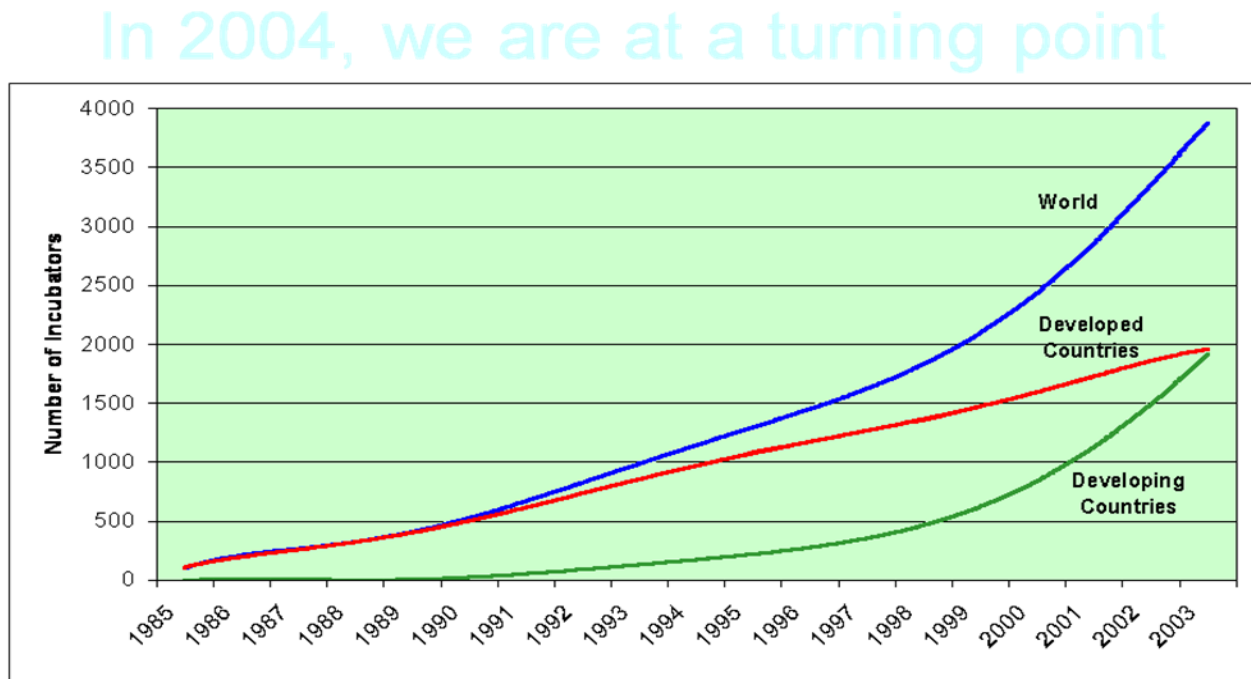
Business incubation (BI) is based on the philosophy that entrepreneurs can thrive when they are surrounded by fellow entrepreneurs, guidance and support of business experts and others who understand the start-up process. BI programs can support the entrepreneurs and small enterprises by providing a proper ladder to technology-led start-ups as they move out of prototyping and into production. Like an incubator machine that provides essential temperature & environment to hatch chickens from eggs, the incubation centre supports fresh entrepreneurs who have innovative ideas but lack overall knowledge & resources to run the enterprise and develops the enterprise to be successful in future by providing hand in hand in its growth ([Chiranjibi, 2006](#)).

Business Incubators are businesses aiming at nurturing and establishing other businesses. They are considered to be an excellent tool for small and micro Enterprises (SMEs) development. Targeted assistance at small entrepreneurs and start-ups business- help them grow and graduate to mature enterprises. According to ILO, 2009 estimate 300 million jobs have to be created world over in the next 5 years. As many as 45 million young people enter the job market annually at a global level ([Koshy, 2010](#)).

Business incubation has evolved in the last 30 years from experiences with the earlier industrial estates and small enterprise service centers. The 'first generation' incubators in the 1980s were essentially offering affordable space and shared facilities to carefully selected entrepreneurial groups. In the 1990s the need was recognized for supplementing the work space with counseling, skills enhancement and networking services to access professional support and

seed capital, for tenants within the facility and affiliates outside. This has led to the 'second generation' incubator, although many in the developing countries are still stuck in the original mode. Starting in 1998, a new incubation model emerged in parallel. This is intended to mobilize ICT and provide a convergence of support, towards creating growth-potential, tech-based ventures (Rustam Lalkaka, 2001).

Figure 1 Growth trend of number of Incubators in the world



There will soon be more incubators in
developing countries than in developed ones

Source: Dinyar Lalkaka, Key concepts in Business Incubation, Addis Ababa, March 2003.

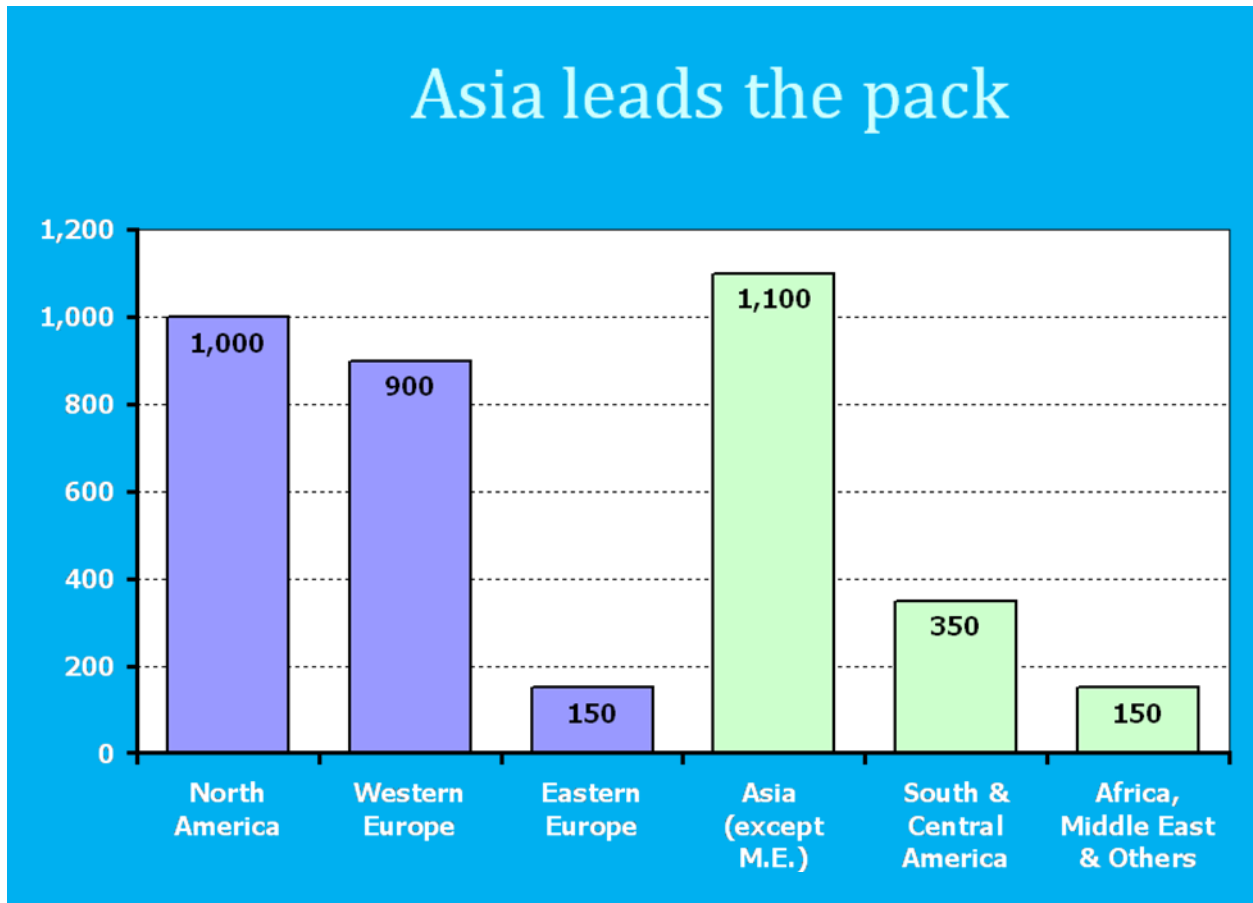
The business Incubation concept provides a method for developing successful small companies that will create employment, pay tax, purchase goods and services on the local market and in general, cause more dollars to flow through the economy. The ICT incubator is intended to assist start-up companies by accelerating their development and reducing those barriers by

providing secure, reasonably priced office space in addition to badly needed services, and referrals to sources of capital (InfoDev, 2009).

Business incubation is a business support process that accelerates the successful development of start-up and fledging 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 contracts. 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. Critical to the definition of an incubator is the provision of management guidance, technical assistance and consulting tailored to young growing companies. Incubators usually also provide clients access to appropriate rental space and flexible leases, shared basic business services and equipment, technology support services and assistance in obtaining the financing necessary for company growth (<http://www.svbic.com>).

Regarding the current status of Business Incubation Centers worldwide, Dinyar Lalkaka (2003) has indicated as is seen in Graph 2. And his conclusion statement about the business incubation development at present and future prospect is that "Asia leads the pack".

Figure 2 Global Status of BI



Source: Dinyar Lalkaka, Key concepts in Business Incubation, Addis Ababa, March 2003.

2.2.2 ICT Business Incubation in the Ethiopian Context: A highlight

The ICT sector in Ethiopia is at an embryonic stage. Even though the sector is undeveloped and small at present, it promises to be a dynamic and fast-growing sector outpacing all other sectors of the Ethiopian economy in the not-too-distant future. The government is taking appropriate measures to enhance its growth, among other things, by encouraging investment in the sector with focus on infrastructure and human resources development (EICTDA, 2005).

The genesis of ICT business Incubation in Ethiopia is the launching of ICT Assisted Development Project. The project's major development objective was to increase the use of information and communication Technology by communities in project Target Areas (EICTDA/ICTAD, 2010).

Within the broad objective of ICT Assisted Development Project, Business Incubation Program intended to help start-ups and entrepreneurs in ICT related businesses to transform their potentially valuable ideas into marketable products, applications, and services, so as to contribute to the economic development of the country. These ICT incubators can combine a number of new concepts in technological capacity building for sustainable development (EICTDA-ICTAD, 2010).

ICT BIC, primarily established in the country's Northern part region i.e. Tigray-Mekele. Upon its establishment the number of start-up companies formed by the centre was five. These start-up companies were formed to provide services like software development, internet service, Computer training, networking, and maintenance of IT equipment. Following the establishment of Mekele BIC the remaining three bigger regions established their own ICT business Incubation in their regional capital city (Amhara in Bahirdar, Oromia in Nazareth, Southern Nations Nationalities and Peoples (SNNP) in Hawassa).

Hitherto, 35 companies have been organized and started businesses of their own within the premises of these four ICT BICs. Most of these companies are engaged in similar technology activities including computer refurbishment, Geospatial information technology service provision, Multimedia & promotion, software development, provision of short term trainings, computer maintenance, material package designs, logos, fliers, webpage development, etc.

In Ethiopia, ICT BICs are new ventures. Despite the current situation nationwide, significant growth trend in technology youth graduates from universities & colleges, the magnitude of the sector's coverage in accommodating these large educated youth and expansion at this stage does not seem aggressively advancing. However, concern of the federal and regional governments in bringing visible change in the ICT sector in general is observed while the researcher was conducting a field survey and informant interviews conducted with government officials.

CHAPTER 3 RESEARCH METHODOLOGY

3.1 Design of the study and sample selection

3.1.1 The Study Areas

The Study areas were selected based on the location of BICs functional places, these sites were located two in the north (Amhara and Tigray regions), one in the central area of the country (Oromia Region), and the fourth one in Southern Nations Nationalities and Peoples Regional (SNNPR) State. Currently, total numbers of start-up companies in these four BICs were 35, where as in all centers total number of company members/entrepreneurs was 92. Major Service users (Beneficiaries) were individuals, private sector, Government institutions and Non Governmental Organizations (NGOs).

Major services ICT BICs offer to the start-up companies until they graduate within a period of 2-3 years were: provision of office equipment, broad band internet access, secretarial services, business advisory services, loan facilitation, training on business planning, marketing, facilitation of trade license, and others.

In parallel, these companies/tenants render services like webpage development, Software development, data base management, Computer networking and computer servicing, PC maintenance and training, Computer Refurbishment, Multimedia development, Geo-spatial Information Technology Services Software gallery, etc.

3.1.2 Sampling

Population size of companies (start-ups) in the four ICT BICs was 35. As long as the tenant companies' size is below 50, i.e. 35, the questionnaire encompassed the whole population to receive responses by conducting questionnaire interviews.

Members/shareholders of the start-ups, the total population size of company members/entrepreneurs was confirmed 92 youth graduates from universities & colleges for this section 50% of the total population i.e. 46 interviewees were randomly selected from each company. Stratified sampling technique was applied for company beneficiaries/service users of the companies. Particularly stratification for company service users was mainly based on type of institution i.e. government organization, private companies, NGOs, and individuals.

3.1.3 Data Types and Data Collection Tools

Data collection was structured in two ways, primary data collection method and Secondary data collection method.

3.1.3.1 Primary Data

Data tools used for the purpose of primary data collection were: Questionnaires, In-depth interview with key informants, group discussions and tenant-company best scenario case study.

Standardized **questionnaires** were prepared regarding this study at four levels: first for ICT BICs, *secondly* for Companies/tenants, *thirdly* for Entrepreneurs/company shareholders, and *fourthly*, for beneficiaries/service users' questionnaire. These questionnaires had covered all developmental and socio-economic situations of the ICT BICs, tenant's role, entrepreneurs/member's role, and service user's satisfaction or complaints. Moreover, the

companies' business status, how they started, how income was generated, market situation for their business, problems encountered, future prospects and challenges were all thoroughly covered to support the researcher's findings in order to substantiate this study.

Group Discussion, Participants of the group discussions incorporated BICs managers, business development officers, company members/entrepreneurs. The major aim of this discussion was on two issues, the first one is to get a general overview of the policy and business environment to run BICs in the country, secondly to clarify the objectives of the research in the study areas preceding to collection of actual data and so as to avoid misunderstandings about the research work, if any. Prior to the field trip, a thematic issue for initiating the discussion was prepared by the researcher and distributed. Eventually, the group discussion was conducted with ICT BICs' managers, business development officers, tenant/company representatives, and shareholders/entrepreneurs in all the centers visited.

Informant Interview: To get an over view judgment of government's future plan in relation to the ICT BICs scale up strategy within the premises of ICT sector development holding discussions were chosen. These discussions were conducted with responsible government officials (the key informants/resource-persons for the study of BICs in the country) at the Ministry of Communication and Information Technology (MCIT), Regional ICT Development Agency, and German development cooperation (GIZ) expert.

Assessment & Observation of a Case on Best Scenarios: a case assessment was also employed as a method of data collection, mainly to conduct in-depth case studies on successful companies about their business venture and factors contributing to their success. For this

purpose, Mekele BIC is selected where one of its companies named “YAYBE IT Solutions” Tenant Company in the field of software development achieved the best successes ever seen since ICT BICs have been established in the country. Companies detail biography and success histories have been examined and presented in this thesis.

The researcher’s self direct and personal observations in the study areas have added up significant contributions to the study. Observations while data was collected, interviews conducted, and the discussions held were considered to be very essential elements to differentiate the biased information from the accurate ones.

3.1.3.2 Secondary Data

Secondary data was collected and reviewed from different sources at different levels. It was very difficult to get adequate secondary data as these BI centers were short life of operations. However, important data were collected from ICT BICs, Regional ICT Development Agencies, Ministry of Communication & Information Technology, universities and colleges, Central Statistical Agency, Ministry of Finance and Economic Development (MoFED), relevant associations and unions. This will help in getting reliable verifications to substantiate the research work.

3.1. 4 Data processing & Methods of Analysis

The data gathered from the study area was coded and arranged into sub-topics. The data and information are encoded in the computer using SPSS version 13 software for clearing and analysis. Both qualitative and quantitative data was included. Inline to quantitative data numerical values were considered. For instance, type of services provided by the companies,

income and expenses generated by the companies, number of service users and type of services frequently required by institutions/individuals.

Statistical techniques (calculations) such as percentages, cross tabulations, have been used in data analysis. Some of the qualitative information gathered using interview schedules and information filled in open ended questionnaires were constructed coherently with the subject matter and analyzed.

In line with the research objectives and research questions, the analyses of data were shown on tables and figures.

CHAPTER 4 RESULTS AND DISCUSSION

4.1 Introduction

The study areas comprise four major regional cities where ICT BICs were established and functioning. The establishment of these four centres was initiated by the Government of Ethiopia under the then Ethiopian ICT Development Agency through its project ICT assisted Development (ICTAD) Project.

The objective of the BIC program was to create opportunities for technology micro entrepreneurs to test their business ideas and develop viable businesses. Each incubator company would provide technology, space, technical and entrepreneurial support to private companies, usually the start-ups (ICR-ICTAD, 2010).

The ICT Business Incubation Centres were located in Four Regional states of the country i.e. Oromia-Adama, SNNPR-Hawassa, Amhara-Bahirdar, and Tigray-Mekele. For the purpose of this study, questionnaires were developed and distributed to BICs' Managers as they were representing the overall responsibilities, roles and general activities of their respective centres. The following is a summarized description of the centres to highlight the overview of the study areas.

4.1.1 Description of the Study Areas

4.1.1.1 Adama

Adama (Nazareth) is a city located towards east 90 Kms from Addis Ababa. It is one of the busiest cities in the country. Until late 2005 it was delineated as a capital city for Oromia

Regional state (the largest regional state of the country). Several industries and factories are found in the area, the two biggest sugar companies (Metehara & Wonji) are located in the region. Luxurious hotels and recreational sites are also available nearby, for instance, Sodere, the biggest hot spring, significantly appreciated by many local and foreign visitors, is very close to Adama. Universities, colleges (private & public owned) research centres are located within the city limit. Currently, Adama is a city for Eastern Shoa Zonal administration. The total population of the city was estimated to be 260,000 as indicated in the census of 2007 report of the Central Statistical Agency of Ethiopia (CSA, 2007).

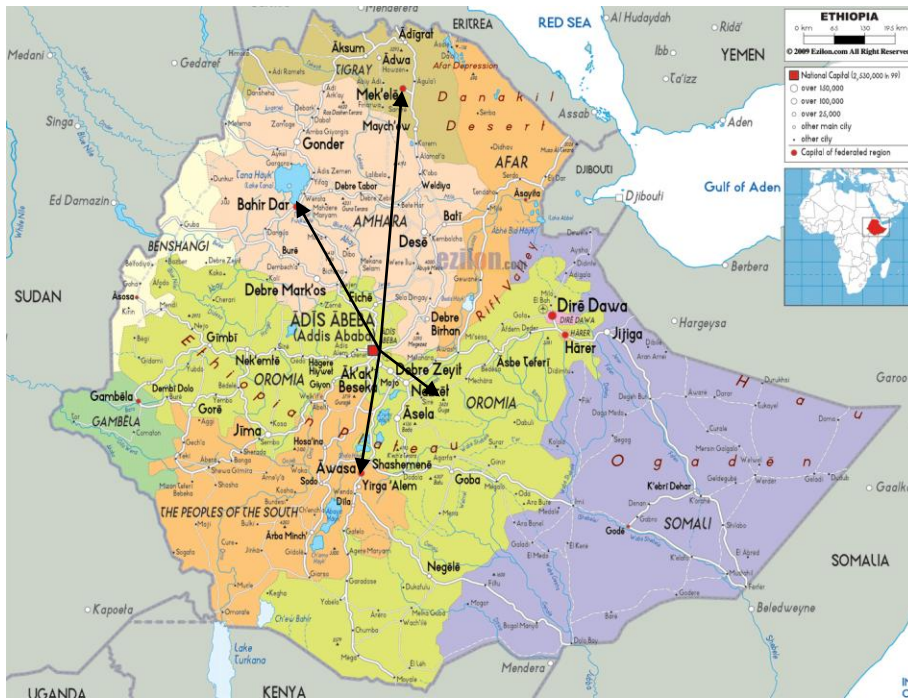
Adama Business Incubation Centre (ABIC) was established in May 2009. The number of tenants/companies registered under Adama BIC was 4, running their businesses in different ICT disciplines like webpage and software development, networking, basic computer training, secretarial services, and etc.

4.1.1.2 Hawassa

Hawassa is the capital city both for the Southern Nations Nationalities and Peoples Regional state (SNNPR) and Sidama Zonal Administration, located at 270 kms south of Addis Ababa on the main high way to Kenya. Hawassa is also a fast growing and beautiful city, which attracts many visitors, investors and entrepreneurs nationwide. One of the biggest universities, Hawassa University and other private colleges are also located found in the city. Big garment industry and other factories are established in and around Hawassa, which is also one of the most coffee growing areas of the country. The Population size of the city was estimated to be 200,400 (CSA, 2007).

Hawassa Business Incubation Centre (HBIC) was established in June 2009 with the consent of the Regional Government and the then Ethiopian ICT Development Agency. The centre was fully furnished, centre manager and business development officer were hired to effectively run the centre and recruit tenants/companies who seek to join the centre by fulfilling the criteria set. Based up on the recruitment criteria the centre so far had formed 9 tenant-companies working in different ICT businesses activities.

Figure 3 Ethiopian Map showing the study area (located by white arrows)



Source: <http://www.ezilon.com/maps/africa/ethiopia-maps.html>,2011

Destinations of arrows on the above map show the location of the study areas, the paths of arrows cross each other at Addis Ababa, capital city of the country. Nazret and Awasa on the Map are previous names of the cities and still are used by local people as alternative names both for Adama & Hawassa respectively.

4.1.1.3 Bahirdar

Bahirdar is a city located north-west of Ethiopia at a distance of 650 kms from Addis Ababa and on the off-shore of Lake Tana, which is the source of Blue Nile. Bahirdar City is the capital city of Amhara Regional State and is also one of the largest cities of Ethiopia having a population size of 170, 000 (CSA, 2007). Similar to other big cities, universities, colleges, big industries including garment factories, research stations, and several private business and public institutions are found in Bahirdar. It is one of the busiest and promising cities of the country.

Likewise, with the consent of Amhara Regional government Capacity Building Bureau, Bahirdar ICT BIC was established in October 2009. Staffs were employed to run the centre, including centre manager, development and finance officers as well as the other support staff members. The peculiarity of this incubation centre was having its own two floor large building, furnished rooms, assembly hall and sufficient rooms for rent to accommodate additional new start up tenants/companies. So far, 10 tenant/companies were organized under the support of Bahirdar BIC and provide services in ICT related disciplines. The centre has few successful companies with adequate capital and market for their services.

4.1.1.4 Mekele

Mekele is the capital city of Tigray Regional state located to the North of the country 780 kms away from Addis Ababa. In Mekele numerous giant industries like cement factory, private business institutions and government organizations are set up. Universities,

colleges, technology institutes, research centres are also established in the city. The estimated total population of the city is 261, 200 (CSA, 2007).

Mekele Business Incubation Centre (MBIC) was established in January 2008 and was the first in Ethiopia. The experience of MBIC at Mekele opened rooms for the other three centres (Adama, Hawassa, and Bahirdar). Following its establishment, tenants were recruited; the recruitment was emphasized on university technology graduates to join the centre. Number of tenants registered at the initial stage was 5, but gradually the number has increased. Currently, 10 tenants/companies are operating at Mekele.

The researcher has visited and observed directly all four BICs while the questionnaire interviews, group discussions, and informant interviews with respective officials in the sector were conducted.

4.1.2 Practices in Data Collection

The result and discussion of this thesis is classified into seven major parts:- (1) Business Incubation Centres, (2) Clients or Tenant companies, (3) Company members/entrepreneurs, (4) Service users/beneficiaries of the tenant companies, (5) Group Discussion (6) Informant interviews, and (7) Case on best scenario of one Tenant-Company.

Number of ICT Business Incubation Centres provided with the interview questionnaires were 4, all have responded to the questionnaires.

Tenant Companies, of the total reachable interviewees 35 tenant companies (Adama 4, Hawassa 9, Bhirdar 12, Mekele 10), among which 27 companies have submitted the questionnaire, which was 80% of the active response rate.

Entrepreneurs or Tenant Company Members interview has been planned to be conducted for at least half the number of each company members, which were estimated to be 46; however, the number of respondents who returned the questionnaires were 38, which is 88% of the required number.

Service users/beneficiaries of tenant company incorporated in the study were stratified into four groups i.e. government institutions 10, individuals 7, private companies 20, and NGOs 8. Selection of the institutions and questionnaire respondents was made by the centres' Business Developer officers in collaboration with the researcher from their customers' data record source. The total number of respondents of service users/beneficiaries was 45. All intended interviewees had filled out the questionnaires.

Group Discussion was conducted in each ICT BIC and participants were staff members of each BIC, tenants, and service users (the list of Group Discussion participants and summary of results has been shown in the Appendix part of this study). There was no issuance of prior notification of minimum and maximum number of group discussion participants; it was open for all who were interested to participate. Group discussions were mediated by respective BICs managers, except in Bahirdar where the business developer was delegated for this responsibility. Prior to the group discussions implementation, the thematic issues were identified and sent to each BIC by the researcher two weeks earlier for the convenience of the discussion, as well as, to add any other relevant issues by the centres.

Informant interviews have also been conducted for Federal and regional ICT agency officials to gather the opinion of respective officials and identify government strategies fostering ICT and ICT BICs. Four Informant interviewees were selected by the researcher. These were two

regional ICT agency heads (SNNPR State and Amhara Regional State), Private sector development directorate of the MCIT, and one technical assistant (TA) expert with the MCIT from GIZ (German Development Cooperation).

The **Case Study-best scenario** was conducted in MBIC, YAYBE ICT Solutions Company to explore their experience through providing separate interview questions to the company manager. This particular study was intended to draw lessons as to how the company become successful in its endeavour of developing ICT software and data management systems and promote its products to sustain the business being the centre's tenant (until it will graduate).

4.2 Assessments of the Status of ICT BICs

Business incubators are *facilities* which accelerate the successful development of *entrepreneurial startup companies* by providing them with an array of *business support services*, coordinated by *incubator management*, and provided both in the incubator and through its *network of contacts* (Dinyar Lalkaka, 2003).

In the Ethiopian context these four ICT BICs were established to provide the aforementioned services to the start-up companies in the ICT area. The World Bank Implementation Completion Results Report (ICR) of ICTAD project in Ethiopia described that each BIC would provide technology, space, technical and entrepreneurial support to private companies (ICR, 2010).

The number of client-companies at each centre during establishment and at the time this study had conducted showed discrepancies. The current number of companies is lesser

than the figure shown when the companies were established except for Mekele where the figure has doubled from 5 at the beginning to 10 companies at present. Similarly, for the other three centres an increasing trend was expected, however, observation of the researcher had confirmed a declining trend (Table 2).

The proportion of gender combination in each company has also been shown; among 92 company members female accounted for 23% of the total.

Pertaining to the share of tenant-company numbers, Bahirdar has the largest number of companies share i.e. 34%, whereas Adama was the lowest in number of tenant-companies, only 11% of the total. On the other hand, the number of company members was greater in Mekele ICT BIC than others, comprising about 46% of the total. When the centres were treated individually the female ratio of the tenant-company members was bigger in Adama and followed by Mekele BIC (Table 2).

Table 2 Current Status of the Business Incubation Centers

Name of the Centre	No of companies/tenants				No of entrepreneurs in each tenant				
	(a) starting	%	(b) present	(c)%	(d)male	(e)female	(f)Female %age	(g)total (d)+(e)	(h)%age of each centre
Adama	7	19	4	11	2	4	200	6	7
Hawassa	12	32	9	26	18	1	6	19	21
Bahirdar	13	35	12	34	21	4	19	25	27
Mekele	5	14	10	29	34	8	24	42	46
Total	37	100	35	100	75	17	23	92	100

Source: compiled from the field survey data.

4.2.1 BICs Services and Support to Tenant-companies

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](#)). This implies that universities are where researches are conducted extensively and new technologies are invented, therefore, it would be an ideal working places and suitable environment to pursue and grow Business Incubations.

In Ethiopia, ICT BICs were established by the Federal Government support through Information Communication Technology Assisted Development (ICTAD) Project under the then EICTDA and eventually transferred to Regional ICT Agencies. After establishing the centers in selected major four cities staffs were hired including center manager, business development officer, finance officer and support staff to fully make the centers operational ([ICTAD, 2010](#)).

With regard to legal registration of business incubation centers the interviewees' response showed that 75% of them replied not registered although one respondent answered that the center had registered. Majority of the centers who answered for no registration stated that registering by the respective regional government is necessary to encourage them for better attracting the start-up companies (tenants) as a mother institution. The BICs'

existence power of influencing clients should be backed by government strong support measures like get recognition as a legal entity sue and be sued. Basically, replies of the respondents while the study conducted portrayed that registration as a legal entity for them impacts not only centers themselves it further enhances the tenant companies maturity and confidence in sustaining their business.

As was indicated by [Deborah & T.McNamara \(1994\)](#), the rationale for ICT BICs' establishments was that incubators provide a shared facility for start-up and young firms. Firms enter incubator as tenants, spend a period of time within the facility, and then graduate when the business is viable and can be competitive in the market.

In this study, Centres' manager response indicated that the start ups in all centers were found technology graduates, these companies solely focus on similar field i.e. in the development of ICT sector services and produces. In all study areas, a number of government institutions, private companies and civic associations have been using the tenant companies product and services. Particularly, software & webpage development data base management, basic computer training services.

Interviews with center managers indicated that most service users had witnessed best for tenant companies produces and services although all companies were not progressing at a similar footing due to several reasons such as unavailable fund. On the other hand, it was indicated that activities like basic computer training and secretarial services are better manageable than software development activities as the later requires more time and fund until its produce gets to market.

A true business incubator provides shared office support and management consulting services, shared office support typically involves access to a copier, secretarial services, Fax machine, telephones and receptionist services with costs included in rent or on a fee-for-service basis ([Deborah & T.McNamara, 1994](#)).

The BIC centers in the study area similarly provide such services, Adama's Bic major support area to the tenant companies are found space/office provision, training, management support, where as secretarial services are on a fee-for-service basis. Similarly, Hawassa also provides services like space provision, training, management support, consultancies. Bahirdar and Mekele BICs provide office space, training, managerial support, consultancies and secretarial services. As some tenants were new beginners and face financial shortages, it was difficult to pay rent currently for the space. Facilitation of credit from bank and micro finance institutions is necessary to advance start-up companies career. Response of Centre managers in all areas showed that the companies did not fulfill collaterals required by financial institutions to get accessed to credit as they were new start ups. This situation is highly hindering the expansion and scale up of number of BICs and tenant companies.

[Dinyar Lalkaka \(2003\)](#) accentuated that Incubators emphasize the synergy of work space, services and access to capital, and serve small start-up firms. Since ICT firms in Ethiopia are small and need of assistance with more than just workspace, he recommended it would be appropriate to begin by first establishing an ICT business incubator. However, the reality on the ground is different because access to capital and credit by ICT BICs and new startup

companies is nearly impossible. During the initial period the establishment cost, office equipment & materials had been provided by the government (ICTAD ICR, 2010).

4.2.2 Tenants' stay-period

Stay-period is-time the tenant-companies spent in the BIC until they get self-sufficient and stand on their feet benefiting office space, internet services including secretarial services and managerial support.

Responses from each Centre manager show, tenant-companies staying period in the centre is one and half year for Adama and Hawassa, where as 2 years for Bahirdar and Mekele BICs, the period is same for all types of ICT business companies under operation (Table 3).

Experience of the rest of the world shows stay-period of tenant companies vary from 2-5 years. A study conducted by Benjamins stated that the average incubation time is 2.63 years (Benjamins, 2009). Client firms must leave incubator in finite period, i.e. 2-5 years (Tessema, 2007). Companies permitted for a period of 36 months, furthermore permit companies to extend their stay for a maximum period of another 24 months (Koshy, 2010).

The interviewees response with regard to stay period of tenant-company showed that two respondents answered for "yes" means the period is uniformly the same, while the other two answered for "no" means not uniform, stay period is different (Table 3).

Table 3 Duration of stay for Tenant-companies

Variable	Respondents	Percent	Cumulative Percent
Yes	2	50.0	50.0
No	2	50.0	100.0
Total	4	100.0	

Source: Computed from survey Data.

In all four centers, it was verified that no start-up company/tenant has graduated as of the date the interview conducted, however, there are some companies approaching towards graduation (Bhirdar, Mekele). The assessment showed that for a tenant leaving the incubation center at earlier stage was difficult because services they get from the center stops immediately. In relation to this the InfoDev study stated that client company entrepreneurs may also find that the incubator's internal network which served them while they were clients is no longer available once they graduate and it can make the decision to leave the facility a difficult one (infoDev, 2009).

Strategic Approaches and Major software developed

With regard to the strategic approaches followed by BICs in organizing tenant-companies, the interviewees' response showed that two approaches were exercised, pre-set criteria and uniqueness of the project. Among the respondents 50% of them answered pre-set criteria was used for selection and the rest 50% answered that they applied both approaches i.e. pre-set criteria and uniqueness of the project the individuals may have (Table 4).

Table 4 Strategic approach to form tenant-companies

Variable	Respondents	Percent	Cumulative Percent
PRE-SET CRITERIA FOR SELECTION	2	50.0	50.0
Pre-set Criteria & uniqueness of project idea	2	50.0	100.0
Total	4	100.0	

Source: Computed from field survey data

BICs representatives' interview result regarding software developed in each center showed that in Adama Companies developed social affairs management system for kebele administration and website development. Tenant companies in Bahirdar also developed hotel management system, human resources data management, and cooperative management system. In Hawassa the companies developed TVET registration software and Management Information System (MIS). And at Mekele the tenant-companies developed billing system for supplies, database management for schools and universities (Table 5).

Table 5 Software developed by start-up companies * BICs Cross tabulation

Software developed by start-ups	NAME OF THE CENTER				Total
	Adama	Bahirdar	Hawassa	Mekele	
Billing system for Supplies, Database mgt for schools/univer	0	0	0	1	1
Hotel mgt system, HR, Copve mgt, Inventorymgt system	0	1	0	0	1
social affairs mgt for kebele Admin, Website development	1	0	0	0	1
TVET Registration, BIC MIS	0	0	1	0	1
Total	1	1	1	1	4

Source: Computed from survey data

4.2.3 Administration Arrangement and Governance

The Centers representatives' respondents indicate that accountability of the centers' were to respective Regional ICT Agency Bureaus except Mekele BIC, which was accountable to the Regional Capacity Building Bureau (Table 6).

Table6 BICs Accountability status.

Variable	Respondents	Percent	Cumulative
ICT Agency	3	75	50
Capacity Building Bureau	1	25	100
Total	4	100	

Source: Computed from survey data

The respondents' views regarding supports to BICs were financial, material, IT equipment such as computer and office equipment including technical supports provision from the then federal ICT Agency through ICTAD project. The ICTAD project completion Report also substantiated the respondents view together with short-term trainings (local & abroad) on relevant fields ([ICTAD, 2010](#)).

With regard to the business incubation support a study conducted by Centre for Strategy & Evaluation Services states that business Incubations are more likely to succeed if they are supported by a broadly-based partnership of public and private sector sponsors. In particular, the capacity to leverage private sector inputs, whether this is in the form of finance or other types of support (e.g. expertise, access to facilities, corporate venturing) is critical ([CSES, EU 2002](#)).

4.2.4 Sustainability and Contribution to Development

ICT BIC has a magnificent multi-dimensional contribution in facilitating the enhancements of development of all sectors in the economy. This was indicated by Anita on the study about the Role of ICT in Governing Rural Development, “the role of ICT is catalytic in the complex task of poverty reduction by leveraging the effects on earnings opportunities, on educational and health services, on good governance and on promoting democracy (Anita 2005).

Pertaining to the sustainability issues, among four BIC respondents’ two of them were indifferent about the future sustainability of BICs. But the other two were answered “Yes” that sustainability would be ensured (Table7). Provided proper promotion work implemented, entrepreneurship development enhanced and demand for ICT was growing, and government support persists.

Table7 Sustainability of business Incubator

Variable	Respondents	Percent	Cumulative Percent
Yes	2	50.0	50.0
Indifferent	2	50.0	100.0
Total	4	100.0	

Source: Computed from study Data.

Awareness of the community and the public at large was observed as one factor for sustainability. In relation to the situation of community awareness about the advantages, objectives, roles and functions of ICT BICs showed that 3 respondents answered awareness level was low, while one respondent replied the level of awareness was medium (Table 8). The majority of the interviewees answered awareness created among the community was

low; this indication elucidated among others lesser awareness level have an effect on sustainability.

Table 8 Level of community awareness

Variable	Respondent	Percent	Cumulative Percent
Low	3	75.0	75.0
Medium	1	25.0	100.0
Total	4	100.0	

Source: computed from survey data.

About the sustainable Business Incubation, Koshy stated that Business incubator can function on a sustainable basis and serve society, economy and communities in creating employment opportunities, building sustainable eco-focused enterprises and thereby alleviate poverty and promote and assist in building a thriving small and Micro Enterprise sector (Koshy, 2010).

4.2.4.1 Policy and Infrastructure Status

ICT services need the infrastructure development of an area as a priority for the exploitation of its services and uses. Mainly, telecommunication services and internet accesses, power supply, roads, etc. A study on Small business Incubation and its prospects in India highlighted about the need for infrastructure that good roads, transportation links, communications networks, and IT infrastructure are key underpinnings to successful incubation (DrewTulchin, 2008).

The study areas' infrastructural situation was relatively seem in a better condition to carry out ICT activities and related services; however, all BICs were complaining about frequent

power failure and internet & telecommunication connection problems. The problems observed impacts not only the BICs, it obstructed the start-up or tenant-companies overall activities, as the activities of ICT are interconnected with infrastructural support, particularly power and telecommunication supplies.

The observation on field and discussion with BICs managers indicated that the prevalent infrastructural situation resulted in delays of services and product delivery, which in turn caused for service payments to delay and customers dissatisfaction. Relevant studies critically substantiated the importance of infrastructure, for instance in a study about small business Incubation and its prospects in India, this concern was underlined that “without good infrastructure, entrepreneurs cannot operate or sell competitively” (Drew Tulchin , 2008).

The National ICT Policy and Strategy of the Ethiopian Government indicated that Ethiopia shall equip itself with the requisite and integrated infrastructures such as power and communications networks, which constitute a crucial role for the penetration and development of ICT everywhere, the country needs modern and efficient infrastructure to optimize the benefits provided by ICT” (ICT policy, 2009).

This portrays government’s commitment and dedication to enhance ICT infrastructure throughout the country that could combat the current setback and helps to minimize the prevailing problems observed.

By and large, the BICs interviewees feared that the prevailing interruption of power & network problems could come up with BICs & companies’ ineffective & inefficient performances, which eventually contributes to irrevocable failure of their businesses. So, as

it has been stated on the National Policy document modern and efficient infrastructure optimization is paramount (ICT Policy, 2009).

4.2.4.2 Role of ICT BICs in Poverty Reduction

As to the contribution of BICs in achieving the government’s national development goal and role in tackling poverty, the response forwarded by the interviewees were variable. Two respondents were indifferent. Whereas, one respondent stated that the contribution and role of BICs to poverty reduction was significant, another one stated the contribution was low (Table 9).

Table 9 Contribution of ICT BICs in tackling poverty reduction

Variable	Respondent	Percent	Cumulative Percent
low	1	25.0	25.0
Significant	1	25.0	50.0
Indifferent	2	50.0	100.0
Total	4	100.0	

Source: computed from survey data

Anita Kelles, acknowledged that by providing cheap and efficient tools for access to information and exchange of ideas and knowledge, ICT can become an enabling tool for wider socioeconomic development. When properly used, it can greatly increase the ability of the poor people to benefit from economic development and from development programs meant to help them (Anita, 2005). Anita’s study report implies that any development program/project must enable the rural poor by providing cheap and efficient technological tools. On top of that, facilitate its access and affordability to acquire those technological tools and services.

WB’s ICR report of ICTAD project also stated that the Ethiopian Government realizes the application of ICT technology would best accelerate and enhance the rate of economic growth and alleviation of poverty (ICR-ICTAD, 2010).

Regarding BICs’ ICT service extension plan to reach the rural community through the development of more tenant companies or stretching their service reach, the interviewees’ responses were varying as well. Two respondents (Hawassa and Mekele BICs) had replied that they have a plan to expand the services of the ICT through the expansion of services of tenant companies; whereas the other two (Adama and Bahirdar BICs) answered they have no plan of service extension to the rural community in the short run (Table 10).

Table 10 Expansion plan to reach the rural community

Variable	respondents	Percent	Cumulative Percent
Yes	2	50.0	50.0
No	2	50.0	100.0
Total	4	100.0	

Source: Computed from data collected

4.2.4.3 Contribution of BICs in Employment Generation

During the field data collection and interviews conducted employment generated by Four BICs (Adama, Hawassa, Bahirdar, Mekele) and tenant-companies was also assessed.

The result of the interview showed that the total number of employees hired in BICs and tenant-companies was not significant as these centers were beginners. A study document by infoDev justified that business incubation has a significant impact on job creation only in the long run (infoDev, 2006). The total employees in the business incubation centers solely

working for the BICs were on an average six persons. Relatively the number of female employees was trivial. The total number of employees at the Tenant-companies, based on the respondents view was also small. Total employees working for the BICs and Tenant-companies during the survey conducted were computed, where female employees were 27% of the total (Table 11).

Table 11 Number of employees in all BICs

Name of BIC	No of Tenants	No of Employees						Total Employment Generated			
		BICs			Tenant-companies			Male	Female	Total	(%)
		Male	Female	Total	male	Female	Total				
Adama	4	3	1	4	3	1	4	6	2	8	13.3
Hawassa	9	5	1	6	9	5	14	14	6	20	33.3
Bahirdar	12	7	1	8	6	5	11	13	6	19	31.7
Mekele	10	6	0	6	5	2	7	11	2	13	21.7
Total	35	21	3	24	23	13	36	44	16	60	100

Source: Computed from Data collected

4.2.4.4 Financial Position of the BICs

The analysis of current financial position of BICs highlights the status of Mekele and Bahirdar centers; these were the only two centers provided financial data while the researcher was conducting the study.

The annual income & expense data of **Mekele BIC** for the years 2007/08-2010/11 shows that income generated from own service sale compared to the total annual income is 0%, 2.7%, 1.1%, 4.3%, respectively. Although the current and previous years' annual self-generated income share seems insignificant, there is an increasing trend at higher rate. For

instance, the percentage increase of own income source for the year 2009/10 was 17% whereas, in the consecutive year 2010/11 the annual own income source increase rose to 75%. The major income source was donation which contributed more than 95% of the income throughout the years (Table 12).

The centre’s financial sustainability in future relies mainly on income generated from their own source as donation and aid do not continue due to several factors.

Table 12 Annual Income & Expenses of Mekele ICT BIC

Year	Income Source & Amount				Operation expenses	Balance
	BBF	Donation	Service Income	Total Income		
2007/08	0	403,176.84	0	403,176.84	228,058.22	175,118.62
2008/09	175,118.62	750,000.00	20,695.90	770,695.90	281,097.76	489,598.14
2009/10	489,598.14	2,273,953.10	24,277.50	2,298,230.60	588,628.65	1,709,601.95
2010/11	1,709,601.95	942,451.87	42,548.60	985,000.47	1,096,598.36	(111,597.89)

Source: Mekele BIC

The idea of supports from public and others for BICs was justified by a study conducted under EU by Centre for Strategy & Evaluation Services “Business Incubators are more likely to succeed if they are supported by a broadly-based partnership of public and private sector sponsors. In particular, the capacity to leverage private sector inputs, whether this is in the form of finance or other types of support (e.g. expertise, access to facilities, corporate venturing) is critical” (CSES, 2002).

The study result showed that the recent year’s financial balance of Mekele BIC is pessimistic, which indicated that the sponsors or donating institutions have started to

curtail their financial support. As a result, this situation indicated that the centre should fetch for other options in securing financial source.

Bahirdar BIC's three years income expense status i.e. income and expenses are recorded for the years 2008/09, 2009/10, 2010/11. The first year (2007/08) was during when the centre didn't start operation (Table 13).

The centre's current financial position is still promising, which actually emanated from prompt support from the government both from the Federal and Regional to finalize their own building on time. But, the other three centers lack this opportunity and could not fulfill the requirements.

Bahirdar BIC generating income from own service sale was at a remarkable increasing rate when compared to the annual total income i.e. 0% in year 2008/09, 2.8% in year 2009/10, and rocketed to 17% increase in year 2010/11. When one compares the magnitude of financial revenue registered from service sale between the last two years, tremendous difference was observed in income growth, which is a 277% increase (Table 13). So, this shows that the centre can financially sustain provided that strong/efficient centre management, staff turnover minimized, stringent financial management system in place, technical capacity and Regional government support persists.

Although the recent financial status of Bahirdar BIC portrays optimistic, still public support is mandatory. "...it also widely recognized that in the early development phase, public funding is vital because it can often take a number of years before a business incubator can attract private sector funding and/or generate sufficient income from other sources (e.g. rent) to cover operating costs" (CSES 2002).

Table 13 Annual Income & expenses of BICT BIC

Year	Income Source			Total Income	Operation Expense	Remaining Balance
	BBF	Donation	Service Income			
2007/08	0.00	0.00	0.00	0.00	0.00	0.00
2008/09	0.00	499,490.00	0.00	499,490.00	45,368.60	454,121.40
2009/10	454,121.40	3,051,901.40	88,768.23	3,140,669.63	1,506,159.73	1,634,509.90
2010/11	1634509.90	0.00	334,707.62	1969217.52	923614.41	1,045,603.11

Source: Bahir Dar BIC

A self-sustainable BIC must be strong in its financial position to meet its objectives; this is justified by study conducted about “Bench Mark Your Business Incubator’s Practices”. Financial self-sustainability is essential to an incubation program’s long-term survival; to its ability to grow strong, lasting companies; and to its ability to have a significant positive impact on its community, (Kathleen, 2003).

An incubator should be able to have access to funds and promote its own financial strength to sustain. In this aspect, Innovative partners (April 2009), on the study conducted “sustainable & Replicable ICT incubator Model for Sub-Saharan Africa”, measurement of ICT BIs economic impact reflects employments created, number’s of client company contracts (Year- on-Year growth of sales), Aggregate Client Company Annual Turnover, Aggregate financing raised by clients, Post Graduation, Year-on-Year annual Turnover growth. Additionally, a study on Small Business Incubation in India by “Social enterprise associates” recommends that access to capital, infrastructure and other complementary resources are

important to business incubators so as sustain them within the competitive business environment. “Without good infrastructure, entrepreneurs cannot operate or sell competitively. Without access to capital, start-up activity and growth of businesses will be limited. Without a trained workforce and experienced managers, small businesses are competitively disadvantaged. And, without the government and political support to minimize barriers, initiative is stifled” (Drew Tulchin , 2008).

In addition to Drew idea, CSES has also substantiated the necessity of public support to incubators until these incubates reach the break-even point. “The length of time a business incubator is likely to take to reach breakeven point (assuming this is an aim) will vary and depend on its strategic objectives and modus operandi. In some lagging regions it may impossible for an incubator to generate sufficient revenue to cover costs and there is a continuing need for sustainable public subsidies” (CSES-EC, 2002).

By and large, data collected from the study areas as well as discussions held with BICs managers at Adama and Hawassa clearly showed that the BICs capacity to accommodate increased number of tenants/companies was observed negligible.

4.3 Assessment of Tenant-Companies Status

4.3.1 Introduction

In this Study, the meanings of *tenant*, *start-up*, *client*, and *tenant-companies* are termed as one and same, they are used interchangeably. Accordingly, tenants are start-up companies doing a written Lease agreement and enter into a contract with the incubator for the use of incubation space for a specified period of time and pay rent (www.infodev.org/business)

incubation). The incubation centers (incubators) consider these tenants as clients and on top of leasing a work space provide them business support services until tenants graduate and leave BIC.

Total population size of the tenant companies that were functioning under the auspices of BICs reported as 35. The study was designed to accommodate all functioning company representatives for the questionnaire interview and distributed to all. However; out of 35 functioning companies 27 (77%) tenant-companies representatives responded to the questionnaires provided. Hence, the analysis of tenant-companies relied on views from active respondents. These companies are solely engaged in ICT and ICT related business activities. The respondents of the companies' were managers of each company in the respective areas (Table 14).

Table14 Number of respondents at each centre

Variable	Respondents	Percent	Cumulative Percent
Adama	4	14.8	14.8
Bahirdar	10	37.0	51.9
Hawassa	6	22.2	74.1
Mekele	7	25.9	100.0
Total	27	100.0	

Source: Computed from data collected.

4.3.2 Factors Influence Tenants and Company Specialization

The respondents' reflections towards approaches used for the establishment of their companies. Among the total respondents some of them indicated that their business was started with their own initiation. Whereas, majority of the total respondents answered

advertisement and announcements by BIC were major influencing factors which motivated them to establish the company and being a tenant in the center (Table15).

Table 15 Approaches used to start businesses

Variable	Respondents	Percent	Cumulative Percent
with own initiation	10	37.0	37.0
government support	2	7.4	44.4
advertisement & announcement	15	55.6	100.0
Total	27	100.0	

Source: Computed from field data.

The study result showed that the best approach in influencing tenants to launch their own businesses was advertisements and announcements followed by one’s own initiatives to be an entrepreneur. However, the response for government support is negligible implies tenants got less support from government to establish their businesses. Major inference of the response supports the idea of increasing advertisements and announcements through promotion strategy.

With regard to company specialization of the tenants, it was assessed by categorizing four definite areas i.e. Web page development, Software Development, networking including computer servicing, and others. Among the respondents, the majority of them replied that company’s specialization is in web page development, followed by networking and computer servicing. Whereas, some of them claimed other options, including secretarial services and training, while one individual was unresponsive (Table 16).

Table 16 Company specialization

Variable	Respondent	Percent	Cumulative Percent
No reply	1	3.7	3.7
web page development	8	29.6	33.3
Software Development	5	18.5	51.9
networking and computer servicing	7	25.9	77.8
other	6	22.2	100.0
Total	27	100.0	

Source: Computed from Study data

The study result on company specialization showed that most respondents answered web-page development was the major ICT activity that tenants engaged in, followed by networking & computer servicing, which imply that most company members had IT & IT related professional background.

Size of Space

Response of the interviewee about the size of the office space for the tenant companies was assessed, nearly 57% of the total respondents answered that the current work space provided by the centre was sufficient. Some answered that the office space currently offered by the centre was not enough to run the business (Table 17).

Table 17 Company's work space

Variable	Respondents	Percent	Cumulative Percent
No reply	1	3.7	3.7
Yes enough	15	55.6	59.3
No/not enough	11	40.7	100.0
Total	27	100.0	

Source: Computed from Study data

Size of work-space is one of the essential influencing factors for tenants to start own businesses. A study conducted by [Innovative Partners \(2009\)](#) substantiated this result, which stated “Companies need both working capital and expansion financing”. Observation on the field has indicated that most respondents who stated that there is no enough space available were representatives of companies where the centre has not yet completed constructing its own building. Charging higher rate of space rent is also a danger for an incubator as this situation does not encourage the tenants’ interest to work with the incubation centre. This was recommended on [Self-Evaluation Workbook for Business Incubators \(2003\)](#) that most incubation programs rely on rental fees as a primary source of revenue, so making educated assumptions about rental income (based on a valid feasibility study and market research) is vital to programs’ financial health. This means determining demand for space, how much space to rent to each client, and what rates to charge ([Kathleen 2003](#)). Kathleen recommended a space rent of below-market rates, which might help attract clients in the short term not in the long term.

With the exception of Bahirdar centre, the other three BICs were functioning in rental buildings; which charge the clients/tenant-companies for the space/office they used. According to respondents, it was difficult to afford the rental cost by companies, which leads some of them to quit businesses.

4.3.3 Tenant companies’ governance

Tenant companies are running their own business independently without any external intervention. There are two types of administration style to run their businesses either

by elected board or the general assembly of the shareholders. Few companies had opted to run as one man Business Company due to drop out of members fetching for other job options. Among 27 respondents about 15% of the interviewees didn't reply to this particular question, but field observation showed that they run the business individually. Between the options available 18.5% responded that the companies were governed by an Elected Board, whereas nearly 67% of them claimed that the business companies were governed by the General Assembly of the shareholders (Table 18).

Table 18 Governing body of the company

Variable	Frequency	Percent	Cumulative Percent
No reply	4	14.8	14.8
Elected board	5	18.5	33.3
General assembly of the shareholders	18	66.7	100.0
Total	27	100.0	

Source: Computed from survey data.

In discussion with these companies it was confirmed that an executive manager was assigned by the board from among the shareholders to run the day-to-day activity of the company. Most companies do not hire a manager from outside as they were beginners, and weak in financial strength and market expansion for their produce was immature.

Frequency of the companies' Board Meeting

Respondents were asked on frequencies of Board meetings of the companies. It was tried to draw respondents' opinion with optional closed questionnaire that divided periods of meetings into four quarters i.e. monthly, quarterly, bi-annual, and yearly.

Among the respondents, majority of them replied that meetings were held every month, lesser respondents replied that quarterly and bi-annually, where only one respondent replied meeting was conducted yearly (Table 19).

Table 19 Frequency of the governing body meetings

variable	Respondents	Percent	Cumulative Percent
No reply	6	22.2	22.2
month	16	59.3	81.5
Every three month	2	7.4	88.9
bi-annual	2	7.4	96.3
yearly	1	3.7	100.0
Total	27	100.0	

Source: computed from survey data.

Financial Audit

One important sustainability factor for a company includes well organized and managed financial statements and making these documents available periodically to external auditors to get feedback on their financial position and to develop stringent financial management system.

Among the respondents about 41% interviewees claimed that the company has hired external auditors to audit the business accounts of the company. While the majority of the interviewees replied that their companies did not hire external auditors (Table 20).

Table 20 Hiring of external auditor

Reply	Frequency	Percent	Cumulative Percent
No reply	1	3.7	3.7
yes	11	40.7	44.4
no	15	55.6	100.0
Total	27	100.0	

Source: compiled from survey data.

As answered by company representatives, among the audited companies *four* of them were discovered embezzling of financial resources. Responses of the respective four companies about actions taken on the matter were different, representative of one company answered no immediate measure was acted, the second one replied under negotiation as how to repay back, the third one replied measures such as financial penalty and suspension from membership was decided. The fourth respondent answered that the lost money has been converted to loan so as the liable person pay the money back within a definite time.

4.3.2.3 Source of Finance for new Start-up companies

For the start-up companies at their commencement phase finance is highly needed. These newly starting young entrepreneurs had only their knowledge and skills acquired from universities/colleges.

Responses of the interviewees about their source of finance to fund companies' at the initial business establishment time identified four sources: government, own contribution, donation, and loan from bank/micro-finance organizations.

Majority of the respondents/interviewees replied funding was own source finance, whereas 29.6% of the respondents stated the source was government fund, few answered donation. While some of the respondents failed to provide their sources of finance (Table 21).

Table 21 Source of finance for new start-up/tenant company

Variable	Respondents	Percent	Cumulative Percent
No Reply	5	18.5	18.5
government fund	8	29.6	48.1
own contribution	11	40.7	88.9
donation	1	3.7	92.6
loan, bank/micro finance	2	7.4	100.0
Total Respondents	27	100.0	

Source: computed from survey data.

Observation of the researcher portrayed tenant-companies survival in the market and continuation on businesses established competitively relies not only on their technical efficiency; generating sufficient finance is a pre-requisite. Although securing own finance source is the most reliable to sustain in the business, however, it is a challenging task.

European Commission report on “Bench Marking of Business Incubators” depicted that the challenge remains to move towards financial self-sustainability over the longer-term by building credibility in the market place and developing a comprehensive range of business support services (CSES 2002).

Most tenant-companies were provided IT materials while they commence the business. With regard to materials needed during establishment, 27 respondents of the interview (tenant company representatives) replied that the most important items needed for the establishment of the company at the initial period were computers with accessories,

printers, scanner, and office equipment, including established networking at the centre level.

The means through which these materials acquired were of different sources as stated by the interviewees, where by 14 respondents claimed that the government provided these equipments with a credit form, 3 of them replied that they purchased from own source, 7 replied from other sources, such as BIC, and NGOs.

4.3.2.4 Professional Background and experience

Regarding the professional background of the company owners/entrepreneurs, majority of the interviewees claimed that their professional background is Computer science and IT related fields, very few of them indicated that their professional background was engineering, however, two respondents declined to answer (Table 22).

Table 4 Professional backgrounds and Experience

Variable	Respondent	Percent	Valid Percent	Cumulative Percent
No reply	2	7.4	7.4	7.4
Computer science and IT	23	85.2	85.2	92.6
engineering	2	7.4	7.4	100.0
Total	27	100.0	100.0	

Source: computed from survey data.

As long as the ICT BICs are solely established to support technology entrepreneurs in the ICT field, the data result confirmed that large number of respondents were from similar field of study, which had created a good working environment among company owners.

Previous ICT Experience

Company members' previous experience on ICT could contribute in enhancing of businesses as exposure & experience value high in any business arena. ICT as a discipline requires skilful knowledge acquired not only from universities/colleges but practical experience on the field. In this regard, among the interviewees 81.5% of the respondents have indicated that they had previous ICT experience, whereas 14.8% of the total respondent answered that they had no ICT experience before they established the company, the experiences range from 1 to 6 years period (Table 23).

Table 23 Company members' ICT experience

Reply	Respondent	Percent	Cumulative Percent
No	1	3.7	3.7
yes	22	81.5	85.2
no	4	14.8	100.0
Total	27	100.0	

Source: computed from study survey

4.3.2.5 Privileges Companies obtained from BICs

According to the interviewees response Major services and facilities provided by the centres to the companies were, low cost office rent, secretariat services, broad-band internet services, training on entrepreneurship and finance & coaching on how to manage business enterprises. Among the total of 27 respondents 13 of them replied that they pay for services rendered by the centre, whereas 12 respondents stated that they did not pay for the services they receive, while two failed to respond.

Companies have to compensate for any service that they were provided from BIC not to damage the financial position of the centre. However, the study result showed that 44.4% of respondents had claimed that they were not charged for services they received from the centre, though this was a big loss for BICs. Several business studies recommended that making services totally free is not fair & advisable to both for the BICs & tenant-companies because it is difficult to sustain unless revenues and expenses are valued coherently.

study document of infoDev substantiated as follows, If the incubator intends to establish long-term financial sustainability by depending entirely or to a significant extent on cash flow from incubatees, then the capacity of the target incubatees to pay for rental of space, services or other income generating activities, such as royalty payments, will need to be taken into account ([InfoDev, 2009](#)).

With regard to relevance of the trainings offered by ICT BICs the interviewees from each company had provided the information. The trainings were mainly accounting and financial management, project management, entrepreneurship skill, business development & promotion. Among the total interviewees the majority of them answered the types of trainings were entrepreneurship skill, followed by accounting and financial management (Table 24).

Table 24 Relevant trainings conducted

Variable	Respondents	Percent	Cumulative Percent
No reply	4	14.8	14.8
Accounting and financial management	6	22.2	37.0
project management	1	3.7	40.7
Entrepreneurship skill	12	44.4	85.2
Business development & Promotion	2	7.4	92.6
Others	2	7.4	100.0
Total	27	100.0	

Source: computed from survey data

Trainings are extremely essential and necessary for tenant-companies during the pre-incubation phase. [P.Koshy, 2010](#) emphasized about the need of trainings on the study about “Case for Eco-Enterprise Village” During the pre-incubation phase, training & Preparatory period; an entrepreneur gets equipped to enter into incubation stage. Training and education, empowers them to perform their responsibilities ([P.Koshy, 2010](#)).

Moreover, the types of trainings conducted in each centre were listed down against each company’s BIC (location) -relevant trainings-Cross tabulation form (Table 25).

Table 25 BICs Relevant Trainings conducted-cross tabulation

BICs	Relevant trainings conducted						Respondents
	Accounting and financial management	project management	Entrepreneurship skill	Business development & Promotion	others	No reply	
Adama	1	0	1	0	2	0	4
Bahirdar	1	0	6	1	0	2	10
Hawassa	3	1	2	0	0	0	6
Mekele	1	0	3	1	0	2	7
Total	6	1	12	2	2	4	27

Source: Computed from study data

Regarding the training demand, most respondents claimed that the training needs of the tenant companies were Entrepreneurship skill, market promotion, website development, IT equipment & maintenance, software development, project management, business development & promotion, data management, and other IT related fields of training. Training on entrepreneurship skill development and IT related field was believed to be offered periodically to the existing tenant-companies and new entrants to increase the companies' effective business performance and efficiency for managing cost/output career development. infoDev in its ICT-enabled Business Incubation Program justified that case studies from different regions and levels of development will be used to create a practical training program that reflects the challenges faced by incubator managers, and the lessons and models that can be derived from developing country experience (infoDev, 2009).

Causes for members/entrepreneurs withdrawal from the companies

The result of data collected on the field had indicated that members have withdrawn from their parent companies due to different reasons.

The major reasons mentioned for the withdrawal were: establishment of own businesses privately, employment in government institution as civil servant, enrolment in universities for higher studies and changing location of work due to unknown causes.

In discussion with some members of the companies the researcher noted that there were additional reasons for the withdrawal of some members. These were, pessimistic thinking about the future destiny of the business, non attractiveness of the company's return, loosing trust among company shareholders, shortage of finance due to inaccessibility to credit facilities, and insufficient support from the BICs and local administration.

Almost half of the respondents answered that members have withdrawn from their tenant companies (Table 26).

Table 26 Withdrawal of members from the company

Variable	Respondent	Percent	Cumulative Percent
No reply	2	7.4	7.4
Withdrew	13	48.1	55.6
no	12	44.4	100.0
Total	27	100.0	

Source: compiled from survey data.

Almost 93% of the interviewees replied that no local government gave priority in providing market to tenant companies so as to encourage the start-ups to promote and expand their businesses and pursue on doing their businesses.

In general, interviews results showed that services and produce of successful tenant companies are usually used by some Government institutions, NGOs, civic associations, colleges and universities, schools, individuals, hotels and private companies.

4.3.2.7 Annual Income of the Tenant-companies

Since most of the companies are established in recent years, it would be very difficult to give a true picture of the companies' sustainability with financial capacity to strengthen their business and provide services without involving any interruption.

It was discovered that among the interviewees answered only 11 tenant companies started generating income in the year 2009/2010, others started generating income after 2010/11 because most of them were newly established. Consequently, it was viewed that there were delays until these companies promote their businesses and enter into production phase and start to supply products & services (Table 27).

Table 27 Tenant companies' yearly income and expenses

No	Name of the company	Yearly income distribution					
		Income			Expenses		
		2009/10	2010/11	2011/12	2009/10	2010/11	211/12
1	YNWEB solutions	20,000	40,000		30,000	48,000	
2	ARC Comp enginrg	26,300	12,110		22,802.1	11,106.15	
3	PROSOLVE compt	16,000	25,000		14,500	20,400	
4	RICTA Engineering	1,727	19,051.1		8,522	29,600	
5	Ekatrin	70,000	-		72,000		
6	3E computers	na	na		na	na	
7	Ayurven-tech	72,000	33,000		10,000	15,000	
8	Luwa	-	59,000			38,000	
9	Elsheday	na	na		na	na	
10	ESA Graphics	45,000	na		38,000	na	
11	ORBITCOMPTRANG		62,100		33,400	na	
12	Kumlachew		25,000			15,000	
13	JAVANET /Albel	58,000	70,000		32,000	56,000	
14	WasheraMulti-med		783,091.			426,819.6	
15	NANO Multi-med.		300,000			110,000	
16	ADANEMARTA		10,500			6,000	
17	ABEY & ANTENEH		52,520			21,798	
18	Getnet & Gedion		30,000			22,000	
19	MAD SOFT-Daniel	4,950	4,720		1117.75	1,095.55	
20	SURBEKICT		204,000			109,000	
21	FINOT ICT Service		30,000			6,000	
22	Necy Software Dvt	10,000	30,000		20,000	20,000	
23	Amora2003		132,293			97,854	
24	Matrix ICT Solution		1,200			700	
25	Action ICT Solution		30,000			22000	
26	CLAIRE multi- choi	6,000	12,000		4,000	7,000	
27	Core Plus Tech.		na			na	
	Total	267,677	1,965,585		286,342	1,083,373	

Source: compiled from survey data.

4.3.2.8 Companies Major Business Engagement

The survey study showed that a company has been engaged in more than one specialized activities. Besides to services of ICT activities most companies are engaged

in maintenance of computers including office equipment, software/web page development, basic computer training, networking, graphics & secretarial activities, and computer sales (Table 28).

Table 28 Companies’ major Business Types

No	Activity/service type	Frequency	% of total
1	Computer & office equipment maintenance	13	24.0
2	Software web page development	11	20.4
3	Basic computer training	11	20.4
4	Networking	10	18.5
5	Graphic design & secretarial Service	6	11.1
6	Computer sale	3	5.6
	Total	54	100
	Mean	9	

Source: Computed from survey data

4.3.2.9 Opportunity and Threats of companies as viewed by Respondents

Responses from interviewees with regard to opportunities in establishing own ICT companies were: satisfaction of managing own business, worthiness of the business, enhancement of skill development, technology exchange & interaction with institutions like government organizations, NGOs & private companies. ICT is currently a good business for job opportunity.

Major **threats** to the tenant-companies in running ICT businesses according to respondents views were: lack of finance, location of the business, lack of experience, market intervention by non-professionals, lack of government support for the business,

sustainability issue due to a limited income, problem in applying new advanced tech, fears of competitive market due to shortage in finance, non-quality service, government's unfavourable tax policy for small enterprises is lack of priority to a start-up companies by government, lack of awareness of the people on ICT, monopoly of govt ICT service coverage, less concern to private sector, less awareness about software, poor financial capital, credit problem, low promotion & investment, lack of awareness and commitment among members & corruption. Companies engaged in offering training activities fear that space was not enough to conduct trainings, integration & willingness among members, conflict of interest & competition, society's reluctance, bureaucracy, computer and photocopier machine shortage.

Major **weaknesses** cited by the respondents about their companies were: weak in competing in the existing business, discouragement of current BIC situation, financial budgetary constraints, client handling, not full time job so customers were not fully reached, lack of commitment in fighting governmental and non-governmental corruption, lack of promotion, time management problem, lack of experience and shyness, poor customer treatment, and communication, poor marketing strategy, failure in planning activities, untimely preparation of action plans, less human power, one man company, lack of technical knowhow, lack of specified action plan, not diversifying company's business, lack of entrepreneurial skill, lack of identifying customers interest and services, lack of marketing assessment, lack of skill, financial limitation & skill, no license to run the business.

With regard to **future prospects** of the companies respondents assured that it all

depends upon sustainability, long-term business outlook, involvement of government and private organizations, establishment of reliable networking.

Regarding the **major challenges** respondents of the companies' representatives mentioned a number of items. Among them financial shortage, difficulty of competing in the existing business environment, market problem, lack of training, high attrition rate of members, lack of promotion, unattractiveness of location, management problems, lack of facilities, lack of awareness in government & non-government sectors, less support from BIC , bureaucratic bottlenecks, lack of membership, credit problems, lack of awareness about data management & ICT, shortage of computers and space, slow internet connection, lack of integration, lacking common vision, conflict of interest, limited experience by companies were the main issues raised by respondents.

4.4 Entrepreneurs/Company shareholders

4.4.1 Shareholders Characteristics

Company share-holders/tenant members were founders of the tenant/companies in each centre, they are termed as young technology entrepreneurs by the centres. The researcher considered to gather individual responses of these entrepreneurs as major source of additional information for the study.

The interviewees were selected from companies with a sample size of 50% from the total membership in each tenant-company. From the total population size of 92 the expected number of respondents were 46 i.e. 50% of the existing number of

entrepreneurs/company members. In actual fact, total number of respondents to the questionnaires was 38, as only 82.6% of sample entrepreneurs replied.

The sex mix of the respondents was 81.6% male and 18.4% female. Marital status of the respondents showed that only 24 % them answered they were married, the majority were not married ones.

With regard to respondents age, the oldest among the entrepreneurs who have replied the questionnaire was 31 year old, the rest were in the range of 20-30 years of age, indicating that most of the entrepreneurs who joined/formed the companies were young university graduates at all centers.

Regarding educational Background of the respondents, majority of the respondents i.e. 84.2% interviewees answered that they were first degree graduates; one respondent was a second degree graduate where two others were conducting their studies for the second degree. Their field of specializations were in IT and IT related computer science technology fields (Table 29).

Table 29 Demographic Characteristics of Company Members

No of respondent	Age		Sex		Marital status		Education level			
	20-29	30-40	M	F	married	Not married	diploma	1 st Degree	2 nd Degree	Other
38	35	3	31	7	9	29	3	32	1	2

Source: Compiled from Survey data.

Among the total interviewed persons 97.4% were founders of the company, whereas only one respondent joined the company later after company started business. This indicates, company members organized and formed the ICT business company having mutual interest and common understanding with acceptable objectives by all members. Such company formation has a greater chance of sustainability and lasting business model in this swiftly growing competitive technology environment globally (Table 30).

Table 30 Composition of members as company founders

Variable	Respondent	Percent	Cumulative Percent
Founder	37	97.4	97.4
Not founder	1	2.6	100.0
Total	38	100.0	

Source: Computed from survey data.

As to the factors influencing members to form a company, varying responses were given; 53% respondents claimed that idea to establish own business, 18% stated that the interest that they had to take part in the ICT businesses, 13% mentioned that they had joined the companies after advertisement by BICs, and only one respondent indicated to seek a job, the remaining 13% of the respondents failed to respond. On the whole, the result showed the majority of the company members/entrepreneurs had an interest in establishing businesses in the ICT sector.

4.4.2 Benefits drawn and Members Inclination to Business Type

Regarding their business specialization, almost all respondents replied that the business inclined to ICT services & produces. Mainly, software and website development,

designing and networking, computer maintenance, graphics, refurbishment , multimedia, computer training, application software development, software sale, secretarial service, and network infrastructure set-up, database management system, etc.

The respondents had expressed their feeling that they are happy enough in establishing this ICT businesses contained by the support of BIC. There is awareness and understanding that eventually all companies will be graduating after having better experience and start businesses with their own lead and management.

Responses about the mode of payment to the company share-holders was in three forms; i.e. dividend share, monthly salary, both dividend and monthly salary. The largest number of interviewees, 55% replied that they enjoy dividend share, 24% replied that they receive monthly salary, whereas 18% of the respondents had enjoyed both dividend and monthly salary while one respondent was declined from suggesting any of the three forms of payment.

With regard to benefits accrued as company owners, a large majority claimed that their benefit was dividends they collect followed up by those who mentioned that the benefit was knowledge/skill development acquired and about 16% of them answered Conducive environment to run ICT businesses within the premises of BIC (Table 31).

Table 31 Benefits accrued as a company owner

Type of benefits	Respondent	Percent	Cumulative Percent
Dividends you collect	16	42.1	42.1
Knowledge/skill development.	15	39.5	81.6
Conducive environment to run business	6	15.8	97.4
other	1	2.6	100.0
Total	38	100.0	

Source: Compiled from survey data.

In general, respondents view about benefits made indicated that the financial aspect and knowledge/skill acquired are more priceless to them. That in turn could bring about full confidence in them having self-employed businesses.

4.4.3 Members previous business experience

In assessing interviewees' responses about their previous experiences in other institutions 63.2% had past experience on ICT sector; whereas 36.8% had no prior experience in such businesses (Table 32).

Table32 Previous experiences in other institution

Variable	respondent	Percent	Cumulative Percent
Yes/had experience	24	63.2	63.2
No experience	14	36.8	100.0
Total	38	100.0	

Source: Compiled from survey data.

Those who replied having prior experiences, the majority of them were serving government institutions, next were employed in private companies and the remaining were serving in other agencies. The field study result indicated that most of the

company members were previously employed in different organizations (government, private company, NGOs & others), whereas about 37% of the respondents answered that they were not employed (Table 33).

Table 33 Organization members served before establishing the company

Variable	respondent	Percent	Cumulative Percent
Not employed	14	36.8	36.8
Government institution	12	31.6	68.4
private company	7	18.4	86.8
NGO	4	10.5	97.4
Other	1	2.6	100.0
Total	38	100.0	

Source: Compiled from survey data.

Additionally, Interviewees were asked about members' previous occupation. Among 38 interviewees only 10 of them stated that they had their own business, whereas 26 respondents replied that they never had experiences of running their own business prior to joining this company while two persons failed to respond.

On the type of businesses most mentioned in the ICT sector except two respondents who had been working for other type of family businesses.

4.4.4 Response of entrepreneurs on sustainability of Business

One of the researcher's main objectives was to assess the sustainability of the centres and companies on their business endeavour. Among the respondents 79% were optimistic on the future business sustainability (Table 34).

Table 34 Sustainability of company businesses

Variable	Respondent	Percent	Cumulative Percent
No Reply	1	2.6	2.6
Sustainable	30	78.9	81.6
Not sustainable	7	18.4	100.0
Total	38	100.0	

Source: Computed from survey data.

With regard to ensuring sustainability, a number of factors were listed by the interviewees. These were, hard work, commitment, motivation, market accessibility & market knowledge , promotion, endurance of owners, better time management, new business idea, better customer handling, setting better organizational structure, personal commitment, product quality, promising ICT development in future, sufficient work space & availability of computers, up-grading the capacity to influence service users including government offices, private companies and NGOs, tackling corruption observed in the government employees, conducive policy environment and democratic governance, quality service to customers, work in good feeling and interest, strong professionalism, plan & implement different aspects/market options, upgrade members capacity, fair and promising price, time efficiency, customer treatment, commitment & confidence, of the demand of technology in the future.

Dedication, team spirit, strong business relations, cooperation with private and government and non government organizations, motivation and commitment of the members were mentioned as the essential requirements.

The respondents who were sceptical about the sustainability of their businesses mentioned some major setbacks. These were insufficient support from BIC, low finance due to inaccessibility of credit, conflicts among company members, lack of market accompanied with lack of awareness of the community.

4.4.5 Intervention by outsiders

Intervention by outsiders has various negative or positive impacts on privately owned companies, in this study the respondents view was assessed whether intervention prevalence was existed or not. Majority of the respondents answered that they didn't see any intervention to their companies businesses by outsiders; they carried on their businesses without any interference. Nevertheless, some respondents answered that intervention by BICs and some government institutions were prevailed (Table 35).

Table 35 Respondents view on Intervention by outsiders

Variable	Respondent	Percent	Cumulative Percent
No reply	1	2.6	2.6
Intervention occurred	12	31.6	34.2
No intervention	25	65.8	100.0
Total	38	100.0	

Source: Computed from the survey data.

With regard to future plan of the individual company members, the views of 38 interviewees were collected. Respondents who viewed their interest to continue the existing business were the majority, 84.2%. Only few had shown interest to establish new business (Table 36).

Table 36 Future plan of the company-members

Variable	Respondent	Percent	Cumulative Percent
want to continue with the existing business	32	84.2	84.2
want to establish new business	6	15.8	100.0
Total	38	100.0	

Source: Computed from field survey

Assessment was made on companies' service provision to rural areas of country. The views expressed from interviewees were almost equally divided. Among the total interviewees half of them mentioned that they did not provide any service to the rural community at this juncture, whereas 47% of the respondents replied that they provide services to the rural community (Table 37).

Table 37 Service/product provision for rural areas

Variable	Respondents	Percent	Cumulative Percent
No reply	1	2.6	2.6
Service provided	18	47.4	50.0
No service provided	19	50.0	100.0
Total	38	100.0	

Source: Computed from survey data.

4.4.6 Problems & Prospect as company members Views

Current problems of the companies were listed by most of the respondents. Absence of sufficient capital, lack of awareness of software by target market community, insufficient promotion work and market, lack of awareness in government and non-government sectors, lack of finance and credit & inaccessibility, location of the office,

lack of market promotion, lack of awareness , low demand promotion, inaccessible infrastructure for internet connection, lack of capacity in ICT, lack of awareness within the society, numerous free riders have no legality, shortage of market networking & materials, lack of sufficient IT materials such as computers, printers, photocopiers etc.

With regard to **business prospects** at company level interviewees had expressed their ambition as follows. Almost all would like to become a competent software company, to be competent globally, to improve the quality of products and services to scale-up the businesses, to sustain in a good position, to develop successful businesses to build their business into a huge and complex company, to expand the company nationwide and make it profitable, it paves the way to be profitable, to serve the society with quality service & products, to become a giant company, to establish ICT based services to the respective regions.

4.5 Service users/Beneficiaries

4.5.1 Service Users Characteristics

Companies' service users are government organizations, private companies, NGOs, and individuals, who acquire or buy services from tenant-companies. Possible respondents were stratified by type of organizations/institutions. Selection of respondents was done in collaboration with company-owners and BICs' Business Developers from each organization using the client/customer data sheet of each company. In so doing, the companies have participated in identifying the service users' institutions for the interview. The selected interviewees/respondents from the institutions including

individual users were totally 45 in number. The percentage share of interviewees from Government, private, NGO, and individual service users was 22%, 44%, 18%, 16%, respectively.

Regarding age groups of interviewees, 6 respondents were in the range of 14-20 years of age, similar number were 21-30, and 31-50, years of age; while 17 respondents didn't indicate their age while filling the questionnaires. Most of the respondents with age category below 20 years of age were respondents attending training on basic computer skill in tenant-companies.

Contribution of each centre for the service users' interview was as follows Adama 5, Bahirdar 18, Hawassa 5, and Mekele 17 service users. Bahirdar and Mekele contributed the largest share of service users' respondents (interviewees), for the very reason that number of companies in these two centers was larger than Adama & Hawassa BICs (Table 38).

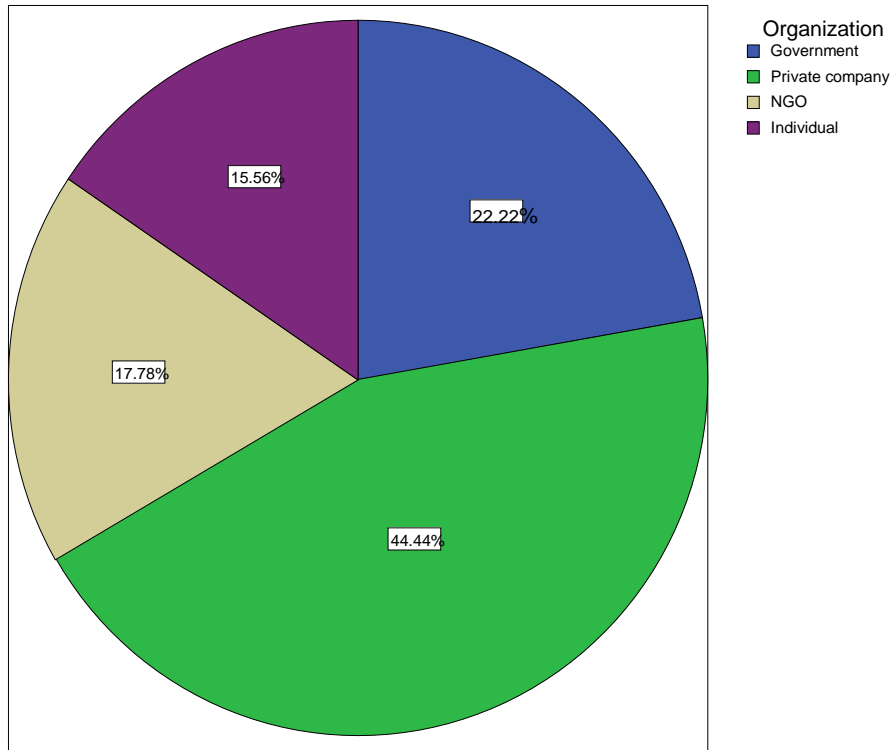
Table 38 Organizations served by Tenant-companies * Cross tabulation

Variables	Organization				Total respondent
	Government	Private company	NGO	individual	
Adama	2	1	1	1	5
Bahirdar	2	11	3	2	18
Hawassa	2	2	1	0	5
Mekele	4	6	3	4	17
Total	10	20	8	7	45

Source: Computed from Survey Data.

The distribution of respondents among service users were larger in Private companies, which is followed by government institutions and NGOs (Figure 4).

Figure 4 Respondents organization (Service Users)



4.5.2 Service Users and Type of Services

Provision of services includes software development, database management networking and computer servicing, training on basic computer knowledge. The type of service rendered varies, depending upon the need of each service seekers.

The organizations benefiting from the services were the local governments, private companies, NGOs, and individuals. Type of services and organizations (service users) cross tabulation showed that majority of the services types mentioned by the interviewees were others (basic computer training, internet & secretarial services) followed by networking (Table 39). Majority of the companies service users were private companies and followed by government and non-government organizations (Table 39).

Table 39 Services type to the organizations * Cross tabulation

Variables	Organization				Respondents
	Govt.	Private co.	NGO	individual	
software & webpage development	1	1	2	1	5
database management	2	1	0	0	3
Networking	3	7	2	1	13
Basic computer training	2	2	0	3	7
other	2	9	4	2	17
Total	10	20	8	7	45

Source: Compiled from survey data

These institutions bought services from the start-up companies after they were informed about the role of BICs in respective areas and detail information were given while visiting the centers. Other means that influenced users to get these services were mainly advertisement, friends, public gathering, company owners, and etc.

According to respondents; the major means of awareness creation about the companies were information from peers, advertisement, and company owners (Table 40).

Table 40 Means of creating awareness

Variables	Respondents	Percent	Cumulative Percent
Advertisement by posters, brochures	12	26.7	26.7
information from Peers	16	35.6	62.2
At public gathering from company owners	12	26.7	91.1
other	4	8.9	100.0
Total	45	100.0	

Source: Computed from survey data.

Regarding their views on service quality rendered, qualitative measurements were placed for choice by respondents as good quality service, fair price, time efficiency and other values. The majority of the respondents had claimed the reasons for choosing the companies were due to good quality of service provided followed by fair price of the respondents (Table 41).

Table 41 Reasons for choosing the company

Variables	Respondents	Percent	Cumulative Percent
Fair price	15	33.3	33.3
good quality	25	55.6	88.9
time efficiency	3	6.7	95.6
other	2	4.4	100.0
Total	45	100.0	

Source: Computed from Survey data

Service users' reaction regarding their future relation with the companies was also assessed. Among the respondents, nearly 98% of them showed keen interest to continue working with the companies as long as services rendered by the companies are sustained (Table 42).

Table 425 Future relations with the company

Variables	Respondents	Percent	Cumulative Percent
yes	44	97.8	97.8
no	1	2.2	100.0
Total	45	100.0	

Source: Compiled from Survey data

What the researcher concluded from these views was that although these companies were at the infant stage, they were doing their level best to satisfy their clients. What

some users were suspicious about was the continuation of these companies. To keep up the companies on track, strong public support and access to credit and market were mentioned by interviewees as major contributors.

Respondents' reaction on the company's customer management style was assessed. Among those 45 respondents who rated the companies' customer services, majority of the respondents rated as very good, while only one respondent rated unsatisfactory and the other one was indifferent (Table 43).

Table 43 Companies customer management

	Respondents	Percent	Valid Percent	Cumulative Percent
Valid unsatisfactory	1	2.2	2.2	2.2
satisfactory	10	22.2	22.2	24.4
good	5	11.1	11.1	35.6
very good	28	62.2	62.2	97.8
indifferent	1	2.2	2.2	100.0
Total	45	100.0	100.0	

Source: Computed from Survey data

Regarding the method of procuring services from companies, respondents mentioned short listing, bidding, and direct award were as available choice. The large majority used direct award procurement method and followed by bidding/auction (Table 44).

The respondents view showed that the direct award was mostly from private companies.

Table 44 Method of procuring services

Variable	Respondents	Percent	Cumulative Percent
No Reply	4	8.9	8.9
short listing	7	15.6	24.4
bidding/auction	14	31.1	55.6
direct award	17	37.8	93.3
other	3	6.7	100.0
Total	45	100.0	

Source: Computed from Survey data

With regard to the quality of services rendered most respondents (55.6%) had rated them as very good and only one person as unsatisfactory (Table 45).

Table 45 Quality levels of the products/services rendered.

Variable	Respondents	Percent	Cumulative Percent
unsatisfactory	1	2.2	2.2
satisfactory	11	24.4	26.7
good	8	17.8	44.4
very good	25	55.6	100.0
Total	45	100.0	

Source: Computed from Survey data

Respondents (company service users) were also requested to give their valuation on the precision level of the product or services provided. According to 64.4% of the respondents, that level of the product/service of the companies was up to specified standard, while the remaining respondents claimed there was slight to significant deviation from the standard. Some even stated that there was a complete change from the specification (Table 46).

Table 46 Evaluation of services/product precision level

Response	Respondents	Percent	Valid Percent	Cumulative Percent
to the specified standard	29	64.4	64.4	64.4
slight deviation	6	13.3	13.3	77.8
significant deviation	4	8.9	8.9	86.7
complete change	6	13.3	13.3	100.0
Total	45	100.0	100.0	

Source: Computed from Survey data

Interviewees/respondents were also requested to reflect their views on the level of satisfaction about products or services rendered by tenant companies. In this regard, 95.6% of respondents rated the satisfaction level as good to very high (Table 47).

Table 47 Level of satisfaction with the Product/service

Variable	No of Respondents	Percent	Valid Percent	Cumulative Percent
low	1	2.2	2.2	2.2
medium	1	2.2	2.2	4.4
good	26	57.8	57.8	62.2
very high	17	37.8	37.8	100.0
Total	45	100.0	100.0	

Source: Compiled from Survey data

The study has also assessed the weaknesses within the tenant companies in the provision of services to their clients. The major weakness noted by the majority of the respondents were the office location not being in an ideal location (Table 48).

Table 48 Major Weaknesses of the company

Variable	No. of Respondents	Percent	Cumulative Percent
No Reply	8	17.8	17.8
poor customer management	2	4.4	22.2
inaccuracy of time for delivery	7	15.6	37.8
office location not ideal	20	44.4	82.2
other	8	17.8	100.0
Total	45	100.0	

Source: Computed from Survey data

With regard to companies strength, Majority of the respondents have chosen strong team work and customer service (Table 49).

Table 49 Strength of the company

Variable	No. of respondents	Percent	Cumulative Percent
No reply	4	8.9	8.9
strong team work	18	40.0	48.9
polite way of customer mgt	16	35.6	84.4
strong promotion work	6	13.3	97.8
ideal working place	1	2.2	100.0
Total	45	100.0	

Source: Computed from Survey data

Among total interviewees additional comments provided by 26 of the respondents were that the companies need strong promotion work, need to expand to rural areas and nearby zones and to facilitate the company's IT works to government & private organizations, after sale service & supervision, Ideal working environment and financial and material support to these companies. Accuracy & time bound delivery has also been mentioned.

4.6 FOCUS GROUP DISCUSSION

4.6.1 Introduction

Focus Group Discussions (FGD) had been conducted in all study areas, namely, Adama, Hawassa, Bahirdar, and Mekele ICT BICs. Participants were centre managers, business developers, and company owners (tenants/clients). Prior to holding detail discussions on the stated issues, aims of the discussion and its importance have been described by the researcher and then the discussions were moderated by the centre managers. However, in Bahirdar Business Incubation Centre the Business developer mediated the group discussion on behalf of the centre's manager. List of participants and issues for discussion were attached as an appendix including the general summaries of points raised while the discussions were held.

At two centres, Adama & Hawassa number of participants' was less than that of Bahirdar and Mekele centers where sufficient number of participants attended and participated in the FGD (Table 50). The discussion time allotted was not more than 2 hours, even though there was no time limitation for the participants.

Table 50 Participants for Focus Group Discussion

List of Centres	Men	Women	Total
Adama	3	1	4
Hawassa	6	0	6
Bahirdar	9	0	9
Mekele	10	3	13
Total	28	4	32

Source: compiled from FGD participants list.

The selection was made based on the availability of company owners/tenants. The focus of the discussion was on two basic thematic issues; which were Policy/Strategy and Business Environment.

4.6.2 Policy and Strategic issues

Discussions on policy and strategy at all centers were almost similar. To be accepted by the community, most tenants/companies under each centre had not adequately promoted their products and advertised their companies. The main reason was inadequate finance companies faced and unable to run the businesses independently.

Availability of enabling regulatory frameworks (laws, regulations, Institutional set-ups, product protection rules, etc.), were put under discussion. The discussion results indicated that BICs are marginalized in the national ICT policy. The policy would have been followed by relevant applicable regulations and by-laws; as yet no legal certification was in place. Seemingly, clear guideline as how to administer the center and clear accountability structure was not set. Although the centers establishment was executed by government support, some centers (for instance, Adama ICT BIC) reported no definite institution is designated to oversee the centre's matter. Absence of strong protection laws/regulation for newly originated software product. Similarly, no sufficient regulatory tools are in place. The centers' boards, in some places the steering committees, had no power to independently act on related issues. Although in Bahirdar draft regulations and administrative manuals were under review by the Regional Government not officially released for implementation, due to this problem the official

centers' structural set-ups were not in place. This issue is a setback for the centers confidence development and self-reliance, in order to create good working environment.

Though Mekele and Adama centers had been officially handed over the centers' from Federal to Regional the accountability issues were not yet resolved.

All centers had indicated that approaches and strategies to be followed in motivating young university/college technology graduates to establish companies had been finalized. Major tools used to motivate them were advertisements by distributing brochures and leaflets, media, TV & radio. However, the shortages of space in the centers have limited further promotion, but for Bahirdar center this case was not mentioned as a limitation. Communication with universities had also contributed towards motivation. At Mekele center, the focus group had recommended the addition of experienced technology young professionals.

Despite opportunities for young graduates and government's policy support to expand ICT services and infrastructural facilities, major threats described by many were Low participation of the private sector, lack of skill & experience, absence of clear policy guideline, approaches to BIC administration, little support from the public, free services offered by regional ICT Agencies (Amhara), that would have been tenant's market. Getting credit was a problem for tenants as collateral condition was a threat to enter into the market.

Relation of ICT BICs with Regional ICT Agency was not similar in all regions. Hawassa and Bahirdar have direct relations with ICT BICs as these centres were accountable to these Agencies. However, for Adama and Mekele no formal communications/relations existed with the ICT BICs. The budget allocation issue was raised as a problem for both Adama and Mekele. For those BICs where communication with Regional ICT Agencies were commendable, the centres were accountable the Agency in order to take action or to carry out anything new.

4.6.3 Business Environment

To be a successful new business entrepreneur, the BICs experience demonstrated that capacity and skillful knowledge must be scaled up, support in all respect is needed to keep them stand on their feet, finance and equipment is required through the facilitation of credit opportunity. Good self motivation and self-reliance and high commitment in running own business is necessary for the success of new business. Skill and experience is needed for the business incubation sustenance, recognition, financial resources, and moral support are the bases for competency and sustainability.

According to FGD, support from concerned bodies to BICs was weak. Whereas, regarding supports sought from the local governments to strengthen the centers, the construction of buildings, clear guidelines & bylaws approved by the government should be in place. Market accessibility, keeping in touch with regional ICT Agency was also compulsory. On top of these, free and fair bidding arrangement for products/services, granting bank credits to ICT incubates/tenants without bank guarantee or collateral

conditions. Discriminations between SMEs and tenants must be avoided. Current experience shows SMEs are getting numerous supports whereas, companies in ICT BICs are denied such government supports.

Major constraints encountered by the centers were raised during the discussion. For instance, Adama is very close to Addis Ababa which has an effect on companies market, as most service users prefer rushing to Addis and get the IT services. Delays of construction of buildings for three BICs (Adama, Hawassa, and Mekele) contributed negatively with limited financial revenue that would have been collected from space rent and narrow down the center's capacity to accommodate tenants intending to join the program.

Intervention by Government offices to force the BICs to operate under the rule and regulations of government institution, which is very bureaucratic and a barrier to free operation. The issue was raised in BD BIC while the study was conducted; the regional ICT Agency was creating market scarcity rather than accessing markets to tenant-companies by providing free services to potential institutions that need ICT service.

According to FGD tenants and their members drop-out or quit the business due to, dissatisfaction while staying as a tenant without any financial support and loosing trust among members. Taxation was also reported as high as 30%, which discouraged newly starting tenants to keep on running their businesses. Tenant-companies face problems of collateral request to get credit from financial institutions and bank guarantees if they

win bids. Power disruption and very slow access in internet connection hindered the companies' service provision.

In some centers, participants expressed that location of the most BICs were not in ideal places for running the business i.e. location may be away from service seekers area or on the top floors of high rise buildings. For instance, in Adama the office of BIC and companies was located on the third floor and Hawassa on the second floor of rented buildings.

Most challenging situation repeatedly posed by participants was financial shortages both for the centers and tenant-companies, difficulties for companies to provide bank guarantees & bonds for bid advertisement.

Improvements needed at service or products were: time management, power interruption, customer satisfaction and handling, avoiding delays of receivables after service. Few customers or service users do not fulfill their payment commitments instead they move to other locations before they settle the service charge a tenant company expects. Most companies operate with few members and as a result companies encounter human power shortage.

The result of Group Discussion conducted in all the study areas emphasized on two issues, **Policy and business environment**. Strengthening the BICs and tenant-companies, assistance from government institutions with the provision of supporting rules & regulations, which helps facilitating credit availabilities, and sufficient office space in ideal locations for businesses are needed. Awareness rising about the centers' goals and

roles by the community and the public at large is needed, conditions like bank guarantee while bidding, and collateral condition to get loan was also the major hindering factors for growth and self-sufficiency of these centers.

Unnecessary Interventions by government institutions in the daily activities of BICs created lose of confidences in the management of these centers. Certification of legalization of these centers and recognition of tenant-companies with the support of clear structural arrangement for BICs should be mandatory. As the Companies are at their infant stage, assistance in all aspects is vital, particularly government support and NGOs.

4.7 Informant Interview

4.7.1 Introduction

The potential Informant interviewees were selected by the researcher based on their respective role these individuals had in the development of ICT BICs and their long years experience in this particular area.

The Informant Interviewees were two regional ICT Agency heads (South Nations, Nationalities & peoples Region (SNNPR) – Hawassa, and Amhara Regional State-Bahirdar), The Ministry of Communication & Information Technology Private Sector Development, concerned expert from The German Development Cooperation (GIZ) and direct contact interviews were held with the regional ICT Agency heads at their location (Hawassa & Bahirdar). Whereas, telephone conversations carried out and exchange of

written information with representatives of MCIT and GIZ based on the researcher's chosen questions by e-mail.

4.7.2 Informant interviewees View

- a) Ato Aynalem, SNNPR-Hawassa ICT Agency's Head. He stated, Hawassa Business Incubation Centre (HBIC) needs attention as it lacks a well-structured administrative arrangement/management. Although the agency & Hawassa BIC have good working relations at the moment no defined administrative structure is in place. Major shortcomings of the BIC, as was observed by the Agency, lack of experience and transparency, lack of sufficient finance to run the business (be it credit or donation). Secondly, major visible challenges include financial shortage for tenants to start businesses at the initial stage, lack of commitment by all parties-the BIC management, companies, and individual company members. Tenants' dependency syndrome as it lacks a clearly defined role as how to administer and promote. Delays of BIC building hindered to mobilize as many as the required numbers of tenant-companies. Currently, BIC uses rented building where it is difficult to afford the rent fee to get additional rooms.

According to Ato Aynalem, the future plan of the regional government is to scale up BICs by strengthening the relations between universities/colleges with BICs, as this strategy will minimize costs and easily exploit skill and experience of these institutions.

b) Interview with Ato Binegrew Walle, Amhara-Bahirdar ICT Agency

Ato Binegrew stated that Bahirdar BIC and others need support of financial & material resources. So far, the BIC's accountability issue has not been resolved. It is the regions interest that Bahirdar Business Incubation Center runs its duty independent of government intervention. The ICT agency had proposed and submitted draft bylaws and guidelines to the Regional Government with regard to the future administration and management of BIC. If decision reached by the government, additional Business Incubation Centres could be established also in Gonder and Dessie cities. The regional ICT still supports securing business at the company level and for individual professionals within each company based on the individuals' professional background.

Ato Binegrew confirmed that the regional government is committed to expand and support ICT BICs with the interest and need of expanding ICT services to the urban and rural communities at a magnificent rate. Generally, the regional government has now aggressively working on promoting and developing better ICT services to the public at large, among which ICT BICs are part.

c) Ato Teshome Worku, MCIT-Private Sector Development Directorate Director: - His

view towards the ICT BICs was that contribution of ICT BICs to Rural and urban communities in the Ethiopian context were mainly to provide service users of the community in getting ICT services with affordable price. In addition, the educated young professionals of the urban and rural areas would get job opportunity in the sector. The supervision of these centres were initially conducted by the MCIT, however,

since the end of 2010 the handover of the centres to regional government has been finalized. Currently, the ministry's role has been limited to only technical and material support with the knowledge of the regional government. On top of that, quarterly field survey was conducted. The Ministry confirms that a well established organizational set-up was in place for all ICT business incubation centres.

The government has a plan to establish new additional ICT BICs in all regions although financial constraints are hindering to expedite the plan as anticipated. In line with this, efforts were underway to increase tenants/new start-ups in the already existing centres. There were two major problems. One is the financial constraints encountering the centres and companies themselves, and the second one is commitment of the respective collaborative regions, as most of them do not consider the task as their major duty. Moreover, business idea generation was lacking from the tenants side. By and large, financial, managerial, commitment and capacity problems were the major problems (challenges). Collaboration with universities/colleges, and research centres was basically on technical aspects although not strong as is required.

- d) **Mr. Heinz, German Development Cooperation (GIZ)**, The German Development Cooperation is one of the pioneer contributors for the establishment of BICs in the country with the collaboration of and support of Information Communication Technology Assisted Development (ICTAD) Project, which started the first Incubation Centre at Mekele-Tigray ([ICTAD, 2010](#)).

Mr. Heinz's view on the major BICs problems were assessed regarding technical, infrastructure, management, financial, institutional and experience and capacity issues in running the business as his involvement and exposure was high from the centres' establishment until this study was in progress.

He emphasized mainly on technical skills of Tenant-companies, that in most BICs, technical capabilities were continuously too low because the incubation process is not designed to include technical-skill upgrades, but tenants/clients with good technical skill often have good business opportunities in return.

With regard to the infrastructure facilities, power was unreliable; in most centers internet lines were too slow and connections were poor (except Bahirdar having better high power connections), space was not sufficient to accommodate more tenants except Bahirdar ICT BIC (2000sqm). No incubation has a computerized/electrical laboratory. With regard to managerial issues, the ICT BICs managers were not result-based rather they were procedure-based, which would not be sufficient in an entrepreneurial environment like Incubation centres. Same holds true for business developers. Neither the manager nor business developer can provide the required services for the incubation clients. They did not focus on relevant success factors and required tasks.

As Mr. Henz explained, managers/business developers' unfocussed tasks result in large number of non-performing clients/companies, unnecessary drop-outs of clients and negative attitude among the client community. Incubation models currently exercised

were also too complex to adopt and carry out by all staff of incubation centres, which require adjustments.

Financial shortages are significant challenges for all BICs; most centres were running out of cash. Initial finance source was subsidy not clients own contribution.

With regard to institutional and structural arrangement, Mr. Heinz noted that the issue of legal status was not clearly known for any of the centres. Adama had no steering committee support, Hawassa micro-managed by Regional ICT Agency (RICTDA) and too many restrictions on the centre's internal management. Mekele, no formal ownership was defined. ICT businesses were not included in the SME policy, resulting in severe challenges for ICT start-ups while penetrating the market. Roles between MCIT and Regional ICT Agencies and BIC were not clear and not formalized. Other big government institutions have been competing with the incubation clients/companies on businesses like development of software, website, network installations, and others.

Parent institutions and the Steering Committees did not always sufficiently support clients/companies. Connections with research and universities were too weak in order to be really supportive. Mr. Henz finalized his opinion by suggesting that there is a gap between formal ownership and practical ownership that is impeding the incubator's operations and performance. Experience of the technical assistance portrayed that Clients/companies were not serious and show sufficient entrepreneurial behaviour.

Generally, the overall Informant interviewees' ideas, opinions and recommendations were observed relevant. Emphasis with regard to commitment of BICs, tenant-companies, parent institutions of government offices are highly required for better performance of BICs and companies. Centres management and technical capability should be promoted through offering trainings and by exchanging views and sharing experiences. In this regard infoDev recommends that the training program is designed to create an understanding of what it takes to develop a business and provide a seedbed of new entrepreneurs (infoDev, 2009). The informant interviewees viewed that frequent skill up-gradation for BICs and the tenant-companies was found necessary.

It was also viewed that the Federal and Regional governments have planned to expand similar centres in other locations of the country as well with the ambitions to provide service users ICT services with affordable price. Establishments of BICs would pave opportunities for self-employment for the technically educated young professionals of the urban & rural areas in the field.

Above all, BICs could support the development of the private sector and facilitates the ICT use at fair price by the community members.

4.8 Case on Best Practices

4.8.1 Yaybe IT solutions Tenant Company Best Scenario

Yaybe IT Solutions was one of the tenant-companies established within MBIC in the year 2008. Samson Tesfaye, and Hawaz Tekle were founders of the company. Both of them graduated from Micro Link University College, Addis Ababa, Ethiopia (2006). Major

subject they studied at the University College was Information Communication and computer science.

They established YAYBE ICT Solutions Company in June/July 2008 following the MBIC's advertisement about the ICT Tenant companies' formation in Mekele city. Initially the Mekele Business Incubation Centre's establishment was mainly intended to organize young university technology graduates to be engaged in entrepreneurial activities in the field of ICT so that established companies can provide ICT services to the community.

The initial capital they had contributed to start the company was birr 2000 (two thousand birr). This doesn't include ICT materials like computers, copier, office furniture, internet access, secretarial services and technical and administrative supports they got from the center.

The company's major business specializations were Software development, web-page development, networking and Trainings. This company has won 5 advertised local bids since its establishment and performed its responsibility with high level of standard. In these awards the company won Birr 1, 500, 000. 00 and accomplished the following jobs for the government, NGOs, private companies and individuals.

- Bill Management System
- Customers Service Management System
- Operation Management System
- Finance Management System
- Human Resource Management System

- Supplies Management System (Inventory Control)
- Plan Management system
- Fleet Management System
- Different Official Websites.

The company has now become a well recognized and accepted technology company in the ICT field of services. The major cause for its strength is the commitment, professional strength, mutual understanding among both the company owners. This unique professional strength enabled them to have sufficient financial background.

MBIC provided no special support to this tenant company, any support provided was similar to other tenant companies in the centre, which include work space, computers and office furniture, broadband internet connection, market assessment, advice of financial management and project management.

Regarding the experience and success of the company, the response of Samson Tesfaye the company's founder stated that Yaybe took full advantage of the incubator's relationships with public sector organizations and private sector companies to help build a client base. It was an arduous task to become a prominent software developer and get acceptance by the service users, above all, owners' integrity; mutual understanding among members, commitment and dedication towards bringing differences were the foundation for their success.

The biggest set-up costs were trademark registration and preparing promotional materials, as well as related operational costs. According to the founders, the most

important instrument for getting Yaybe up and running was access to a stable Internet connection provided by the BIC. The local FM radio and Ethiopian Television also helped us advertise our products to the market.

Samson emphasized that “It took us one year to become financially self-sustainable, and during the past year sales have grown by 20%. We have also recruited one technical expert. We continue to measure our success through our financial status, technical knowledge, the commercialization of that knowledge, team spirit and good will, and customers’ service satisfaction”.

Major challenges were also mentioned by Samson. They planned to apply for a patent for the products already in use, and to remain financially strong in countering obstacles in the patenting process. As he articulated challenges for ICT start-ups in the Ethiopian market remain in the lack of infrastructure to commercialize technological inventions and the lack of awareness on the usefulness of ICTs. Local ICT companies like Yaybe spends a lot of time educating potential customers and creating their own market.

Samson said that in order to overcome these challenges; the company had introduced its products by giving away free copies such as school registration software and demonstrating the usefulness of the products. The Mekelle Business Incubation Center also runs a local radio program that shows how ICTs become tools for innovation and economic growth. Once a strong footing in the Ethiopian market has been gained, we will explore opportunities in other African markets.

Samson further suggested that the Regional Capacity building bureau, Trade and Industry bureau and the Steering Committee of BIC were not committed to perform their duty. From start up until now, no company got support from these bodies. If they think positively and start supporting companies in marketing, technical advice and financial advice and moral support things will be changed and additional tenant-companies would become successful, otherwise all companies may collapse in the near future. YAYBE was preparing itself for graduation (leaving MBIC as a tenant) to be a private company in the ICT sector. The owners' vision is to be young technology entrepreneurs intending to be owner of best technology institute in the East Africa.

Experience from YAYBE tenant-company depicted that the primary job for best achievement is commitment and a relentless effort to see changes in self-created job. Motivation to excel in whatever they did encouraged them to succeed. YAYBE's success was a lesson to others that entrepreneurs engaged in high growth ventures, having more stakes are consequently more concerned for the future. Currently YAYBE ICT Solutions is generally optimistic and is quite confident to perform and capable of accomplishing the tasks they are engaged in. However, the idea that this company raised with regard to support from respective government institution is a matter that needs to be seriously considered for bringing up companies currently needing different support to mature.

CHAPTER 5, CONCLUSION and RECOMMENDATION

5.1 Conclusion

The concern of this thesis was not to assess the ICT sector as a whole but limited to one of the smallest sub part of the sector i.e. ICT BICs. The study has covered all the centers, tenant-companies, selected members of the company/entrepreneurs, and service users/beneficiaries of the companies. The assessment of the study result has been detailed in the document. Major issues covered were current status and sustainability of BICs including problems/challenges encountered and prospects anticipated for future development.

Pertaining to the sustainability issues, the study result indicated funding the BICs and start-up companies as well as government support in promoting entrepreneurship development, credit facilitation be enhanced. Awareness of the community and public at large would help in sustaining the centers' existence within the contemporary business environment.

Designing staff retention strategy (benefit packages) has also its own contribution for the sustenance of BICs.

The study areas' infrastructural setting attributed to essentially causing some problems. It was verified on the study that frequent power failure, internet & telecommunication connection problems impacted not only the BICs, it obstructed the start-up or tenant-companies overall activities, as the activities of ICT are highly interconnected or complimenting with infrastructural support. Particularly, improvements of power supply and telecommunication services are paramount task of the Regional and Federal

governments so that efficiency and effectiveness would be assured to better serve clients and the whole community.

The study indicated the largest share of the centers' financial source was sponsorship from government, except Bahirdar BIC, which got additional income source since the completion of its building construction finalized a year back. For others, funding source is drying out, which was hampering the center's existence unless generating capacity of own revenue source is secured in the near future. As long as financial matter is one major factor for sustainability, BICs should better strive and design a plan to get sufficient finance.

The study also indicated that the service supply of ICT BICs didn't demonstrate any progress in fetching market in rural areas. Country-side is a better market places for ICT BIs in future; furthermore the largest population of the country live in rural areas. To promote market and extend ICT services for this particular setting ICT BICs' should be supported to stretch their services to country-side or rural villages.

The study confirmed that the stay period for tenant-companies at the centers was delineated only for one and half to two years, which is less than many countries that have undergone similar experiences. A company should be expected to stay in the BIC until it sufficiently promotes his/her product/services within the community. This was justified in different relevant studies ([Benjamins, 2009](#)) ([Koshy, 2010](#)).

Concerning the current Status of BICs' sustainability and contribution to rural development, the study results showed that most of the BICs were not legally registered

entities. Likewise, the centers did not have officially approved bylaws and legislations that clearly show their accountabilities and responsibilities.

It was recommended while the FGD held that legal registration of BICs and tenants enhances the tenant companies maturity and confidence in sustaining their businesses. Facilitation of credit from bank and micro finance institutions is necessary to advance start-up companies career but the study indicated that centers and tenant companies are not accessed to credit. Imposition of requisite of a collateral as precondition by financial institutions was also observed as a barrier to be accessed to credit. This situation was highly prohibiting for the expansion and scale up of number of BICs and tenant companies in the country and impede sustainability for the established ones. Lacking institutional arrangements, such as officially accepted BICs structure, defined role and responsibilities of Steering Committees, allocation of financial budget for BICs, had negative effect on sustainability issues.

With regard to employment generation, the number of current BICs in the country is very limited, almost insignificant in relation to the countries geographical area. However, these centers are models for others to establish. The current function and roles played mainly include providing space, coaching, promoting entrepreneurial development, employment opportunity and etc. The study showed that employment opportunity created so far was insignificant. Nevertheless, given the less number of the centers and non-sufficiency of work spaces and financial shortage and other prohibiting factors detailed in the study, the job created by the centers and the tenant-companies

was satisfactory. The lessons drawn by others in an entrepreneurial development would be invaluable as well.

Major challenges and prospects of BICs were identified from the interviews conducted with different groups of people at different levels. The major ones were: financial/shortage of funds and inaccessible to credit facilities, less awareness about the centers and companies among the community and government institutions, insufficient support from government, Infrastructural problems, like power failure, internet connection problem, lack of defined structure and bylaws, accountability problem, delays in BICs buildings construction, lack of commitment of BICs, company members and respective government institutions & individuals, etc.

The prospects of BICs as market for ICT was growing continuously, opportunity in getting customers intended to create better job field in the future. As long as it's a growing company it will absorb educated workforce and dissemination of information easily to users. ICT sector develops to higher level in all sectors, as long as the companies have accomplished all their commitments, they could further expand their activities, and profitable entrepreneurs could create new inventions for the country.

As to the policy environment and infrastructural development are concerned, the study result showed that the Ethiopian government's policy environment towards the development of ICT and ICT related ventures were promising. As the study showed, it was with the government's commitment and belief that strived to promote the private sector development, which is reflected by establishing of these BICs in four locations of

the country. As far as infrastructure is concerned, still long way to go in handling the problem of power interruption and managing interruption of internet and telecommunication connections.

In summary, the study has tried to attain objectives set at the inception period. In parallel it has thoroughly given responses to the research questions posed by analyzing the data gathered and field observations conducted.

5.2 Recommendation

BICs capacity to accommodate increased number of tenants/companies was observed to be very negligible. The study indicated that the main causes were insufficient space for rent, inaccessible funding sources for companies at the initial stage, centers' experienced staff turnover, lack of support from parent institutions, lack of manageable and workable business plan, lacking clear vision in expanding services to potential areas i.e. not reaching the rural community, and lack of awareness among the community and government institutions as well. To resolve these problems and others indicated in this study, the following recommendations are forwarded:-

- To increase the sectors contribution for employment and self-employment of educated labor force, the federal and regional governments must strive to extend the expansion of ICT BICs and encourage scaling up or extending its magnitude, particularly in other big cities (zonal cities) of the country. These are places where numerous colleges deploy significant number of IT & IT related graduates annually. Hence, government and the public at large should intensify, supporting young and

educated workforce in creating own managed businesses and entrepreneurial skill development.

- To sustain tenant-companies a well organized, stringent and coherently managed financial statements are vital. Besides, availing these documents periodically to external auditors to get feedback on their financial position is needed. And similarly, being transparent to the members and outsiders are found essential. Otherwise, misunderstandings and loosing trust among shareholders might create irrevocable failure. Hence, clarity and establishing transparent financial management system is a paramount task.
- While the study was conducted, it was assessed that financial position of BICs and tenant-companies were found weak and sources of fund are unreliable. The indication implied that BICs should fetch for better options in securing financial source to survive. A strategy of scaling up own income source by ICT BICs must get priority not to be dependent on outsiders.
- Tenant-companies, as long as they are considered new beginners of business they only brought up their knowledge and business ideas. But financial source is required to launch the new businesses. Precondition of collateral and other guarantees should not be hindrances to be accessed to credit facilities, which has been reported as impeding for the realization of new business ideas. Therefore, accessibility to financial credit should be open to the companies.

- A well defined structural set up and uniform administration & financial manual that portrays the roles and accountabilities embraced within a definite structural setting and accepted by all stakeholders for sharing experience among the BICs should be in place.
- Efficient promotion work that has targeted to promote the companies' product for securing market must get attention. This action could support in introducing and buying the companies' product/services. Moreover, promotion work provides BICs the priority for the assignment in public and private businesses, until the companies are able to compete within the market.
- The major problems of ICT BICs realized on this study were Infrastructural problems, such as frequent power failure, internet connection problems, networking problems, limitation of work spaces, and telecom lines connections. The regional and federal governments with the participation of the community seek for urgent remedial solutions as ICT services unthinkable without such supplies.
- To minimize the company members' drop-out or quit businesses, policy interventions are required, such as, fair taxation for the start-ups. Equity consideration for tenant-companies and SMEs to enable the companies enjoy similar government supports without discriminations from other corresponding business types.
- The rural community or country-side in the Ethiopian context mean, it is a place where rich potential for ICT market is untapped. As long as more than 80% of the

country's population livelihood depends on this setting, and has a leading role in the country's economy ICT BICs' should be supported to stretch their services to country-side or rural villages.

- Tenant-companies, as long as they run technology oriented businesses, hiring efficient and reliable professionals is advisable to sustain and further promote the company. Hence, additional innovative ideas would easily be generated and quality performances attained if such trend continuous.
- ICT Business incubation centers functioning in the study areas of the country could be a role model for the creation of similar centers elsewhere in the country. Therefore, it would be advisable to strengthen the existing centers in order to influence the emergence of additional ICT BIC centers in the region.

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Appendix 1

TERMS (Glossary of Words)

Business: it refers to a legally recognized (registered) organization designed to provide goods or/and services to customers subject to a financial return. Glossary of words

Business Incubation: Is a process on networking innovative early stage enterprises that have high growth potential to become competitive business. The business incubation process provides a combination of shared facilities & equipment, business development and market access services, financial services and mentoring & networking.

Business Incubator is: a physical space or facility that accommodates a business incubation process. It refers to an economic and social development entity designed to advice potential start-up companies' help them set-up a business, and accelerate their growth and success through a comprehensive business assistance program. The main goal is to generate successful business that will leave the program financially viable and freestanding.

Client is: is an entrepreneur, start-up or business which receives business support services from an incubator.

Coaching: helps the entrepreneur develop specific skills required to complete a task or activity.

Entrepreneur: is an individual with “a good idea for a business” and possibly a prototype, and who has the initiative to take the risk of testing this idea in the market, refine the product/service and develop an appropriate business model.

Entrepreneurship: taking the initiative of starting a business.

Graduate: is a client who has successfully completed the business incubation program by notably reaching financial sustainability. Hence these are most likely to be fledgling high performing companies who have successfully established themselves through the incubation process.

Incubatee: is a client being incubated (resident or nonresident), i.e. a client who is participating in incubation on-site or off-site.

Infrastructure: refers to buildings and ICT infrastructure, i.e. the physical space of an incubator with the design of each element dependent on the business incubator model chosen.

Legal entity: venture that has established itself within the laws governing business, usually by filling registration documents with an appropriate government agency.

Lease agreement: a written agreement under which the incubator enters into a contract with a tenant for the use of incubation space for a specified period of time and rent.

Networking: refers to a process through which an incubator or incubatee connects to individuals and organizations that can provide resources and expertise.

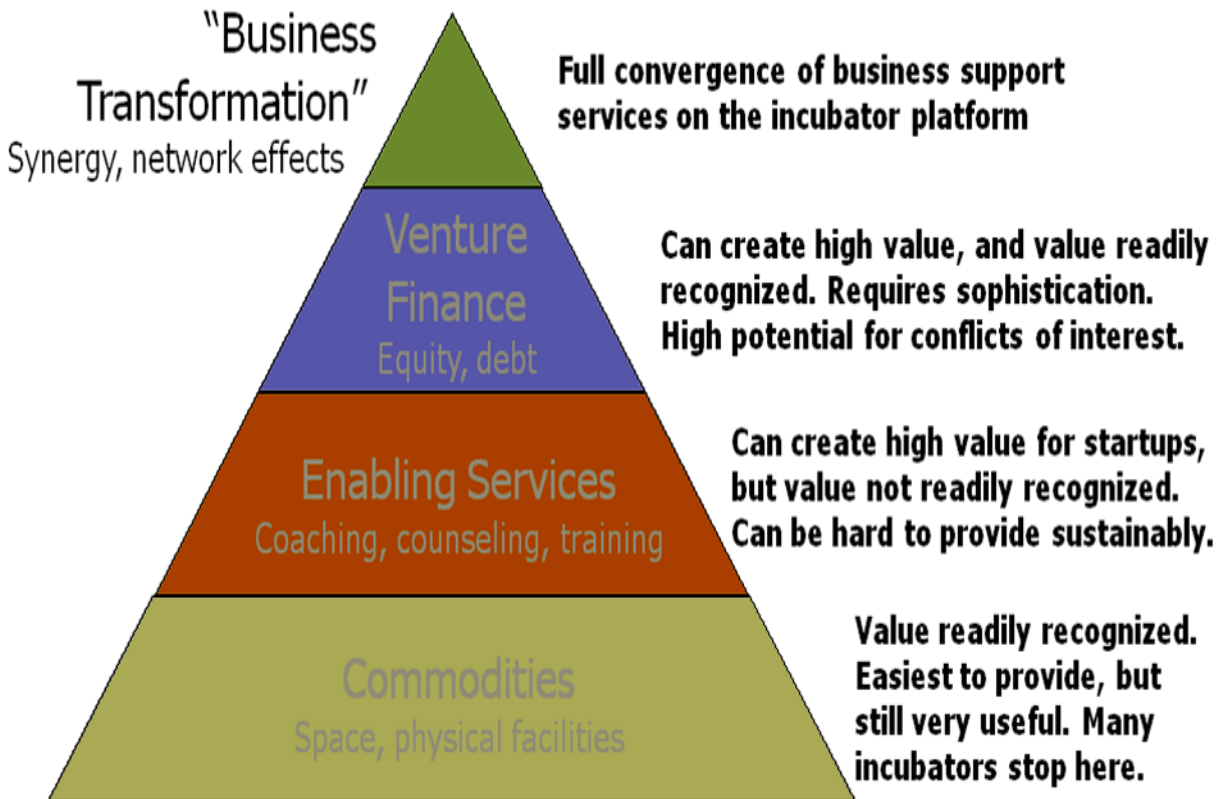
Start-up: is a company that is starting its activities and hence has a limited operating history, mostly a business that is less than three years old.

Sponsor: is an organization that supports the start-up and/ or continuation of an incubator.

(www.infodev.org/businessincubation).

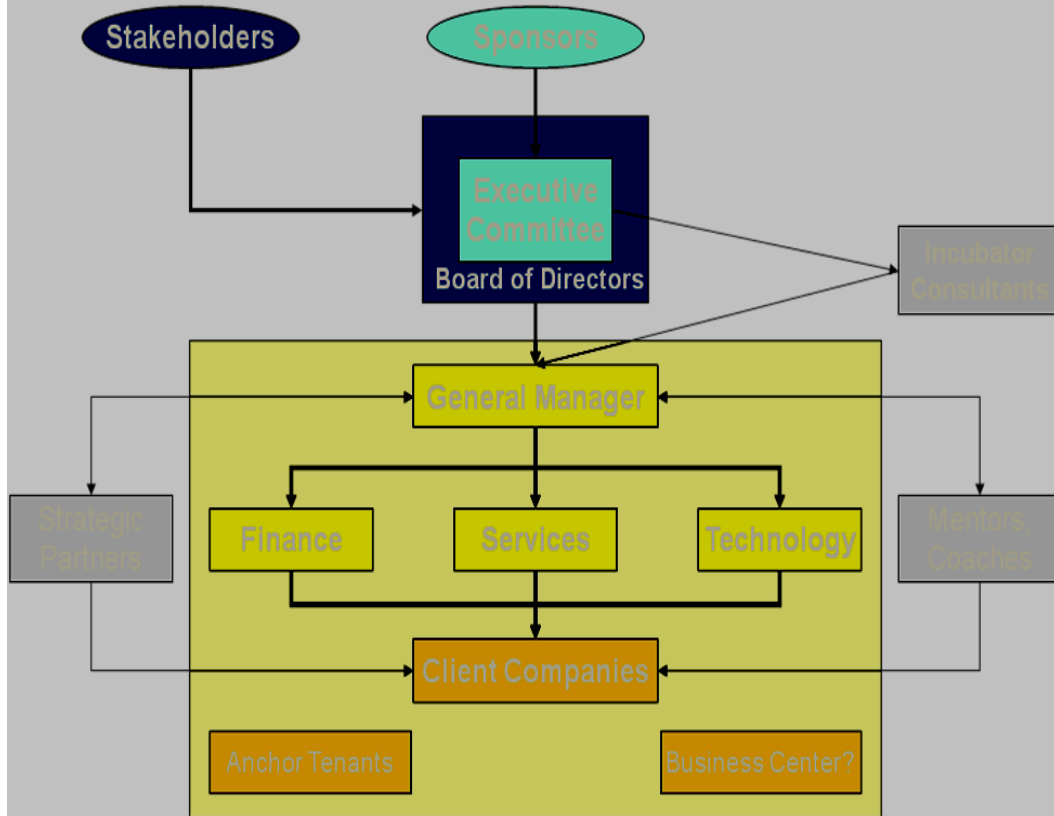
Appendix 2 Figures

An incubator “value pyramid”



Source: Dinyar Lalkaka, Key concepts in Business Incubation, Addis Ababa, March 2003.

Proposed Organizational Structure



Source: Dinyar Lalkaka, Key concepts in Business Incubation, Addis Ababa, March 2003.

Appendix 3

List of group Discussion participants in each Center and informant interviewee

S	Full name	Centre/City	Institution	Position	Mobile no	Date
1	Ezedin Mohamed	Adama	ABIC	Centre Manager	0911862137	27/07/2011
2	Genet Desalegn	Adama	ABIC	Business Devlpr	0911027611	27/07/2011
3	Yosef Kebede	Adama	Tenant	Tenant manager	0911578530	27/07/2011
4	Shawel Moreda	Federal	M&E	M&E officer	0911124120	27/07/2011
5	Tagese Tagele	Hawassa	HBIC Manager	Center Manager	0911707854	28/07/2011
6	Mebtu Abebe	Hawassa	Tenant	Tenant manager	0911957430	28/07/2011
7	Dawit Abate	Hawassa	Tenant	3E Tech. Mager	0911078488	28/07/2011
8	Tesfahiwot Temesso	Hawassa	HBIC	Business Devlpr.	0911787668	28/07/2011
9	Melaku Takele	Hawassa	Tenant	Aruven Tenant	0916315526	28/07/2011
10	Shawel Moreda	Federal	M&E	M&E Officer	0911124120	28/07/2011
11	Abebaw Ayalew	BBIC	BBIC	Business Devlpr	0911087172	11/08/2011
12	Mikiayas Tesfaye	BBIC	Tenant	Tenant Manager	0918 081389	11/08/2011
13	Addisu	BBIC	Tenant	>> >>	0910020827	11/08/2011
14	Rekik Dagne	BBIC	Tenant	>> >>		11/08/2011
15	Desalegne Sisay	BBIC	Tenant	>> >>	0918708245	11/08/2011
16	Adane Genet	BBIC	Tenant	>> >>	0911539132	11/08/2011
17	Kumlachew Hailu	BBIC	Tenant	>> >>	0918310021	11/08/2011
18	Anteneh Lema	BBIC	Tenant	>> >>	0913401453	11/08/2011
19	Shawel Moreda	Federal	M&E	M&E Officer	0911124120	11/08/2011
20	Zewdu Hagos	MBIC	Tenant/company	Finance& mrktg		16/08/2011
21	Kassaye Hiluf	MBIC	Tenant/company	M&E		16/08/2011
22	Mahider Kalayu	MBIC	Tenant/company	member		16/08/2011
23	Meron G/Michael	MBIC	Tenant/company	v/manager		16/08/2011
24	Beliu Hagos	MBIC	Tenant/company	member		16/08/2011
25	Hagos Girmay	MBIC	Tenant/company	member		16/08/2011
26	Mebrahtu Araya	MBIC	Tenant/company	v/manager		16/08/2011
27	Mearg Hadera	MBIC	Tenant/company	G/manager		16/08/2011
28	Kifle Kebedom	MBIC	Tenant/company	Manager		16/08/2011
29	Tesfaye H/Mariam	MBIC	Tenant/company	member		16/08/2011
30	Abebe Kahsay	MBIC	BIC	Centre Manager	0914708102	16/08/2011
31	Goitom	MBIC	BIC	Business Devlpr	0914728547	
32	Shawel Moreda	Federal	MCIT			

People communicated as informant interviewee

1	Ato Teshome Worku	AddisAbaba	MCIT	Director	0911236484	31/10/2011
2	Ato Aynalem Tsegaye	Hawassa	SNNP Region's ICT Agency	Agency Head	0916580297	29/07/2011
3	Ato Binegrew Wale	Bahirdar	Amhara Reg. ICT Agency	Agency Head		11/08/2011
4	Mr.Henz Redlin	AddisAbaba	GIZ	Technical Assist.	0913527757	8/11/2011

Appendix 4

Summary Table for Group Discussion Results held in each center

No	Issues discussed	Business Incubation Centers and days of group discussions conducted			
		Adama	Hawassa	Bahirdar	Mekele
I	Policy & Strategy	27/07/2011	28/07/2011	11/08/2011	16/08/2011
a	Business Incubation centers' acceptance by the community,	The centre is accepted although the technology itself resisted by some community members.	Promotion is not further enhanced; the center is accepted by the community.	As development partner it is accepted among the community still promotional task is required.	The current awareness level about the centre among the community is low it still requires better promotion work to secure acceptance.
b	Availability of enabling regulatory frameworks (laws, regulations, Institutional set-ups, product protection rules, etc.)	BICs are generalized in the policy. No formal regulations and by-laws are enacted to run BICs. It has no legal entity. Clear guideline as how to administer the center and clear accountability structure is not set. No defined mother institution so far. No Protection laws/regulation for newly invented software product. No sufficient regulatory tools. The centre's board has no power and not legally formed.	Regulatory rules and regulations regarding the BIC and companies are not enacted; patent right protection is not officially released. Regulations for the center's structural set-up are not in place.	Nationally enacted laws, regulations and patent rights are in place. However, institutional structure & set-up is not still clearly and fully defined. Regulations and bylaws are prepared and submitted to the regional govt.	The center's handover ceremony was finalized months back from federal to regions. So far the fate of Mekele BIC & the accountability is not clearly defined. Although it is at a draft level bylaws and regulations are prepared but not officially enacted. SMEs are legally recognized by the regional government but not the incubation centre.
c	Approaches followed by the center for young university/college graduates to establish companies	Advertising the BIC within the universities using brochures, leaflets, media, and established communication with the university. Resources and materials are constraining to invite additional tenants as the rented building is	Advertisement by media, arrangement of discussion forum to aware the community and university/college communities. Close contact with universities.	So far the communication is with the Bahirdar University, orientation programs seminars have been given to invite new tenants from new graduates. CREDIT	Even though there is a dilemma of young graduates or experienced business individuals for strengthening business incubation, recruiting young graduates is mandatory. Experienced ones come with their potential to create business ideas. Combining both is also necessary to bring up the new incomers and

		not enough for additional start-ups.			enable them creative entrepreneurs. Both recruiting new graduates & experienced entrepreneurs are simultaneously promoted by the center.
d	Business/service promotion strategy,	Exhibition, bather, are used for promotion in addition to "c" above.	Promotion work, connecting demand created with relevant institutions, preparation of booklets, identifying the gaps within institutions and by conducting random visits.	Tools for promotion are: posters, brochures, radio, TV, meeting, public gathering	Promotion repeatedly conducted using different tools public media, brochures, workshops & seminars. This promotion method should be applied in future endeavor.
e	Opportunities for employment generation using Business incubation centers,	Enacting legality and finalizing the building of the center.	So far, there is no significant results attained in future self-employment of youth graduates is highly expected.	Internalizing Automation in future.	Self employment opportunity for young graduates in IT is visual, and entrepreneurship capacity be promoted.
f	Threats in establishing and activating business incubation centers	Financial shortage and lacking of own building.	Business incubation development and organizing tenants for creation of entrepreneurship's expectation was to high but the actual result is different. Less participation of private sector, lack of experience, and clear policy guide.	Lack of support & intervention. Regional ICT Agency announced to develop websites freely, which hinders the incubates markets. On top of this the Agency recommends federal institution to execute software & website development for instance, ENSA was awarded such task where as the tenants has the ability to undertake. Credit problem and collateral condition is a threat for new beginners.	The major threats ahead are finance, legality problem, working environment is not conducive. Credit facility is not arranged at this moment but essential as finance is highly required to run own business at an infant stage for tenants new comers. Demand is limited in some business areas.
g	Legal status of the Business Incubation Center	Have no legal certificate	Has no legal status, lacks autonomous right for its operation.	The center has no legal status, defined power, responsibilities and roles are not in place.	As far as Mekele business incubation is concerned, so far, no clearly defined legal entity and accountability is in place.
h	Work relationship between the BIC	The center's accountability is not clearly defined. And The		Good work relationship although some clarity are still missing.	The center have good relations with the regional agency, however, the Mekel

	and ICT agency,	regional ICT Agency and the Municipality has loose relations.			Business Incubation center (BIC) is not structurally attached with the Agency, relation & communication is informal.
i	Strategic approach to form tenants or companies for incubate	0	Strong working relationship is established, however, the agency dominates the BIC.	University is a member of the steering committee.	The centre should be attached to one government institution for its legal recognition.
II	Business Environment				
2	How can a new business enterprise sustain and be successful in its business, based on the center's experience,	Capacity must be scaled up, support in all respect is needed to stand on their feet	Finance and equipment is required, facilitation credit opportunity is necessary. Especially software devt requires sufficient cash.	Strong working motivation and self-reliance. Not dependent on government or aid, dependency syndrome must be avoided, high commitment in own business. Creating new ideas & new products.	Skill and experience is needed for the business incubation sustenance, recognition and financial and moral support is base for sustainability and efficient performance.
3	Support required from local government,	Municipality should finalize the center's building, clear guide is needed, market accessibility, close in touch with regions.	No visible support has been observed from local government	Free and clear competition for any advertisement product/service. The ICT incubates/tenants must granted bank credit like SMEs without bank guarantee or collateral to receive award.	Regionally SME is accepted and supported by the regional government so this support again required for BIC and companies. Financial and material support is needed.
4	What are the major needs/demand from the customers side,	Credit, specialized training, clients couldn't get the credit due to collateral problem. Promotion on media must be frequent.	Top down awareness is needed, networking and software are still lagging requires sufficient money. Skill devt training is needed.	Govt & non-govt institutions now a day needs to use IT tools to enhance their activities. Demand is less due to finance, however need is tremendous. Software Devt is also low in its DD because of its coyly outlay.	Software devt, formation of ICT group is essential to sustain everlasting/perpetual demand for the business. Demand for software development is flourishing within the region and outside as well.
5	Major constraints frequently encountering the center and companies	The regional agencies do not oversee the center, BIC didn't establish at the earliest period of the ICTAD project that is why several	The centr's building is not finalized; it was planned for G+3 to accommodate enough number of tenants about 30 but due to financial shortage remained	Govt of the region wants the BIC must operate under the government institution, which is very bureaucratic and barrier to operate freely. The Agency itself creates	Most of the established tenants do not stay some depend on the center just for job seeking options. Some group separately go own way without the center's consultation.

	organized under the center,	problems are encountering. Vicinity to Addis has its own effect as most service users prefer rushing to Addis and get the IT services. Attention from regional agency is disappointing. Some businesses are directly outsourced without bidding, which harms the companies.	at G+1. Not having own building so far is a problem.	market shortage by providing free services to institutions require ICT service. Major principles of incubation is not applied in the region, concepts of incubation is biased by mother institution.	Taxation is high up to 30%, power problem, internet not fast, customers do not rely on new graduates, payment for the building rent is too high until they own their building. Collateral problem to get credit from financial institutions
6	Challenges in securing ideal space for work,	The space is rented one, as the budget is getting shrinking the center has reduced the space and returned back to the owner of the building. The current space is not enough to accommodate additional companies.	An ideal space for work is a big challenge in future.	The center's location is not in an appropriate place for businesses, generally it's not in an ideal place.	As the center has no financial source it is difficult to support start-ups financially and is not in a position to influence financial institutions provide loan. It is difficult for companies providing bank guarantees & bonds for bid advertisement.
7	Improvements needed at service or product level	Development of software need long time to see its feasibility and sufficient money, currently companies are only engaged in routine activities for covering only daily expenses. As the space is secured on the third floor service users are not encouraged to climb to the third floor, they rather go to nearest private areas.	Time management, power interruption, customer satisfaction and handling needs improvement, receivables after service delayed, some customers do not fulfill their commitment they move to other areas before they settle the service charge.	In most companies the members are few in number; as a result of this they encounter time shortage.	-
8	Service Expansion plan,	It depends on the completion of the buildings under construction. To	Some tenants are trying to diversify/expand their scope of	The center, BIC wants to have not many tenants or incubates but the quality and creative	-

		be a self-contained center.	services.	company/entrepreneur ones. The Bahirdar Incubation center wants to expand the campus and is ready to receive additional tenants.	
9	Augmenting relationship with universities & research centers, ICT Entrepreneurs	Workshop facilitation to promote the BIC,	The center has tried to create relations with HAWASA, SODO, and ARBAMINCH universities; however the ICT agency didn't allow to go further saying it is beyond our mandate.	The Bahirdar university is member of the steering committee and the center is closely working with the university's computer dept.	Relationship with university and MIT is established.

Appendix 5

List of Companies and Major Business Engagements

No	Respondents	Name of BIC Centre	Type of Services rendered
1	YNWEBSolutions	Adama	Computer maintenance, webpage development, computer sale.
2	ARC Computer engineerg	Adama	Networking=5%, Sales=15, Computer maintenance=80%**
3	PROSOLVE computer	Adama	Maintenance, networking, sales, software
4	RICTA Engineering	Adama	Comp maintenance & servicing, training, graphics design, video edition
5	ORBIT Computer Training	Bahirdar	Only training
6	Kumlachew & friends	Bardar	Networking, computer maintenance & office machine, video & photo editing
7	JAVANET	Bahirdar	Networking=20%, photocopy & print service=40, Computer service=40%,
8	WASHERA MULTI MEDIA	Bahirdar	No answer
9	NANO Multi Media	Bahirdar	Graphic design & printing
10	ADANE MARTA	Bahirdar	Computer mentenance =63%, copier=20%, printer=12%, Fax=5%
11	ABEY & ANTENEH FRIends	Bahirdar	Network infrastructure=80%, sale devices=17%, comp accessories=3%
12	GEDIWON & FRIENDS	Bahirdar	Wireless network=60%, maintenance=20%, webpage & software=20%

13	MADSOFT	Bahirdar	Antivirus=75%, Application=10%, Operating system=10%, Amharic SW=5%.
14	SURBEKICT	Bahirdar	SW development, website development
15	ESAGRAPHICS	Hawassa	Design of bulletins, printing of digital stickers, bulletin printing
16	Ekatrin	Hawassa	Training=5%, maintenance=30, software=30%, network=35%
17	3E Computers	Hawassa	Maintenance=70%, network=15%, website development=10%,training=5%
18	Arukven-Tech	Hawassa	Computer training=85%, Computer maintenance=15%
19	Luwa	Hawassa	Software development=90%, training=2%, networking=8%
20	Elsheday	Hawassa	Software sales, training, computer maintenance
21	NECYSOFTWARE	Mekele	Software development, promotion, training services and maintenance.
22	AMORADATAMGT	Mekele	Data collection, Data Entry, Training, Data analysis
23	MATRIXICT	Mekele	No Answer
24	ACTIONICT	Mekele	Software/web development, training, Network set-up.
25	CLAIRE	Mekele	Only training
26	COREPLUS	Mekele	No Answer
27	FENOT ICT	Mekele	Photocopy=65%, printing writing=20%, scanning=10%, internetservice=5%

**Percentage share of income contribution, where no sign of % equal contribution is assumed.

Appendix 6

**INDRA GANDHI NATIONAL OPEN UNIVERSITY SCHOOL OF
CONTINUING EDUCATION**

PROFORMA FOR SUBMISSION OF M.A. (RD) PROPOSAL FOR APPROVAL

SIGNATURE : -----

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DATE OF SUBMISSION: 25TH APRIL 2011

NAME OF STUDY CENTRE: SAINT MARY'S UNIVERSITY COLLEGE

NAME OF GUIDE : MENGISTU HULUKA (PhD)

TITLE OF THE PROJECT: ASSESSMENT OF THE CHALLENGES AND PROSPECTS OF

ICT BUSINESS INCUBATION CENTERS IN ETHIOPIA

SIGNATURE OF THE STUDENT : -----

APPROVED/ NOT APPROVED : -----

DATE : -----

**INDRA GANDHI NATIONAL OPEN UNIVERSITY
SCHOOL OF CONTINUING EDUCATION**

THESIS PROPOSAL

On

***Assessment of the Challenges and Prospects of
Information Communication Technology Business
Incubation Centers (ICT BICs) in Ethiopia***

In Partial Fulfillment of the requirement for the Degree of MA in Rural Development

Submitted to: INDRA GANDHI NATIONAL OPEN UNIVERSITY SCHOOL OF CONTINUING EDUCATION

SUBMITTED BY:

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April 2011

Addis Ababa, Ethiopia

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Acronyms

BI	Business Incubation
ICT BICs	Information communication Technology Business Incubation Centers
BICs	Business Incubation Centers
EICTDA	Ethiopian Information Communication Technology Development Agency
ICT	Information Communication Technology Assisted Development
IT Park	Information Technology Park
MCIT	Ministry of Communication and Information Technology
TVET	Technical Vocational and Educational Training
SMEs	Small and Medium Enterprises

Chapter 1 Introduction

1.1 Background of the Study

ICT infrastructure development in Ethiopia is still at its infant stage though the government has started an aggressive move in promoting the sector and makes it further enact for public and community use.

The ICT policy has also emphasized private sector development's role and its contribution in Research and Technology Transfer. The scope of Ethiopia's ICT policy covers knowledge and information as a tool for development & ICT as a sector or industry. Apart from being as enabler of socio-economic development, ICT also supports Ethiopia's ongoing process of democratization and good governance. Even though the private sector contribution to ICT development is limited or at its foundation stage, individuals and small businesses are providing services, which its contribution to employment opportunity is promising. It is obvious that the development of the economy in general and ICT in particular, critically depends on active participation of the private sector (Ethiopia's ICT policy and Strategy, 2009).

Private sector can intervene in diverse forms of ICT development, software development, dissemination of the technology, skill development within the sector, technical support, and etc. The other most important area of development is participation in the development of ICT Business Incubation for self-employment and entrepreneurship development.

Business Incubators (BIs) come in a variety of shapes and sizes in the modern economy. There are three different kinds of BIs i.e. Public, private, and university based BIs. BIs are commonly classified by ownership. Many of the BIs are attached to the universities, technical and technological institutes and management institutes. And most of them are under public ownership and are being run as not for profit initiatives (Zablocki 2007 as indicated by Koshy Perumal 2010).

There are around 4000 various types of Business and Technology Incubators in operation in the world. The USA alone has more than 1000 incubators while in Europe there are nearly 1000.

Germany alone has more than 300 incubators. Among developing countries, China is leading with about 400 incubators. India, Brazil, Korea, Malaysia and Singapore have also progressed with many a program for business incubation (Chiranjibi, 2006).

ICT infrastructure supports business activity in virtually every industry in Africa, from government to healthcare, banking, transportation, tourism, and even agriculture. The importance of developing capabilities to connect these various entities cannot be exaggerated as a priority for development. ICT incubators in Africa represent one means of facilitating the spread of these communications technologies, and are seen as a means of rapidly developing an entrepreneurial class in regions that did not previously have such a group. However, the development of ICT incubation programs requires a plan that takes into account the environment in which the incubators will operate, and assists prospective incubator managers in achieving a financially sustainable level of operations (InfoDev, 2009).

In Ethiopia, ICT Business Incubations are attached to the Ministry of Communication and Information Technology and Regional ICT Agencies, they provided spaces for incubates until they graduate two years from the start-up period.

The proposed research work critically assesses the challenges encountering the BICs and prospects in self employment generation, technology transformation, and dissemination of research findings.

1.2 Statement of the problem

Development of Business Incubation centers is part of the support of government to develop private initiatives in the ICT sector. Strategic Medium-Term Development Program of the ICT sector portrays that the Ethiopian government recognizes that the role of the private sector in attaining the country's on-going program for sustainable development and poverty reduction.

There are several reasons for partnership with the private sector in ICT development. First, there are definite cost advantages in the use of resources, for example, inefficient utilization of scarce human capital. Second, the private sector has the potential and expertise that can be tapped for national ICT development. Third, private investment in general and direct foreign investment in particular will result in technology transfer and contribute to the country's overall ICT development. Fourth, the involvement of the private sector will enhance implementation of ICT development initiatives including government-to-citizens business initiatives that will facilitate improvements in the provision of information to citizens and businesses in the context of the e-government initiative (EICTDA, ICT Strategic Medium Term Program, 2005)

ICT business Incubation or Software incubator helps in promoting and grow local capacity for software development to address both business and community development needs. Governments the world over are giving high priority to job creation, self-employment and enterprise creation. One way of facilitating the emergence small- and medium-size information and communication technology (ICT) enterprises is business incubation. ((Makerere University of Uganda, http://www.idrc.ca/en/ev-121187-201-1-DO_TOPIC.html).

Every year numerous quantities of young IT technology graduates are emerging from different government and private universities, colleges, and TVET institutions. Accommodating this large number of educated labor force of youth graduates in government and non government organizations and private companies would not be an everlasting solution; among various alternatives fostering the opportunities of sustainable self-employment in the ICT sector is unavoidable. In a country like Ethiopia, where major sectors (industry, agriculture and services) growth and development is at an infant stage, facilitating self-employment milieu is worthwhile. Alongside, entrepreneurial development program & strategies can nurture the enhancement of economic growth and development.

ICT BICs sustainability issue is an important emphasis of this research work, which includes acceptability of the business within the community, issue of market problem and capacity of penetrating the local market and client generation by the newly emerging start-ups within BICs.

Although ICT Business Incubation is not a new start in many countries of the world, the researcher is aware with the Ethiopian context that ICT BIC is a new beginning. Attempts will be done to investigate the local efforts in promoting and developing of such entrepreneurship scheme to adequately supplement the growth of self-employment and entrepreneurial skill for educated youth.

ICT BICs are aimed at the development of SMEs, self-employment of young university/college graduates, and entrepreneurship development. The Current Status of the ICT as a sector and ICT BICs as an element of the sector's undertaking, so far, no sufficient studies have been conducted,

which can show its current clear image since it is a new start. Sustainability issues, Infrastructure, and market accessibility for the start-ups are additional focus areas of this study.

In line to the stated problems, this thesis devotes to get solutions/answers for the following questions.

5. What is the current situation of ICT Business Incubation in Ethiopia, and how the number of companies' scales up to ensure sustainability & contribution to rural development?
6. What multi-dimensional role is expected from ICT BICs to the educated young youth self-employment endeavor, and entrepreneurial development in the ICT sector?
7. What are the main challenges observed in disseminating the ICT BIs and its prospects for employment, entrepreneurial development, and technology dissemination?
8. What are the situation of policy environment and infrastructure facility used and needed for ICT BIs development in the country?

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study is to assess the contribution of ICT business incubations for self-employment creation of young university graduates that can foster entrepreneurial development so as enable to mitigate educated unemployed labor force in the rural and urban areas of the country.

1.3.2 Specific Objectives

- To depict the status of currently functioning ICT Business Incubation Centers (ICT BICs) in the country and assess their competitiveness in the given business environment, and sustainability,
- To reveal the options of employment and self-employment opportunity for the growing number of young university graduates in the ICT sector, and its linkage and contribution towards Rural Development,
- To identify major ICT software developed by the start-up companies in each BICs in fulfilling the needs of clients and major challenges of their business,
- To recommend possible policy options for expansion of BICs and its implication in contributing to the rural development,

1.4 Significance of the Study

New Technology companies are better suited to new ideas; Technology transfer gave way to technology commercialization. Actually, the terms are often used interchangeably but the shift in focus is what became important. Generally, technology commercialization is more focused on making sure that research or laboratory concepts are transformed in to commercial products or services (Nanette, 2001).

The job market for today's graduates can be a rather cruel place. Not only are graduates competing with each other, but the recession has forced experienced workers to take

demotions or go after the lower paid/entry level positions that would otherwise be going to graduates. This is likely to become much worse after the coalition has taken its axe to public sector job, and further benefit reductions could hurt those on jobseeker's allowance, already doing everything they can to try and find work (www.youngfabians.org.uk).

While the graduate labor force is growing, many graduates with tertiary diplomas and degrees are not being appointed despite the observed structural shifts in labor demand (www./commerce.uct.ac.za/.../)

The study emphasis on ICT BICs for self-employment, technology dissemination as well as sustains growth development, development, and poverty reduction endeavor. Now a day, the unemployment condition of young graduates is becoming a sensitive issue as unemployment and underemployment are major manifestations of the poverty situation. Sustainability and entrepreneurial development of the start-up companies are also major focuses of this study.

Additionally, the study result would enable federal and regional governments, researchers, policy makers, members of the intellect community, and expatriates grasp preliminary insights to get them doing further research in the field to promote ICT sector in general and BICs in particular, so as to develop the Small and Medium Enterprises (SME's), self-employment generation, and entrepreneurship development.

1.5 Scope and Limitations of the Study

The study shall be limited itself to four Business Incubation centers (BICs) located in four regional states of the country (Tigray, Oromia, Amhara, South Nations, Nationalities, peoples Regional States) as there is no other similar businesses established else where. The lists of BICs in Ethiopia are as follows:-

- Mekele BICs, Tigray Regional Government 770 Kms from Addis Ababa, the capital city of Ethiopia,
- Bahir Dar BICs, Amhara Regional State 650 Kms from the Capital city,
- Hawassa BICs, Southern Nations Nationalities and Peoples Regional State, 270 Kms far from the capital, and
- Adama BICs, Oromia Regional State nearly 100 Kms away from the capital city, Addis Ababa.

ICT as a sector in general and Business Incubation in particular is a new venture in its kind for the country; as a result, getting lessons from similar studies shall not be a simple job. On top of those limitations, an inadequacy of the locally published materials in the research area adds up the researcher's job more difficult.

Geographical locations of the study areas are in a scattered place and long distances from the center except the other two, Adama and Hawassa BICs, 100 and 270 kms respectively.

Chapter 2 Literature Review

2.1 Concept of ICT Business Incubation

One of the tools that have been used by many countries to successfully enhance employment and wealth creation is Business Incubation. Business incubation can be seen as 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 resources and services are developed or orchestrated by prudent incubator management offered both inside the business incubator and through its network of contacts otherwise known as virtual incubation. A business incubator's main goal is to produce successful firms that leave the program financially viable and freestanding. These incubator graduates have the potential to commercialize new technologies, revitalize neighborhoods, create jobs, and strengthen local and national economies. Business Incubation in Ethiopia has been targeted to optimize the impact of SMEs in the economy, stakeholders in the sector need to coordinate and harmonize their interventions through strategic alliances (Leon Lourens, 2010).

Leon Lourens's study further shows that the ICT Business Incubations are intended mainly to foster the direct participation of the private sector in all ICT related aspects by creating opportunities for their growth in the ICT sector. Participation of the private sector in this new venture could bring differences in development of ICT sector and entrepreneurship, which are ladders of growth and development.

Business Incubators nurture the development of entrepreneurial companies helping them survive and grow during the start-up period, when they are most vulnerable. These programs provide their client companies with business support services and resources tailored to young firms. 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 Incubators Website, USA, 2006).

In the IT-led global knowledge village, there is a seamless potential for study, earning a degree and education outside of the college campuses. Virtual campuses are the reality today. What are needed then would be centers for imparting practical lessons on commercializing the knowledge, innovative ideas, and technical skills. Also it is important to impart real training in starting, managing, making profit and pursuing the growth of enterprise & ventures that a youth entrepreneur could launch. In the knowledge economy, business incubations can be real learning centers. Business incubators foster the growth of entrepreneurial companies, helping them continue to stay alive and grow during the initial period (Koshy, 2010).

Job creation is a global challenge. In this context, Business Incubation can contribute in building youth entrepreneurship and youth owned companies so as to create employment opportunities in the local market, within the neighborhood economy. Building youth owned enterprises is critical to innovation. Creation of jobs for the growing population can be addressed only by developing youth entrepreneurship as they could probably grasp global market dynamics and provide better enterprise leadership (Koshy, 2010).

Koshy (2010), illustrated the contribution of business incubation for employment generation in the local market as follows, "Job creation is a global challenge, in this context, BIs can contribute in building youth entrepreneurship and youth owned companies so as to create employment opportunities in the local market, within the neighboring economy. Building *youth owned enterprises* is critical to innovation. Creation of jobs for the growing population can be

addressed only by developing youth entrepreneurship as they could probably grasp global market dynamics and provide better enterprise leadership.” It also substantiates the youth’s competitiveness, efficiency and innovativeness, however, youth who come out from the academic world need to be empowered for being self employed, to start new ventures and commercialize their knowledge. Business Incubators are also tools for Small Medium Enterprises (SME) development.

ICT nowadays has been used in different parts of the world to bridge the gap between the rich and the poor and the urban and rural community in terms of technology changes and development initiatives especially for the purpose of information seeking (Shaffril and Samah, 2009).

It has become evident that this revolutionary expansion of communications technology can provide some of the most sophisticated forms of telecommunications access to people who would otherwise have no means of communicating to the rest of the world. It is also relatively inexpensive, once the infrastructure is in place it facilitates distance learning, remote support of all kinds, and the ability to share knowledge and skills. For Africa, ICT represents a game changing new aspect in economic development because areas once considered too undeveloped to embrace technology, suddenly are capable of receiving information and program content that can educate, and help them achieve a level of knowledge competitive with other parts of the world. For the incubation industry, this means that small companies in incubators can order parts, communicate with their suppliers, seek investors, be counseled by

advisors, advertise their products and services, and in general, avail themselves of much of the same kinds of technical support as SMEs in the United States, France, or China (infoDev, 2009).

2.2 Definition and Historical Development of ICT BICs

2.2.2 Global Situation

Business incubation (BI) is based on the philosophy that entrepreneurs can thrive when they are surrounded by fellow entrepreneurs, guidance and support of business experts and others who understand the start-up process. BI programs can support the entrepreneurs and small enterprises by providing a proper ladder to technology-led start-ups as they move out of prototyping and into production. Like an incubator machine that provides essential temperature & environment to hatch chickens from eggs, the incubation centre supports fresh entrepreneurs who have innovative ideas but lack overall knowledge & resources to run the enterprise and develops the enterprise to be successful in future by providing hand in hand in its growth (Chiranjibi, 2006).

Business Incubators are businesses aiming at nurturing and establishing other businesses. They are considered to be an excellent tool for small and micro Enterprises (SMEs) development. Targeted assistance at small entrepreneurs and start-ups business- help them grow and graduate to mature enterprises. According to ILO, 2009 estimate 300 million jobs have to be created world over in the next 5 years. As many as 45 million young people enter the job market annually at a global level (Koshy, 2010).

Business incubation has evolved in the last 30 years from experiences with the earlier industrial estates and small enterprise service centers. The ‘first generation’ incubators in the 1980s were essentially offering affordable space and shared facilities to carefully selected entrepreneurial groups. In the 1990s the need was recognized for supplementing the work space with counseling, skills enhancement and networking services to access professional support and seed capital, for tenants within the facility and affiliates outside. This has led to the ‘second generation’ incubator, although many in the developing countries are still stuck in the original mode. Starting in 1998, a new incubation model emerged in parallel. This is intended to mobilize ICT and provide a convergence of support, towards creating growth-potential, tech-based ventures (Rustam Lalkaka, 2001).

The ICT incubator is intended to assist start-up companies by accelerating their development and reducing those barriers by providing secure, reasonably priced office space in addition to badly needed services, and referrals to sources of capital (InfoDev, 2009).

Business incubation is a business support process that accelerates the successful development of start-up and fledging 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 contracts. 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. Critical to the definition of an incubator is the provision of management guidance, technical assistance and consulting tailored to young growing companies. Incubators usually also provide clients access to appropriate rental space and flexible leases, shared basic business services and equipment, technology support services and assistance in obtaining the financing necessary for company growth (<http://www.svbic.com>).

2.2.3 ICT Business Incubation in the Ethiopian Context: A highlight

The ICT sector in Ethiopia is at an embryonic stage. Even though the sector is undeveloped and small at present, it promises to be a dynamic and fast-growing sector outpacing all other sectors of the Ethiopian economy in the not-too-distant future. The government is taking appropriate measures to enhance its growth, among other things, by encouraging investment in the sector with focus on infrastructure and human resources development (ICT Development Program, 2005).

The genesis of ICT business Incubation in Ethiopia is the launching of ICT Assisted Development Project. The project's major development objective was to increase the use of information and communication Technology by communities in project Target Areas (EICTDA/ICTAD, 2010).

Within the broad objective of ICT Assisted Development Project, Business Incubation Program intended to help start-ups and entrepreneurs in ICT related businesses to transform their potentially valuable ideas into marketable products, applications, and services, so as to contribute to the economic development of the country. These ICT incubators can combine a number of new concepts in technological capacity building for sustainable development ((EICTDA-ICTAD, 2010).

The ICT business Incubation in Ethiopia primarily established in the country's Northern part region Tigray-Mekele. Upon its establishment the number of start-up companies formed was five. These start-up companies were formed to provided services like software development, internet service, Computer training, networking, and maintenance. Following the establishment of Mekele BIC the remaining three bigger regions established their own ICT

business Incubation in their regional capital city (Amhara in Bahirdar, Oromia in Nazareth, Southern Nations Nationalities and Peoples (SNNP) in Hawassa).

Hitherto, 35 companies have been organized and started businesses of their own within the premises of each ICT BICs. Most of these companies are engaged in similar technology activities including computer refurbishment, Geospatial information technology service provision, Multimedia & promotion, software development, provision of short term trainings, computer maintenance, material package designs, logos, fliers, webpage development, etc.

In Ethiopia ICT BICs are new ventures, despite the strong commitment and concern of the federal and regional governments the magnitude of the sector's coverage and expansion at this stage does not seem aggressively advancing.

Chapter 3 Research Methodology

3.1 Design of the study and sample selection

3.1.1 The Study area

The Study areas are selected based on the location of BICs functional places, these sites are located two in the north, one in the central area of the country and the fourth one in Southern Nations Nationalities and Peoples Regional State. Currently, total numbers of start-up companies in these four BICs are 35, where as in all centers total number of company members/entrepreneurs is 92. Major Service users (Beneficiaries) are individuals, private sector, Government institutions NGOs.

Major services BICs provides to the start-up companies until they graduate within 2-3 years are: Office equipment, broad band internet access, secretarial services, business advisory services, loan facilitation, training on business planning, marketing, facilitation of trade license, and others.

In parallel, companies/tenants render services like webpage development, Software development, data base management, Computer networking and computer servicing, PC maintenance and training, Computer Refurbishment, Multi media development, Geo-spatial Information Technology Services Software gallery, etc.

3.1.2 Sampling

Population size of companies (start-ups) in the four ICT BICs is 35; the number includes graduate start-ups. The total population size of company members is confirmed 92 youth graduates from universities & colleges. As long as their number is below 50, i.e. 35, the questionnaire encompasses the whole population to receive responses conducting questionnaire interviews.

Members/shareholders of the start-ups, 50% of the total population, are randomly selected from the companies in all four centers. Stratified sampling technique is applied both for company shareholders or entrepreneurs and

beneficiaries/service users of the companies. The stratification of entrepreneurs would be based on business type, profession, sex and ages. Sample selection of service users or beneficiaries can be stratified as individuals, government, NGOs and non government Institutions.

As long as the companies service users are concerned (government institutions, NGOs, Private companies, etc.) stratified sampling will be applied for organizations/institutions, associations, and NGOs using companies' services.

3.1.3 Data Types and Tools of Data Collection

Data collection is structured in two ways, primary data collection method and Secondary data collection method.

3.1.3.1 Primary Data

For the purpose of primary data collection, tools used are Questionnaires, group discussion, In-depth interview with key informants, case study, and group discussions.

For this study standardized **questionnaires** are prepared at four levels: *one* for ICT BICs, *secondly* for Companies/tenants, *third* for Entrepreneurs/company shareholders, and *fourthly*, for beneficiaries/service users' questionnaire. These

questionnaires will cover all developmental and socio-economic situations of the ICT BICs, tenant's role, entrepreneurs/member's role, and service users' satisfaction or complaints. Moreover, the companies' business status, how it started, income generated, market situation for their business, problems encountered, future prospects and challenges are all thoroughly covered to support the researcher's findings to substantiate this study.

Group Discussion, The discussion will be conducted prior to collection of actual data with all BICs managers and development officers to clarify the objective of the research and so as to avoid misunderstandings about the research work, if any. While group discussion will be conducted with ICT BICs centers company representatives service users or/community members a thematic issues for initiating the discussion will be prepared by the researcher in advance, which is Annexure 2 attached at the end of this document.

To get an over view judgment of government's future plan in relation to the ICT BICs in particular and ICT sector in general **Discussions** shall also be conducted with responsible officials at the Ministry of Communication and Information Technology, Regional ICT Development Agency, and German development

cooperation (GIZ) experts. These are the key informants for the study of BICs in the country.

Case study & Field Observation, Case study method will also be used as a method of data collection, mainly to conduct in-depth case studies on successful companies on their business venture and factors contributing to their success.

The researcher's self-observation in all four ICT BICs will add up significant contributions to the study. Observations while data is collected, interviews conducted, and discussions made are essential to identify biased information and exact ones.

3.1.3.2 Secondary Data

Secondary data will be collected and reviewed from different sources at different level. Most secondary data will be collected from ICT BICs, Regional ICT Development Agencies, Ministry of Communication & Information Technology, universities and colleges, Central Statistical Agency, Ministry of Finance and Economic Development (MoFED), relevant associations and unions. This will help in getting reliable verifications to substantiate the research work.

3.1.4 Data processing & Methods of Analysis

The data gathered from the study area shall be coded and arranged in to sub-topics. The data and information are encoded in the computer using SPSS software for clearing and analysis. Both Qualitative and quantitative data is included. To process the research and analyze the data the researcher conducts tasks like editing, coding, computing of the scores, preparation of master charts and data entries. Whereas, inline to quantitative data numbers considered are for instance, type of services provided by the companies, income and expenses generated by the companies, number of service users and type of services frequently required by institutions/individuals.

Statistical techniques (calculations) such as percentages, and cross tabulations will be used in data analysis. Some of the qualitative information gathered using interview schedules and information filled in open ended questionnaires will be constructed coherently with the subject matter and analyzed for their cause-effect relationships in investigating the factors affecting BICs Development.

In line with the research objectives and research questions, the analysis of data will be shown on tables and graphs.

4 Chapter Plan

This thesis is organized into five chapters, which is planned as follows:-

Chapter1.

Under chapter one detail background of the study, concepts and definitions related with the study are elaborated. Research's statement of the problem, objectives of the study, significance of the study, and scope of the study and limitations of the study will be shown in detail.

Chapter2

Chapter two deals with literature review of the study, Concepts, definitions, and historical development of ICT Business Incubation Centers globally and nationally and current situations will be shown.

Chapter 3

Chapter three deals with the research methodologies, the research design, sampling techniques, data collection tools, data processing and method of analysis will be depicted.

Chapter 4

Chapter four, deals with results and discussion of major research findings of the Study and statistical analysis of summarized data.

Chapter 5

Chapter five, deals with conclusion and recommendations based on the findings of the study.

5 Tentative Time Schedule of the Study

No.	Research Activity	Estimated time for the Activity (in weeks)	Remark
1	Problem Identification and Formulation	2	
2	Literature Review	4	
3	Formulation of Objectives	1	
4	Research Design	1/2	
5	Selection of Sample	1/2	
6	Selection of tools of data collection	1/2	
7	Pre-testing of tools of data collection	1/2	
8	Data Collection	3	
9	Editing of data	1	
10	Processing of data	1	
11	Statistical Analysis of Data	1	
12	Report Writing, Binding and presentation of the Report	3	
	Total weeks	18 weeks	

6 Estimated Cost for the proposed Study

No	Ativity	Unit/qty	No of weeks	Unit cost (Birr)	Total Cost	Remark
1	Professional fee for researcher	weeks	18	700	12,600	
2	Daily allowance for enumerators	Man week	2	14,00	2,800	
3	Transport Cost -Air		Two round	1600	6,400	Air ticket is for the researcher twice to Mekele & Bahirdar Adama, Hawassa
	-Land Transport	3	round	200	600	
4	Researchers peridium		2	1,750	3,500	Birr 250/day
5	Coffee, tea, water while discussion conducted.	-	-	-	150	
6	Secretarial Service				1000	
7	Stationery				500	
7.2	Binding	bind	5	60	300	
	Total				27,850	

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Appendix

Tools for Data Collection

ICT Business Incubation Center (ICT BIC) Interview

1. Name of the center-----
2. Location -----
3. Distance from Capital city in Kms -----
4. Legal status of the center
 - a. Registered
 - b. Not registered
5. Name of the center manager-----
 - a. Age-----
 - b. Marital status
 - i. Married
 - ii. Not married
 - iii. divorce
 - iv. widow
 - c. Field of Study-----
 - i. IT related
 - ii. Engineering
 - iii. Mathematics or physics
 - iv. Social science
6. Service on same position in yrs-----
7. Date of ICT BIC established-----
8. Who initiated for the establishment of the center?
 - a. Government

- b. Private sector
- c. NGO
- d. If Other, Specify-----

9. What is the strategic approach to form tenants or companies for incubating?

- a. Pre-set criteria for selection
- b. Composition of discipline (profession)
- c. Gender proportion
- d. Uniqueness of project idea
- e. Others, specify-----

10. Number of People who manages the Business Incubation Center, please specify in figure.

- a. Number of board members of BIC-----
- b. Managing group number-----
- c. Number Support staffs -----
- d. Number of Consultants/technical assistants -----

11. Average monthly salary expenses and operational costs of the center

- a. Salary expense in Birr-----
- b. Operational expenses in Birr-----

12. Total number of Companies/tenants in the center?

- a. At inception ----- year-----

- b. At present ----- year/2011
13. List major software developed by start-up companies
- a. Billing system for supplies
 - b. Data base management for schools/universities
 - c. Land use management for municipality
 - d. Others, specify
14. Gender Proportion in company members
- a. Men-----
 - b. Women-----
15. What are the center's major supports to companies?
- a. Space provision
 - b. Training
 - c. Managerial support
 - d. Financial support
 - e. Consultancy service
16. For how long a company/tenant stays in the center?
- a. 2 yrs
 - b. 3 yrs
 - c. More than 3 yrs based on the nature of the company
17. Is the duration of stay for a company/tenant stays uniform for all business type?
- a. Yes
 - b. No
18. If yes, what type of business nature companies/tenants stay more years in the center and for how long?

- a. Product development including software -----yrs
 - b. Manufacturing-----yrs
 - c. Mixed use-----yrs
 - d. Others, specify-----
19. Number of graduated companies, since the center was established? -----
20. The business focus of the center:
- a. Product development including software
 - b. Manufacturing
 - c. Mixed use
 - d. Others, specify -----
21. Floor area for each company space in m²-----

22. Space provided/occupied by the center in m²-----
23. Average monthly rent for the office space in Birr-----
24. How often the clients/companies report about their activity?
- a. Monthly
 - b. Quarterly
 - c. Semi-annual
 - d. annually
25. Major responsibilities of the ICT BIC-----

26. To which institution the center is accountable?

- a. Regional ICT agency
- b. Board of Management
- c. Federal Ministry of Communication and Information Technology
- d. Other, specify.

27. Support from mother institution, specify material and financial supports in detail-----

28. Total Investment for the establishment of the center in Eth. Birr-----

29. List major benefits of incubate tenants (companies)-----

30. Do you think the business Incubator would sustain?

- a. Yes
- b. No

31. If answer for question 30 is “yes “What are Major factors for its sustainability.

- a. Supports from regional government,
- b. Ability of nurturing/enhancing incubates/tenants
- c. Business environment & market for companies
- d. Socio-economic and political environment
- e. Others, specify-----

32. Level of community awareness about the center's function

a. Low

c. High

b. Medium

33. How do you see the contribution of the Business Incubation Center in achieving the government's national development goal and its role in tackling poverty?

a. Low contribution

c. indifferent

b. Significant contribution

34. Is there an expansion plan to reach the rural community through development of more companies/tenants?

Interview schedule for Incubation companies/tenants

- a. Yes
- b. No

35. If your answer for no.34 is “yes” how can you do that? specify-----

36. Major outcomes attained so far-----

37. Future prospect of the ICT BIC-----

38. Detail challenges encountering the center since its establishment.-----

Thank you very much for taking your time to give this interview.

Name of the interviewee: -----

Date interview conducted: -----

Enumerator’s Name-----

Tel/mobile-----

*Interview schedule for Incubation companies/tenants*ICT Incubation company (tenant or client) Questionnaire**Section 1: Company Characteristics**

1. Location of the company-----
2. Year of Establishment-----
3. How did you start the business?
 - a. with your own initiation
 - b. government support
 - c. advertisement and announcement by the incubation center
 - d. Other, specify-----

4. What is your company specialization? -----

a. Webpage development	d. Networking and computer servicing
b. Software development	
c. Database management	e. Others, specify----- -----
5. What is the number of company share-holders? Men--- Women---- total=-----
6. What is the number of employees in the company? Men--- Women---- total= ----
7. What is the size of your office area in m²? -----
8. Is the current office space enough for running your business

a. Yes	b. No
--------	-------

Interview schedule for Incubation companies/tenants

9. Monthly rent paid for the office in Birr? -----

Section 2: Business Characteristics

10. What is the governing body of the company?

- a. elected board
- b. general assembly of the share-holders
- c. government institution

11. Specify major roles of the board/governing body -----

12. How frequent the board or governing body of the company holds meetings?

- a. Monthly
- b. Every three month
- c. Bi-annual
- d. Yearly

13. Do you hire/invite external auditor for the company's financial transaction auditing?

- a. Yes
- b. No

14. If answer for no. 13 is "yes", how frequent?

- a. Six monthly
- b. Yearly

15. Have you encountered any financial embezzlement so far?

- a. Yes
- b. No

16. If your answer for question no.15 is "yes", specify measures taken-----

Interview schedule for Incubation companies/tenants

17. How much was the investment cost/outlay in Ethiopian Birr for the establishment of your company?-----

18. What is the Source of finance for the establishment your company?

- | | |
|---------------------|-----------------------------|
| a. Government fund | c. Donation |
| b. Own contribution | d. Loan, Bank/micro finance |

19. If the source of finance is loan, what is annual interest rate for the loan?

- | | |
|----------|------------------|
| a. 3-7% | c. 13-15% |
| b. 8-12% | d. More than 15% |

20. Up on establishing your business, what are the major materials needed to start your business? -----

21. How did you acquire these materials?

- | | |
|-----------------------------|-------------------------------|
| a. Donation from government | c. Purchased by the company |
| b. Donation from NGOs | d. Other sources specify----- |

22. What is professional background/education level of the team members/entrepreneurs?

- | | |
|----------------------------|---------------------------------------|
| a. Computer science and IT | d. Physics and other natural sciences |
| b. Engineering | e. Others, specify----- |
| c. Management & accounting | |

23. Had anyone of your company member have worked in ICT sector?

- | | |
|--------|-------|
| a. Yes | b. No |
|--------|-------|

Interview schedule for Incubation companies/tenants

24. If your answer for question no.23 is “yes” for how long? -----

25. What kind of services and facilities do your company get from the BIC center -----

26. Are you charged for services rendered by the BIC center?

- a. Yes
- b. No

27. If your answer for question no.26 is “yes”, specify amount charged in Eth. Birr for each service the center renders.

- a. -----
- b. -----
- c. -----
- d. -----
- e. -----

28. List down relevant trainings conducted so far for each of your management team to run your business

- a. Accounting and Financial management
- b. Project management
- c. Entrepreneurship skill
- d. Business development and promotion
- e. Other, specify-----

29. What is your current training need? -----

30. Did any member of your company withdraw from membership?

- a. Yes
- b. No

Interview schedule for Incubation companies/tenants

31. If your answer for question no. 30 is “yes”, what are the reasons?

- a. Created own business
- b. Employed in government institution
- c. Employed in private sector
- d. Enrolled university/college
- e. Others, specify-----

32. List institutions bought your services (government, NGOs, private companies, civic associations, youth, women , individuals, etc).-----

33. Do local or regional government give you priority to get you market in government institutions?

- a. Yes
- b. No

34. If your answer for question no.33 is “yes”, under what condition you are prioritized?

- a. Direct award
- b. Consider while short list
- c. Support in promotion
- d. Others, specify-----

Interview Schedule for company shareholders/entrepreneur

35. Fill in the following Table Company's yearly revenue and expenditures, since establishment.

	Income in Birr		Expenses in Birr	
2006/07				
2007/08				
2008/09				
2009/10				
2010/11				
Total				

36. List the types of services/products that frequently generate largest share of company's revenue/income (in % and ascending)

- a. -----
- b. -----
- c. -----
- d. -----

37. What are the opportunity for such businesses in the area-----

38. What do you think of the actual and expected threats in undertaking your business -----

39. Can you openly tell me your weaknesses or shortcomings in implementing your objectives and service rendering.-----

Interview Schedule for company shareholders/entrepreneur

40. Experience of your company and prospects in future:-----

41. What are the major challenges/problems encountering your business -----

Thank you for giving your time for the interview!

Name of the interviewee: -----

Tel/mobile-----

Position in the enterprise/company: -----

Enumerator's Name-----Tel/Mobile-----

Date of interview: -----

Interview Schedule for company shareholders/entrepreneur

Company Shareholder/entrepreneur Questionnaire

1. Full name-----
2. Age-----
3. Marital status
 - a. Married
 - b. Not married
 - c. Divorce
 - d. Widow
4. Education
 - a. College diploma
 - b. First Degree
 - c. 2nd Degree
 - d. Other, specify-----

5. Company Name -----
6. Are you one of the company founders;
 - a. Yes
 - b. no
7. What influenced you to become member of this company? -----

8. Product/service of Company's specialization -----

9. What was your initial business idea for joining the company?-----

10. What difference you made for the company or major contribution you did?-----

11. Are you happy in creating your own business?
 - a. Yes
 - b. no
12. Are you full time worker in the company?
 - a. Yes
 - b. No

Interview Schedule for company shareholders/entrepreneur

13. Par-time worker

- a. Yes
- b. No

14. Are you paid in a salary form or get dividend?

- a. Salary
- b. Dividend
- c. Both salary and dividend

15. What are your benefits as a company owner?

- a. Dividends you collect
- b. Knowledge /skill development
- c. conducive environment to run business ideas
- d. others, specify-----

16. Have you ever been employed in other institution before you joined this company?

- a. Yes
- b. No

17. If the answer for question no. 16 is yes, you were employed in

- a. Government institution
- b. Private company
- c. NGO
- d. Other, specify-----

18. Have you ever been run your own business?

- a. Yes
- b. No

19. If answer for question no.18 is Yes, specify what your business type was?-----

20. What is your future plan as an entrepreneur? -----

21. Do you think that your current business could sustain?

- a. Yes
- b. No

22. If your answer for question no 21 is yes, what are major factors for sustainability

- a. -----
- b. -----
- c. -----
- d. -----

Interview Schedule for company shareholders/entrepreneur

23. If your answer for question no 21 is no, specify the setbacks.-----

24. Do you see unnecessary intervention in your business by outsiders?

a. Yes

b. no

25. If your answer for question no. 24 is “yes” list the intervening bodies and their influence on your business -----

26. Are you intending to continue in this business or want to establish another new?

a. Want to continue with the existing business

b. Want to establish new business.

27. If your answer for question no.25 is Want to establish new business, explain the anticipated business and reason why you want to change? -----

28. Do your enterprise/company provide services/product for rural areas

a. Yes

b. No

29. If your answer for question no.28 is yes what type of services/product has been rendered so far? -----

30. What are the current problem of your business?-----

31. Prospects of your business, specify in detail.-----

Thank you for giving your time for the interview.

Date interviewed-----

Enumerator's Name-----

Tel/mobile-----

Beneficiary Questionnaire

1. Name of Interviewee:-----
2. Age:-----
3. Organization:
 - a. Government
 - b. Private company
 - c. NGO
 - d. individual
4. List type of services/products provided by the Business incubation company to you/your organization.
 - a. Software & Webpage development0
 - b. Database management
 - c. Networking and computer servicing
 - d. Training on basic computer knowledge
 - e. Other, specify if other-----

5. When did you get this service? Day & year -----
6. How did you have known the services rendered by this company?
 - a. Advertisement by posters, brochures, media
 - b. Information from friends
 - c. At public gathering
 - d. From company owners
 - e. Other, specify-----
7. Why did you choose this company to get its product/service?
 - a. Fair price
 - b. Good quality
 - c. Time efficiency

d. Other, specify -----

8. How long you drive to get to the company?

- a. Less than 30 minutes
- b. 30 minutes
- c. 30-60 minutes
- d. More than an hour

9. Do you want to build strong relations with this company in future?

- a. Yes
- b. No

10. If your answer for question no. 9 is yes, specify -----

11. How do you rate the company's customer management?

- a. Unsatisfactory
- b. Satisfactory
- c. Good
- d. Very good
- e. Indifferent

12. Method of procuring this Product/service from the company

- a. Short listing
- b. Bidding/auction
- c. Direct award
- d. Other, specify if it's other---

13. How is the quality of the products/services in comparison to other private or government institutions providing similar products or service

- a. Unsatisfactory
- b. satisfactory
- c. Good
- d. Very good
- e. indifferent

14. How do you evaluate services/product precision level to your need?

- a. To the specified standard
- b. slight deviation
- c. significant deviation
- d. complete change

15. What is your evaluation for the level of satisfaction in the product/service of the company

- a. Low
- b. Medium
- c. Good
- d. Very high

16. Could you list out the major weaknesses and strengths of the company's product/service

a. Weakness

- i. Poor customer management
- ii. Inaccuracy of time for delivery
- iii. Office location not ideal
- iv. Other, specify-----

b. Strength

- i. strong team work
- ii. polite way of customer management
- iii. Strong promotion work
- iv. Ideal working place
- v. Other, specify-----

17. Do you have any idea for comment that you think improves the company's product/services delivery system?-----

Thank you for giving your time for the interview!

Date interviewed-----

Enumerator's Name-----

Tel/mobile-----

Focus Group Discussion with Company members

Thematic Issues for Discussion

i) Policy and strategy related:

- a. Business Incubation centers' acceptance by the community,
- b. Availability of enabling regulatory frameworks (laws, regulations, Institutional set-ups, product protection rules, etc.)
- c. Approaches followed by the center for young university/college graduates to establish companies,
- d. Business/service promotion strategy,
- e. Opportunities for employment generation using Business incubation centers,
- f. Threats in establishing and activating business incubation centers
- g. Legal status of the Business Incubation Center
- h. Work relationship between the BIC and ICT agency,
- i. Strategic approach to form tenants or companies for incubate

ii) Business Environment related:

2. How can a new business enterprise sustain and be successful in its business, based on the center's experience,
3. Support required from local government,
4. What are the major needs/demand from the customers side,
5. Major constraints frequently encountering the center and companies organized under the center,
6. Challenges in securing Ideal space for work,
7. Improvements needed at service or product level
8. Service Expansion plan,
9. Augmenting relationship with universities & research centers, ICT Entrepreneurs

Mediator's Name-----

Tel/Mobile

Place Discussion Conducted-----

Date-----

Issues for Discussion

Project (Research) Title: -

Assessment of Challenges and Prospects of ICT Business Incubation Centers in Ethiopia

The following are issues for Discussion with the Federal MoCIT Private Sector Development Directorate.

1. What are the major contributions of ICT Business Incubation development activities to the rural and urban communities in the Ethiopian context,
2. Is there an established working organizational set-up for ICT Business Incubation Center (MBIC) that defines its accountability, role and responsibility?
3. How often the center is supervised by your organization and what are your major support areas (technical, financial, material, etc.)?
4. Future Strategies of government in scaling up ICT Business Incubation Centers (establishing similar BIC or strengthening the existing one),
5. What are the major problems to run establish and sustain similar Business Incubation Centers from your experience?
6. Relationship with colleges/universities and Research centers in strengthening the Business Incubation Center (BIC).

Thank you!

GIZ Technical Expert's topics

For Discussion

Project (Research) Title: -

Assessment of Challenges and Prospects of ICT Business Incubation Centers in Ethiopia

1. Major Business Incubation Centers' (BICs) problems along the following few points
 - a. Technical
 - b. infrastructure
 - c. Management
 - d. Financial
 - e. Institutional and structural, and
 - f. Experience and capacity issues in running the business
2. Supports required for sustaining the centers and increasing more entrepreneurs
 - a. Capacity building/training,
 - b. Equipment/materials,
 - c. Technical support,
 - d. Working space
 - e. Others
3. Future prospects and aspects for expanding and promoting of Business Incubation centers and your suggestions for improving the current status of BICs and establishing new ones in other regions.

Thank you!

Appendix----- Best Scenario Case interview Questions

Name of the Center: - Mekele Business Incubation Center

Name of the Tenant: - Yaybe IT Solutions Company

The aim is to draw lessons as a Case from Yaybe Company (a successful company) on its business venture to substantiate the Study on “**ASSESSMENT OF THE CHALLENGES AND PROSPECTS OF ICT BUSINESS INCUBATION CENTERS IN ETHIOPIA**”

Part One: Members Profile

- 1) Full Name-----
- 2) Age-----
- 3) Marital status
 - a. Married-----
 - b. Single-----
- 4) Educational Background
 - a. Year high school completed-----
 - b. Year college/university graduated-----
 - c. Field of study-----
- 5) Mobile no-----

Part two: Company Profile

- 6) Year of the company's established-----
- 7) Number of company owners-----
- 8) Initial Capital in Birr-----
- 9) Source of Finance-----
- 10) Specialization of the company-----
- 11) Number of Bid awards won by year (List them sequentially)
 - a. -----
 - b. -----
 - c. -----
 - d. -----
 - e. -----

12) Total awards in cash (Birr)-----

13) List Sale of Products (services) by your company to different institutions

- a. -----
- b. -----
- c. -----
- d. -----
- e. -----

14) Describe current status of the company

- a. Professional strength
- b. Financial capacity
- c. Members commitment

15) Major supports provided by the Mekele BIC

16) Describe Over all Experience, lessons and success of the company,

17) Major challenges/problems encountered while progressing your activities.

18) Additional opinions, you can detail your general performances.

19) What can others learn from your experience,

- a. Professional ethics
- b. Commitment
- c. Learning from others
- d. Sustainability
- e. Business & entrepreneurship development
- f. Others

Thank you!