BUSINESS INCUBATION IN THE EASTERN CAPE: A CASE STUDY

By

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1 My sincere appreciation and gratitude to my supervisor, Dr M Cullen, for her guidance and assistance in producing this treatise.

2 The support of my family and close friends is greatly appreciated as well.
DECLARATION

I, LEONARD MARK CHANDLER (Student number 210239085), hereby declare that this treatise for MAGISTER IN BUSINESS ADMINISTRATION to be awarded, is my own work and that it has not previously been submitted for assessment or completion of any postgraduate qualification to another University or for another qualification.

Signed:……………………………………..

Date: 18 November 2013
ABSTRACT

Business incubation is a concept that describes a business development process that is used to grow successful, sustainable entrepreneurial ventures that will contribute to the health and wealth of local, regional and national economies. Incubators provide a place for businesses to build their foundations. Business incubators use a combination of physical space, resources and services to facilitate and develop businesses, enhance their progress, break down barriers to success, reduce risks and increase the potential for successful survival of early stage ventures, their progress, break down barriers to success, reduce risks and increase the potential for successful survival of early stage ventures. Business incubators are part of a larger value chain that connects enterprises to a vital support system. Most incubators connect their clients to local service providers (such as lawyers, corporate service providers or accountants) and establish relationships that will last after the firm leaves the incubator. Once an enterprise is ready to leave the incubator environment, it will need space to move into, which in turn, boosts property development and leasing. Because of the enhanced credibility of the business incubation process, landlords would be more confident as a stable, growing business can be a reliable tenant.

The empirical object of the study is the Seda NMB ICT Incubator in Port Elizabeth, Eastern Cape. Like any other business an incubator is created to deliver a service or product for as long as possible and in this process must create value because the ultimate objective of any profit seeking business is to create wealth for its owners with due consideration of all its stakeholders (Brigham & Ehrhardt 2005:7-12).

A preliminary investigation of the Seda NMB ICT Incubator raised the question whether the operation of this incubator meets the performance standards as identified in the international literature.

The purpose of this study is therefore to establish whether the performance of the Seda NMB ICT Incubator is in line with generally accepted performance standards. At this stage the standards can be identified as a strategic alliance of the business (vision, mission and strategy), financing principles, management principles and human resource development and growth opportunities.
The SEDA NMB ICT Incubator is financed as follows: Partly by the Department of Trade and Industry (the SEDA technology programme) and partly by the Nelson Mandela Bay Metropolitan Municipality. It is recommended that public/private partnerships should be formed to ensure the continuity of the Port Elizabeth incubator.

A second recommendation is that the SEDA NMB Incubator becomes more focussed in terms of its clients it is serving. At present it is serving a wide variety of ICT clients ranging from website design, graphic art to preparing business plans for ICT businesses.

The period of incubation may be too extended as some incubatees have been on the premises for more than five years. It is recommended that the SEDA NMB Incubator pays attention to the length of stay of an incubatee.

The vast majority of the incubatees on the SEDA NMB Incubator premises are not compliant with business acts and regulations. Seven incubatees reported during the personal interview that they were not compliant with all the acts and regulations.
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CHAPTER ONE
INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

Business incubation is a concept that describes a business development process that is used to grow successful, sustainable entrepreneurial ventures that will contribute to the health and wealth of local, regional and national economies. Incubators provide a place for businesses to build their foundations (Buys & Mbewena 2007). Business incubators use a combination of physical space, resources and services to facilitate and develop businesses, enhance their progress, break down barriers to success, reduce risks and increase the potential for successful survival of early stage ventures. Business incubators are part of a larger value chain that connect enterprises to a vital support system. Most incubators connect their clients to local services providers (such as lawyers, corporate service providers or accountants) and establish relationships that will last after the firm leaves the incubator (NBIA 2013). Once an enterprise is ready to leave the incubator environment, it will need space to move into, which in turn, boosts property development and leasing. Because of the enhanced credibility of the business incubation process, landlords would be more confident as a stable, growing business can be a reliable tenant (NBIA 2013).

It is in the interests of local service providers, government and business incubators to cooperate to provide start-up enterprises the best new venture facilities and assistance to enable them to become sustainable and successful enterprises that would generate more business for the area. For this reason, many service providers will provide free or reduced services to incubator clients. Similarly, experienced business people liaise with business incubators as mentors or advocates for the incubator as most entrepreneurs are favourably disposed toward sharing their experience and expertise with a new or aspiring entrepreneur.

The importance attached to business incubation in South Africa was emphasised in September 2012 by the Minister of Trade and Industry when the Incubation Support
Programme (ISP) was launched. ‘The Minister of Trade and Industry, Dr Rob Davies will launch the Incubation Support Programme (ISP) on Sunday that will be effective from 16 September 2012 and will be administered for a period of ten (10) years up to March 2022’ (DTI 2012).

Minister Davies (DTI 2012) said that the aim of the programme is to encourage private sector partnership with government to support business incubators in order to develop small, medium and micro enterprises and nurture these into sustainable enterprises that can provide employment and contribute to economic growth. ‘The incentive is provided in pursuit of ensuring that small micro and medium enterprises are eventually graduated into the mainstream economy through the dedicated support provided to the incubators, thus creating successful enterprises with a potential to revitalise communities and strengthen local and national economies. ‘This is one of the best platforms that a country can use to promote broader economic participation, uplift the country’s entrepreneurial base and encourage start-up activities’ (DTI 2012).

According to the Minister, the South African government takes cognisance of the fact that the growth of an entrepreneurial base and the sustainable development of SMMEs remain a determining factor and a key priority in fostering broadening participation in the economy. A programme of this nature has both the envisaged potential of bringing a vast number of enterprises from the survivalist stage and informal economy into being main players in the mainstream economy. It is without a doubt that an incubation programme cannot be successfully undertaken by a single player in the economy. It is for this reason that government is forging as well as calling for partnership with business, in meeting the target of establishing 250 new incubators by 2015' (DTI 2012).

1.2 BACKGROUND TO THE STUDY

Only recently have researchers begun to study the development of incubators, which in itself is a relatively new development. The question may be asked whether the subject under discussion has a definite empirical and cognitive object which will allow researchers to draw scientific conclusions from the study of the related material. As a first observation it may be concluded that the empirical object is the so
called business incubator while the cognitive object may be various aspects of it, such as value creation, profitability, productivity and a host of other possibilities. A lack of a definite recognition of the empirical and cognitive object of the study of business Incubators may send the researcher in a wrong direction (Du Toit 1981:11). In terms of clarity for this study it is accepted that the empirical object of the study is a particular Business Incubator in the Eastern Cape, South Africa, namely Seda NMB ICT Incubator in Port Elizabeth. The cognitive objects are the performance of the incubator relative to certain criteria as identified in the related literature.

The literature concerning business Incubators can be classified in various manners. A first observation shows literature dealing with the theory of incubation (Maital, Ravid, Seshadri & Dumanis 2008). Maital et al. (2008) were concerned that business incubators are found all over the world, but that no viable integrative theory of effective business incubation exists. They (2008) expressed the wish that scholars of incubation will conduct meta-studies of incubators, building on the existing and available empirical literature, to construct general theories of effective incubation that will add to, extend and challenge the general principles. Hackett and Dilts (2004) on the other hand tried to make a contribution in the sense that the literature on business incubators is systematically reviewed. Hackett and Dilts (2004) came to the conclusion that the focus should be on the process of incubation rather than on the incubator facility and its configuration. This should help to draw the attention to the underlying causes of new venture development in an incubator-incubation environment. This, in turn, should lead toward new and valid theories of business incubation.

A second observation about the literature is the emphasis on a comparison of business incubators in different countries. In a three part study, Tang, Baskaran and Pancholi (2010) compared technology business incubators in China and India. Tang et al. (2010) came to the conclusion that there are a number of similarities and differences in the technology business environment in China and India. In another paper by Chandra (2007a), regarding approaches to business incubation in the United States, China and Brazil, a conclusion was reached that incubation approaches in developed and developing countries exhibit many similarities; however, at the macro level incubation is largely influenced by the nature of the institutional and cultural context. At the incubator level, the strategic focus of the
incubator and its service mix are impacted by the nature of its client base as well as the resources available to the incubator in its immediate environment.

Other studies concentrated on the relationship between incubators and small business development. In a report prepared for the Organisation for Economic Co-operation and Development (OECD 1997) the emphasis was on the relationship between technology incubators and small firms. The report concluded that the effects of technology incubators on firm survival rates tend to be positive while the evidence regarding the impacts on job growth and business creation is mixed. Adegbite (2001) also concentrated on business incubators and small enterprise development in an African context. Ndabeni (2008) brought it closer to home in his research in respect of the contribution of business incubators and technology stations to small enterprise development in South Africa.

A fourth class of incubation studies concentrates on business incubators in terms of macro value creation. Almubartaki, Al-Karaghouli and Busler (2010) reported on the initiative whereby incubators were used to stimulate the economy. Lalkaka (2002) also concentrated on the way that technology business incubators can to build an innovation-based economy. Campbell (1989) investigated the relationship between business incubators and economic development.

In conclusion of this section it is necessary to take note of the research dealing with performance measurement of business incubators. Pals (2006) compiled a report on the factors which determine the success or failure of business incubators in seventeen countries. The study concentrated on the factors as identified in the literature dealing with incubators in seventeen countries. Vanderstraeten, MatthysSENS and van Witteloostuijn (2012) studied the measurement of performance of business incubators. An important conclusion from their research is that incubator performance measurement is a topic that receives much attention in the academic literature, but it is far from reaching a state of consensus.

In the previous paragraphs it was emphasised that the research on business incubators is wide in scope and deals with a search for theoretical consensus, economic development, comparative studies, small business development and performance measurement, which is the main focus of this research.
1.3 PROBLEM STATEMENT

The empirical object of the study is the Seda NMB ICT Incubator in Port Elizabeth, Eastern Cape. Like any other business an incubator is created to deliver a service or product for as long as possible and in this process must create value because the ultimate objective of any profit seeking business is to create wealth for its owners with due consideration of all its stakeholders (Brigham & Ehrhardt 2005:7-12).

A preliminary investigation of the Seda NMB ICT Incubator raised the question whether the operation of this incubator does meet the performance standards as identified in the international literature.

1.4 PURPOSE OF THE STUDY

The purpose of this study is therefore to establish whether the performance of the Seda NMB ICT Incubator is in line with generally accepted performance standards. At this stage the standards can be identified as strategic alliance of the business (vision, mission and strategy), financing principles, management principles and human resource development and growth opportunities.

1.5 SIGNIFICANCE OF THE STUDY

It is trusted that the research will help in bridging the gap between theory and practice. Incubator developers will find the research useful in terms of the development of new incubators as well as the training of staff of new and existing incubators.

1.6 RESEARCH OBJECTIVES

The research objectives of the study may be summarised in the following hypotheses:

Hypothesis 1: The performance of the Seda NMB ICT Incubator does comply with international performance standards for incubators.

Hypothesis 0: The performance of the Seda NMB ICT Incubator does not comply with international performance standards for incubators.
1.7 RESEARCH DESIGN AND METHODOLOGY
The research will adhere to the following research protocols:
- A literature search using the following key words: business incubators, USA, BRICS, Africa, performance standards;
- Analysis and interpretation of the relevant literature;
- Preparation of a performance measurement questionnaire;
- On sight interview at the Seda NMB ICT Incubator;
- Interpretation of the results of the interview sessions; and

1.8 SCOPE OF THE STUDY
The scope of the research will be limited to a study of the developments in the business incubator sector in the USA, BRICS (Brazil, Russia, India, China and South Africa) countries. Based on the literature research on business incubation, a performance investigation will be done on the Seda NMB ICT Incubator in Port Elizabeth, E.C. The final results may be useful, as indicated to other parties, but no general theory can be postulated that will apply to each and every incubator.

1.9 SUMMARY
In the preceding sections the following aspects of the research were addressed:
- Background to the study;
- Problem of the study;
- Purpose and significance of the study; and
- The research objective, research design and scope of the study.
In Chapter Two a discussion of the nature and development of business incubators in the USA as well as the so called BRICS countries with special reference to South Africa is presented. Possible models will be identified to address the question of performance measurement in business incubators. The ideas presented in Chapter Two will be normative and descriptive in accordance with trend of findings reported in the literature.
Chapter Three comprises the research methodology. In Chapter Four the results of the empirical study will be discussed. Chapter Five summarises the research results, conclusions drawn, as well as recommendations for implementation.
CHAPTER TWO

APPROACHES TO BUSINESS INCUBATION IN THE USA, BRICS COUNTRIES AND SOUTH AFRICA: A LITERATURE SURVEY

2.1 INTRODUCTION

The concept of business incubation is one that is borrowed from the field of medicine where incubation is described as ‘an environment of controlled temperature, humidity and oxygen concentration in order to provide optimal conditions for growth and development’ (Free Dictionary 2013). In line with this definition, young or start-up businesses are provided with a safe environment to establish and grow their businesses.

In developed as well as developing countries, business incubators are now recognised as important instruments for:

- Developing the economy in general;
- Promoting entrepreneurship development;
- Promoting technological innovation; and
- The development of small and medium enterprises.

It is maintained that business incubators were pioneered in the USA and Western Europe. There are now thousands of business incubators all over the world. They were established with the primary objective of stimulating the emergence of a steady flow of successful small and medium scale businesses, thereby promoting entrepreneurship and innovation in particular and socio-economic development in general (Adegbite 2001; Almubartaki, Al-Karaghouli & Bussler 2010; Baloyi 2013; Lalkaka & Shaffer 1999).

Within this context, business incubators have established a track record in different countries over the past three decades and are now recognised as being one of the most effective ways of promoting entrepreneurial activities and local economic development (Stefanovic, Devedzic & Eric 2008). Studies to evaluate the performance of business incubators indicate that they can reduce the failure rate amongst new business start–ups to be below 10 per cent over a three year period, as compared to 60 to 80 per cent for small businesses generally (Adegbite 2001).
It is against the above mentioned background that several developing countries, including South Africa, have adopted the business incubator approach to accelerate the development and promotion of small and medium scale enterprises (Baloyi 2013; SEDA 2013;).

The following section (Section 2.2) will define and discuss the concept of business incubation.

2.2 THE INCUBATOR CONCEPT
A business incubator is an organisation that facilitates the process of creating successful new businesses by providing them with a comprehensive and integrated range of services, including:

- Incubator space in fully build up factory buildings on flexible and affordable terms;
- The provision of a comprehensive range of shared services for example counselling and training, administrative support, financing and assistance with marketing;
- Strict admission and exit rules;
- Professional management; and
- Other assistance as needed and required (Adegbite 2001; Hackett & Dilts 2004; NBIA 2013; Van der Zee 2007).

In a generic sense, the term business incubator is also used to describe a wide range of organisations that in one way or another help entrepreneurs to develop their ideas from inception to full scale enterprises. A virtual incubator is also included in this category (Hackett et al. 2004; NBIA 2013).

For the purpose of this research the organisational definition of incubation as defined above, is accepted. This is a workable definition in terms of the empirical object of the study.
2.2.1 Characteristics of incubators

The practice of business incubation is evident all over the world, however, the focus of the different entities from country to country. The United States of America (USA), for example, initially focused on new technologies, light manufacturing and services. However, as the industry matured the types of businesses incubated have significantly broadened (Wiggins & Gibson 2003). Incubators in the USA provide a range of financial services to their incubator clients, including assistance in securing grants from various government agencies at the federal, state and local levels. The Small Business Innovation Research grants and the Small Business Administration grants and loans are popular forms of assistance for certain types of businesses. During the early growth stage for instance, bank loans are an option for a financially viable business (Chandra 2007a).

In India, the development of business incubation focused on knowledge-driven and technology intensive units (Singla et al. 2008). Their National Science and Technology Entrepreneurship Development Board (NSTEDB) was established in 1982 by the Government of India under the umbrella of the Department of Science and Technology. The Board, having representations from various ministries/departments, aims to convert ‘job-seekers’ into ‘job generators’ through Science and Technology (S&T) interventions. Various initiatives taken over the years by NSTEDB have gradually contributed to building a scenario of business incubation in India. These initiatives can be chronologically described as STEP’s in 1984, EDC’s in 1986-87, TBI’s in 2000-2001 and RBH’s in 2005 (Singla et al. 2008; NSTEDB 2013).

The Government of China focused on the development of high technology businesses. They have various models which will be discussed in the section on China. In this regard the Torch High Technology Industry Development Centre and the Ministry of Science and Technology of the People’s Republic of China, play an important role (Torch 2013).

Business incubation in Latin America is of relatively recent origin, since the concept of incubation did not gain momentum until the late eighties and the early nineties of the nineteenth century. Brazil, Chile and Argentina are the leading incubation
markets in Latin America. It was estimated by Chandra (2007b), that with approximately 400 incubators and a well-developed incubation eco-system, Brazil leads one of the most successful incubation movements in Latin America, through innovation and adaptation of incubator models to suit indigenous needs.

The development of incubators in Russia, which forms part of the BRICS accord with Brazil, India, China and South Africa, is not very advanced. This could be as a direct result of the change in their political paradigm (Lazarowich & Wojciechowski 2002).

In South Africa the concept of incubation was first applied in 1995 when the Small Business Development Corporation (SBDC) established the ‘hives of industry’ (Mbewana 2006; du Plessis 1986). The hives were a number of independent work stations that were grouped together to form a cluster of workshops and they were an attempt to bridge the first and third world economic barriers in South Africa. Hives were not really incubators in their modern form because there was no set period for the company to move out of the hive (Mbewana 2006). Unlike the examples from the USA, China and India the focus was to develop small and medium sized businesses in any sector.

The approach to business incubator development of each of these countries will be discussed in the following sections.

### 2.3 BUSINESS INCUBATORS IN THE USA

The United States Small Business Administration undertook a number of initiatives to strengthen the incubation movement (Wiggins & Gibson 2003). The agency held regional conferences to introduce the incubator concept to various regions of the country. It published newsletters and handbooks on incubation and most importantly, supported the formation of the National Business Incubation. Government grants, university/corporate support along with rental and consulting income constituted the main sources of funds for incubators. According to Chandra (2007b), support from the state economic development agencies as well as capital funds from the state’s legislative allocation and competitive and matching grants from the state were primary sources of incubator support in the USA.
Approximately 75% of all incubators are non-profit making entities that are supported by local governments, academic institutions of higher learning and/or local businesses; however, during the .com mania there was a pronounced shift towards for-profit incubators (Wiggins & Gibson 2003).

Business incubation has changed focus as the environment has changed focus. Incubation is a highly adaptable form of business intervention where incubators currently are targeting diverse industries such as biotechnology, clean energy, ceramics technology, the internet, software and telecommunications, high technology and the arts. The industry services high-growth, venture-backed businesses as well as micro enterprises; women and minority owned businesses and rural, suburban and urban environments (Wiggins & Gibson 2003). This adaptation to the environment has resulted in various forms of incubators being established (Chandra 2007b):

- **Technology incubators** generally have a university affiliation along with a focus on specialised technology that coincides with the area of expertise at the university;

- **Specialised high-tech incubator** – In the United States, this category of incubators focuses on a certain aspect of high-technology to capitalise on proximity to university resources or to other sources of funding;

- **University-based incubator** – This is a very popular category in the United States. These incubators are housed at universities and supported financially by their parent universities, as well as government and private funds, in some cases.

- **Technology transfer and commercialisation** are the twin goals of the university incubator that offers multiple benefits to the university and to the larger community;

- **Traditional/Community-based incubators.** These incubators are supported by state and local economic development agencies, as well as by local chambers of commerce with a view to economic development of the area.

- **Private/Corporate incubators.** In the USA, firms, such as Motorola, have their own in-house incubators to grow businesses related to their specific technology needs. These incubators are funded by their parent corporations or by venture
capitalists. A similar model to the Motorola model is discussed by Steyn and du Toit (2007).

In a study on the geography of business incubator formation in the United States, Yu, Middleton and Jackson (no date) came to the conclusion that business incubators in the USA are:

- unevenly distributed across regions, states and counties;
- highly concentrated in urban areas; and
- urban and rural counties that accommodate incubator formation have exhibited contradicting profiles, except that both rural and urban incubator counties appear to be more educated than counties without incubators.

The inclusion of for-profit incubators has introduced different metrics and management models for incubators. These corporate intra-ventures or new initiative groups aim to balance the need to diversify holdings while developing sector-specific expertise; make decisions in the best interest of the start-up client, the incubator and its funding owners, and to focus on providing value-added services, networks and overall support.

There are diverse funding streams for incubators in the USA. They include revenue from rental income and consulting services, university affiliation, formal support - which includes capital funds from the state’s legislative allocation for incubator infrastructure, competitive grants from the state to select incubators, matching grants for service support for new ventures and funds that are channelled through the state economic development agency. Another category is informal sources of support which include tax incentives in the form of tax credits to businesses investing in incubators, low interest loans to local government agencies to support investment in incubators and private partnership funding, wherein incubators raise money from a coalition of businesses and banks for operational funds (Chandra 2007b).

2.4 BUSINESS INCUBATORS IN INDIA
As in other developed and developing countries of the world, India also recognises the development of small scale industries (SSI) (Singla, Khanduja & Singh 2008).
The development of Technology Business Incubators in India is also recognised (Tang, Baskaran & Pancholi 2010; Tang, Baskarin, Pancholi & Muchie 2011). The following are examples of the development of business incubators in India.

2.4.1 Science and Technology Entrepreneurs Parks (STEP’s)
STEP’s were initiated by the NSTEDB in 1984 in collaboration with different Indian financial institutions to enable science and technology specialists to cultivate an entrepreneurial culture and foster close linkages between universities, academic and research and development (R&D) institutions on the one hand and industry on the other. The STEP programme was initiated to provide a re-orientation in the approach to innovation and entrepreneurship involving education, training, research, finance, management and the government. STEPs are functioning in around 20 locations, primarily in the engineering colleges and the technical universities throughout the country. Facilities and services provided by STEPs include facilities like nursery sheds, testing and calibration facilities, precision tool room/central workshop, prototype development, business facilitation, computing, data bank, library and documentation, communication, seminar hall/conference room, common facilities such as phone, telex, fax, photocopying. STEPs is an autonomous body registered as a society under the Societies Registration Act (Singla et al. 2008).

2.4.2 Entrepreneurship Development Cells (EDC’s)
The scheme for the establishment of entrepreneurship development cells (EDC) in academic institutions was an initiative undertaken by the NSTEDB in India in 1986-87. In December 2006, more than 60 EDC’s were operating in academic institutions. The EDC scheme was initiated to develop institutional mechanisms to create an entrepreneurial culture in Science and Technology (S&T) academic institutions and to foster techno-entrepreneurship for generating wealth and employment by S&T persons. The EDCs were established in academic institutions such as science colleges, engineering colleges, universities and management institutes that had the requisite expertise and infrastructure. The mission of the EDC Scheme was to ‘develop institutional mechanisms to create an entrepreneurial culture in science and technology academic institutions to develop technocrat entrepreneurs for the generation of wealth and employment’. With these objectives, EDC’s were established in academic institutions to perform various functions like organising
Entrepreneurship Awareness Camps, Entrepreneurship Development Programmes and Faculty Development Programmes.

According to Singla et al. (2008) the results from these EDC’s have never been appreciable and encouraging for the planners and government alike. The institutions have mostly ignored the real objectives of EDC’s and provided meager funding for the development of these institutions.

2.4.3 Technology Business Incubators (TBI’s)

After STEP’s and EDC’s, ‘Technology Business Incubators’ (TBI’s) are the most recent developments in the evolutionary line to create an environment for innovation and entrepreneurship, active interaction between academics and industries, and for sharing ideas and experience toward the development of new technologies and their rapid transfer to the end user. A scheme on establishment of TBI’s in and around academic and R&D institutions was initiated by NSTEDB during 2000-2001.

All these business incubators work on certain basic principles like (Lalkaka 2002):

- Focus on Wealth Creation: The emphasis should be on return-on-investment and not the economic development;
- Encourage Entrepreneurship: The emphasis should be on building a business and not the technology;
- Provide Value to Tenants and Stakeholders: The value in many forms must be benchmarked to achieve satisfaction among tenants; and
- Manage the Incubator more like a business, rather than a non-profit service - result versus activities must be evaluated.

According to Tang et al. (2011) the profile of a typical technology business incubator in India can be summarised as in table 2.1 below.
Table 2.1: Typical Profile of a TBI in India

<table>
<thead>
<tr>
<th></th>
<th>Electronics and ICT domain</th>
<th>Biotech and agriculture domain</th>
<th>Mechanical and manufacturing domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total floor area</td>
<td>8500 - 10000 sq ft</td>
<td>10000 - 20000 sq ft</td>
<td>15000 - 25000 sq ft</td>
</tr>
<tr>
<td>Number of firms</td>
<td>15-20</td>
<td>8-12</td>
<td>10-15</td>
</tr>
<tr>
<td>Floor area for each firm</td>
<td>100-300 sq ft</td>
<td>225-750 sq ft</td>
<td>350-500 sq ft</td>
</tr>
<tr>
<td>Number of employees at start-up</td>
<td>1-5</td>
<td>3-10</td>
<td>3-10</td>
</tr>
<tr>
<td>Incubation period</td>
<td>1-2 years</td>
<td>2-3 years</td>
<td>3-5 years</td>
</tr>
</tbody>
</table>

Source: Adapted from Tang et al. (2004)

2.4.4 Rural Business Hubs (RBH’s)

Sustainable solutions to rural problems can be formulated only when these adhere to prevailing rural economy, ecology and societal structures. In the widespread spheres of production and utilisation pertaining to the necessities of life and uplifting its quality in the present day world, technologies and their appropriateness play a crucial role.

Technological inputs for rural areas will largely depend very much on local requirements and resources, level of available human skills, investments and employment potential. Thus, in any developing nation like India, downsizing technology should be recognised as a key parameter for rural development. If rural development is treated as a social movement, then the role of skilled persons must be glorified, as they have always been full of energy, innovation, aptitude and skills (Singla et al. 2008).

An association that plays an important part in the development of business incubators in India is The Indian STEP and Business Incubator Association (ISBA). The ISBA was set up in 2004 as a registered professional body to promote business incubation activities in the country through exchange of information, sharing of experience, and other networking assistance among Indian Business Incubators,
Science and Technology Entrepreneurs Parks (STEP) and other related organisations engaged in the promotion of start-up enterprises (ISBA 2013).

In conclusion the following remarks by Tang et al. (2011) are of importance:

- Government plays a crucial role in the development of technology business incubators (TBI’s) in India.
- Despite the involvement of government in TBI’s in India, the growth of TBI’s is poor.

In section 2.5 the business incubator movement in China is discussed:

2.5 BUSINESS INCUBATORS IN CHINA

Chinese incubators tend to be relatively more monolithic in terms of business models, due to their high level of dependence on the government for direction and support.

China has experienced extensive changes in their economic, institutional and financial infrastructures, especially in terms of market development, by opening up to global competition and deregulating their markets to reduce the predominant role of the State. Although China has only promoted the creation of small business through the incubation model since the late 1980s, it is the world’s largest emerging market and has had an average growth rate annually of over 10 per cent for the last decade (Chandra & Fealy 2009). It is second only to the United States in terms of the number of incubators.

There are currently more than 500 incubators in China with over 600,000 people employed by those incubators (Chandra & Fealy 2009). China has a well-developed incubation market space; with the government playing a predominant role in the business of incubation by channelling resources in accordance with the government mandate of high technology led economic growth. In China, incubators and incubatees alike depend to a large extent on government funds in an environment marked by a paucity of risk capital.
Chandra (2007b) identified the following ‘Indigenous Incubation Models’ for China:

- **Innovation Park for Returned Scholars.** This particular category of incubators was set up to attract overseas talent – scholars and students – from the Chinese diaspora to set up high-tech businesses in China. Generous subsidies in the form of low cost space usually at universities and other forms of assistance, are used to attract homeward bound talent; and

- **State Owned Enterprise incubator (SOE).** The SOE incubator bears some similarity to the corporate incubator. However, this type of incubator is housed in and supported by the parent SOE with the intent of creating new technologies for the benefit of the parent SOE and for absorbing redundant workers from the parent company. Since they are staffed by managers with little market experience, they suffer from a lack of strong managerial talent.

Rong (2009) on the other hand referred to the following kinds of business incubators in China:

- **Innovation Center.** It is the most popular type of business incubator in China, and it also has the longest developing history. Most innovation centers are sponsored by local government initially. Recently more and more private capital pays considerable attention to develop the innovation center than before.

- **University Science Park.** Universities play an important role in the field of innovation. They always inspire students and faculties to create new ideas, launch new research projects, and obtain new achievements. Thus, the university science parks are also an important type of business incubator in China.

- **Overseas Student Enterprise Park.** The aim of the overseas student enterprise park is to attract the top Chinese students and experts in foreign countries to contribute their knowledge and capacity to their motherland. Until 2008, there were 68 overseas student enterprise parks, in which 3857 companies (12 listed), 6041 overseas students (3969 PhD), and more than 100,000 employees.

- **International Business Incubator (IBI).** Since 1994, the Ministry of Science and Technology has approved nine international business incubators in nine cities, including Beijing, Shanghai, Tianjin, Chongqing, Guangzhou and four other
cities. IBI became an important window of international cooperation and communication. They promote the local SMEs to explore the overseas market and help foreign SMEs to develop in China.

- **China Oversea Science Park.** The Chinese government has set up several overseas science parks in Manchester and Cambridge, UK, Maryland USA, Moscow Russia, Vienna Austria, Singapore as well as Australia.

According to Rong (2009) the growth rate in technology business incubators is above average compared to world standards. The factors that drive the success of Chinese incubators are:

- **Government Support.** The government of China pays much attention to the development of business incubators. In addition, the business incubators are regarded as the key part of a national innovation system. The central government as well as the local government considers the growth of business incubators as essential to their developing strategy. In addition, the state capital plays an important role in constructing business incubators in China.

- **Tax Reduction and Financial Funds** - In 2007, the Ministry of Finance and State Administration of Taxation announced that the national business incubators are exempt from four kinds of tax, e.g. housing tax, land tax, business tax and refund of income tax.

- **Network.** The national competent authority of business incubators has set up measures for business incubator certification. The appraisal measure for the national business incubator has been established. The standard of national business incubators enables the business incubators to improve their incubation service. In addition, under the guidance of Ministry of Science and Technology, six key regional associations of business incubator have emerged. Those associations play an important role in coordinating regional business incubator development as well as promoting the incubation service;

- **Policy-oriented.** Under the policy of the government, the business incubators have attracted private funds to invest in. The multiple investments change not only the shareholders of the business incubator, but also ways of operating the
business incubators. Internationalisation is another important feature of business incubators. In China. Through the international exchange, China business incubators obtain valuable experience from the developed countries (Rong 2009).

The role of government in the development of high technology businesses in China cannot be overemphasised. In this regard the Torch High Technology Industry Development Centre, The Ministry of Science and Technology of the People’s Republic of China, plays an important role (Torch 2013).

2.6 INCUBATORS IN BRAZIL

Business incubation in Latin America is of relatively recent origin, since the concept of incubation did not gain momentum until the late eighties and the early nineties of the 19th century.

Brazil, Chile and Argentina are the leading incubation markets in Latin America. It was estimated by Chandra (2007b), that with approximately 400 incubators and a well-developed incubation ecosystem, Brazil leads one of the most successful incubation movements in Latin America through innovation and adaptation of incubator models to suit indigenous needs.

According to Chandra and Fealy (2009) the key objectives of Brazilian incubators are economic development, employment generation and technology commercialisation. Many leading universities in Brazil now offer entrepreneurial education as a means of educating entrepreneurial talent to support new venture creation because incubation offers the logical next step after entrepreneurial education by co-locating the resources and capabilities needed for the support of new ventures. The incubator is based on the assumption that new venture creation can be organised as an educational process with formal and informal aspects.

Brazilian incubators are in general linked to universities and funded by plural government and non-governmental sources (Chandra & Fealy 2009). Financial support for incubators came from federal government programs such as the National Incubation Support Program (PNI), which was designed to support new incubator creation and the expansion of existing ones.
The PNI program is supported by a coalition of government, industry and incubator associations, such as the Brazilian Ministry of Science and Technology, the National Council for Scientific and Technological Development (CNPq) and Financing of Projects and Studies (FINEP), the Brazilian Support Services for Micro and Small Enterprises (SEBRAE), and the National Association of Incubators and Science Parks (ANPROTEC). A major feature of incubation in Brazil is the degree of private / public coalition of partners that support incubation efforts.

Brazilian incubators exhibit the broadest scope of incubation models in comparison with other countries, such as China, where incubator models tend to be more monolithic and technology-focused. The Brazilian incubation environment offers a plurality of approaches and configurations of incubation ranging from the traditional, design, cultural, social, and high-technology oriented incubators, with indigenous models, such as the “social” incubator that is unique to Brazil. The incubation approaches are a blend of global and local models that have evolved in response to local needs; particularly the need to alleviate poverty and create jobs for the economically disadvantaged (Chandra 2007a).

In section 2.3 reference was made to the generic incubator models found in the USA, China and Brazil. Besides the generic models, the following three models are unique to Brazil.

2.6.1 Cooperative/Social Incubators.
Social problems related to unemployment in the Brazilian economy were exacerbated by the opening up of the economy to foreign competition after 1990. A series of initiatives by universities and concerned citizens attempted to combat poverty and related ills by transferring the incubator model to the social sphere in order to create jobs and growth. Funding for these incubators came from the universities, State and Municipal governments interested in economic development at the local and regional levels, with the universities serving as the primary source of knowledge and training to the cooperatives. Due to historically weak economic conditions, Brazil has a relatively high degree of ‘necessity’ entrepreneurs compared
to ‘opportunity’ entrepreneurs. Social or cooperative incubators are designed to help these necessity entrepreneurs take their idea to market.

While technological entrepreneurs take advantage of opportunity, the social entrepreneurs do it out of necessity. Social incubators try to create an entrepreneurial environment in the community, through workshops and individualised assistance in design, production and marketing (Chandra 2007a).

2.6.2 Cultural Incubator
This type of incubator is aimed at fostering entrepreneurship in the field of culture, i.e. music, arts, sculpture, photography and cinema, among others. Cultural incubators are unique to Brazil: incubators at Universities of Brasilia and one of the Genesis incubators in Rio de Janeiro represent strong examples of this genre of incubator. Support for cultural incubators come from affiliated universities as well as the state and federal governments that have an interest in sponsoring local art and culture. A cultural incubator manager pointed out that the entrepreneur in this area has a unique profile and is in business for love rather than money, hence needing much specialised assistance (Chandra 2007a).

A discussion on the business incubator movement in Russia is presented in Section 2.7.

2.7 BUSINESS INCUBATORS IN RUSSIA
Literature searches (in English) on business incubation in Russia did not deliver significantly useful results. Both Ernst and Young (2010) as well as Lazarowich and Wojciechowski (2002) stated that the movement in Russia is not as well developed as in the USA.

Ernst and Young (2010) did a comprehensive study on business incubation in Russia. Of significance are some of the findings in the report. Selected findings of the study show that as an industry, business incubation is still developing in Russia. This is indicated by the large number of incubators positioned as subsidy programs to support small business rather than as business projects for the development of fast-growing, breakthrough startup companies.
The Russian incubator programmes mostly provide a broad range of services to startups and don't limit themselves to renting premises at low rates. This is in line with the experience of countries that have had the most success in developing business incubation (the United States in particular).

The distribution of business incubators by federal districts is generally in line with Russia's overall population distribution. Apart from three districts with a minimal number of incubators (two or less in the Southern, Far East and North Caucasus federal districts), the saturation level of incubation programs in Russia averages one incubator for every 2,700,000 persons. The overall saturation of incubation programs in Russia is still around one tenth of that in the USA, where there is one incubator for every 280,000 persons (Ernst & Young 2010).

Business incubators in Russia provide a broad range of services that virtually meet all the needs of startup companies. Nearly all incubators provide basic services, for example mail and secretarial services, office equipment, telephone and Internet services, and IT services. Incubator employees provide consultations to residents.

A smaller number of incubators act as mentors – individually explaining the options for resolving problems and coaching new entrepreneurs to find their own solutions to specific business issues. Not too many incubators directly support residents' operations or bring in outside experts to work with startups. Only around one quarter of incubators provides residents with scientific equipment; a Graph in line with data on the availability of specialised laboratory or manufacturing areas in incubators. Incubators evidently have a hard time convincing potential sponsors to make the substantial capital investments needed in order to purchase and operate sophisticated equipment, especially if residents have access to laboratories and equipment at nearby educational institutions and research centres (Ernst & Young 2010).

A number of incubators provide such additional services as representing a company's interests in relations with state and regulatory agencies, assistance in protecting intellectual property and various types of expert examinations (Ernst & Young 2010).
The National Community of Business Incubators (NSBI) was created in 1997. The NSBI unites business incubators and objects of the infrastructure in support of small business (techno parks, educational-business centres, innovative-technological centres) and the enterprises, which activity is connected with the creation and development of small enterprises (NSBI 2013). The mission of NSBI comprises the creation of conditions for service support of starting and growing small, innovative enterprises in the regions of Russia. The main objectives of the NSBI are:

- Assistance in creation and development of business incubators;
- Methodical and organisational support of processes of business-incubating with the participation of average and large companies; and
- Assistance in development of an infrastructure of support of small business in municipal unions.

The basic directions of NSBI activities are:

- Performance of consulting, implementation, marketing, design, sociological, analytical and research works;
- Assistance in the organisation of preparation and retraining of personnel, improvement of professional skills and administrative level of heads, Business incubator experts and workers through the organisation of seminars, trainings in Moscow and regions;
- Maintenance of information exchange between the members, assistance in the decision of problems of regional business incubators, creation of the market of technologies of small-scale business, generalisation and distribution of operational experience of business incubators; and
- Protection of the rights and legitimate interests of the members of Partnership and all interested persons and representation of their interests at all state and non-governmental levels (Ernst & Young, 2013).

From the literature search and the available research it may be concluded that the Business incubator movement in Russia is still in a development stage and
controlled by the government. Further research is necessary to reach meaningful conclusions.

Section 2.8 gives an exposition of the South African situation in respect of business incubation.

2.8 BUSINESS INCUBATORS IN SOUTH AFRICA

In 1995, when the Small Business Development Corporation (SBDC) established the ‘hives of industry’, the majority of the hives were developed inside redundant factories, warehouses and other buildings the SBDC bought, upgraded and remodelled at minimal cost, to suit the needs of the hives. There were also some newly erected buildings and some combinations of the two.

Apart from providing basic accommodation at minimal rates, tenants were also provided with the SBDC’s collective support services including loans, business and legal advice, marketing assistance and bulk buying facilities. Prospective tenants were trained after demonstrating their skills. Tools, machinery and other equipment were also available for hire. Services such as bookkeeping, typing and telephone facilities were available to tenants at a small cost.

The hives played an important role in facilitating sub-contracting partnerships between large and small enterprises. Hives were not really incubators in their modern form because there were no set dates for the company to move out of the hive (Mbewana 2006).

It is therefore necessary to briefly define business incubation and trace its origins in the local context as a pretext to locating it within the broader sphere of business development service agencies. Business and technology incubators nurture the development of entrepreneurial companies, helping them survive and grow during the start-up period, when they are most vulnerable. Most of these programmes provide their client companies with services which include shared office space, business planning services, mentorship, networking opportunities and to a limited extent seed capital. The support mechanisms are tailored to the unique needs of mostly (but not exclusively) technology based SMMEs.
Although in developed economies like the United States the business incubation model traces its beginnings to the late 1950s, in most of the developing world (South Africa included) the concept is virtually still in its infancy, barely 10 years old to date (2013).

The European Union (EU) provided the ‘seed’ capital required to roll out incubators in South Africa under the leadership of the Department of Science and Technology (DST) during the latter half of the 1990s. The stimulus was amongst other factors the White Paper on Science and Technology (1996), adopting a ‘National System of Innovation’ approach for achieving macro-development objectives, identified the urgent need to raise the overall level of technical competence - particularly in the SMME sector in South Africa.

From a humble beginning of four pilot incubators, the sector currently boasts over 30 business incubators throughout the country in the various critical sectors of The South African economy, ranging from high tech (e.g. ICT, Biotechnology etc.) to high growth sectors such as construction. Under the leadership of the Department of Trade and Industry’s Seda Technology Programme (STP), the sector has since enjoyed a steady increase in resource commitments from government (SEDA, SBM 2009).

The Seda Technology Programme was established in 2006 by the Department of Trade and Industry, through the merger of Godisa Trust and the National Technology Transfer Centre as part of a bid to consolidate small enterprises support interventions across various government departments and agencies (SEDA 2013).

According to Baloyi (2013) the role of the Department of Trade and Industry through SEDA is to reach the following objectives which will support the business incubation movement:

- Encourage private sector partnerships with government to support incubators in order to develop SME’s and nurture these into sustainable enterprises that can provide employment and contribute to economic growth;

- Provide funding to incubators which over time can generate revenue (through provision of services) and become self-sustainable; and
• Reduce small and medium enterprise (SME) failure rate.

According to the web site of the Department of Trade and Industry (2013), business incubator development is subsidised as part of the initiative to develop small and medium sized businesses. The main characteristics of the program can be summarised as follows:

• The Department of Trade and Industry (DTI 2013) initiated the Incubation Support Programme (ISP) to develop incubators and create successful enterprises with the potential to revitalise communities and strengthen local and national economies;

• In continuing to strengthen economic development through broadening participation in the economy, the ISP aims to ensure that small, micro and medium enterprises (SMMEs) graduate into the mainstream economy through the support provided by the incubators. The ISP is one of the support measures to encourage partnerships in which big business assists SMMEs with skills transfer, enterprise development, supplier development and marketing opportunities;

• The objective of the ISP is to encourage private sector partnerships with Government to support incubators in order to develop SMMEs and nurture them into sustainable enterprises that can provide employment and contribute to economic growth;

• The intention of the programme is to provide funding for incubators that over time can generate revenue through the provision of services and initiatives that can be self-sustainable; and

• The incubation support will be available on a cost-sharing basis between the Government and private sector partner(s). It is available for infrastructure and business development services necessary to mentor and grow enterprises to ensure that within two to three years the enterprises will graduate to a level of self-sustainability by providing products and services to the market.

In March 2012 the CEO of the Small Enterprise Development Agency (Seda) reported in a public address as follows (SEDA 2013):
‘Before small enterprises can start creating jobs, they first have to stabilise and become sustainable. However, many start-up businesses do not survive past the most difficult phase of any small enterprise - the first year or two of operation’.

‘Since its inception in 2006, Seda’s Technology Programme has created 31 incubators across the country. It has assisted 80% of small enterprises, incubated in its centres to survive the first two years of trading - giving them a real chance at being sustainable and to create jobs. According to Seda (2013) the Seda Technology Programme has already created 5 305 direct, indirect and casual jobs; increased its support to 756 small enterprises; and assisted in increasing the turnover of the small enterprises it supports’.

Technology business incubation involves empowering small enterprises to use technology to improve their competitiveness.

The programme currently funds and works directly with 31 incubators across the country, helping small enterprises in industries ranging from ICT to aluminium, platinum and bio-diesel.

These incubators provide the necessary business infrastructure and strategic guidance, as well as an environment in which information, experiences and ideas can be freely exchanged. This builds entrepreneurs' skills and knowledge bases, better preparing them for business in the open market.

With reference to Port Elizabeth and in line with the problem statement and objectives of the study, it is necessary to report briefly on the SEDA NMB ICT, Nelson Mandela Bay ICT Incubator (SNMBICTI), which is an Incubator that contributes to the process of creating successful small enterprises in the ICT sector as part of the vision of its main funders the SEDA Technology Programme (STP) and the Nelson Mandela Bay Municipality (NMBM).

The SNMBICTI aims to build a steady pipeline by cementing relationships with the Eastern Cape tertiary institutions within its reach. The SNMBICTI’s incubation programme is backed by a system of consistent monitoring and evaluation processes.
The SNMBICTI’s Incubation Programme concentrates on key activities of two organisational goals:

- Creating enterprises in the ICT Sector through assisting with the start-up process of a business, including developing a business case, business layout to follow to success and its implementation with measurable and managed milestones; and

- Supporting enterprises in the ICT Sector through business development plan interventions, on-going in-house training, on-going specialist mentoring and coaching, on-going quality assurance and Research and Development.

**2.9 BUSINESS INCUBATOR BEST PRACTICES**

It was observed in the preceding sections that developed and developing countries are implementing a variety of mechanisms to support their entrepreneurial climate in order to achieve self-sustainability, economic growth and an enhanced new economy based on knowledge and innovation. Simultaneously, nations around the world are utilising the best practices of incubators as a strategy to become leaders in the future.

It may be concluded from the foregoing discussion that business incubators are active institutional mechanisms that support several goals:

- Creating jobs and wealth;
- Fostering a community's entrepreneurial climate;
- Creating business and retention;
- Becoming new financial models based on knowledge;
- Accelerating innovation; and
- Technology commercialisation and transfer.

The literature dealing with business incubator success are prolific (Bergek & Norman, 2008; Buys & Mbewana 2007; Cheng & Schaeffer 2011; Lalkaka 2001; Lewis, Harper-Anderson & Molmar 2011; Maial, Ravid, Seshadri & Dulmanis 2008). In the South African context Buys and Mbewana (2007) referred to at least eleven factors contributing to the success of a business incubator. The factors are:
Access to science and technology expertise and facilities;
A comprehensive business plan;
Stringent selection criteria;
Availability of funding;
Quality of entrepreneurs;
Stakeholder support;
Supportive government policies;
Competent and motivated management;
Financial sustainability;
Experienced advisory board; and
Networking possibilities.

In a study by Lewis, Harper-Anderson and Molnar (2011) it was established that in general the following factors should be considered when evaluating a business incubator to determine its potential for success.

1. No one incubator practice, policy, or service is guaranteed to produce incubation programme success. Instead, it’s the synergy among multiple practices, policies and services that produce optimal outcomes.

2. Top-performing incubation programs often shared common management practices.

3. Practices most represented among high-achieving programmes have a written mission statement, select clients based on cultural fit, potential for success, review client needs at entry, showcase clients to the community and potential funders, and having a robust payment plan for rents and service fees.

4. Incubator advisory board composition matters. Having an incubator graduate firm and a technology transfer specialist on an incubator’s advisory board correlates with many measures of success. Additionally, accounting, intellectual property (patent assistance), and general legal expertise on the incubator board often result in better performing programmes.

5. Neither the size of an incubator facility nor the age of a programme is a strong predictor of client firm success.
6 High-achieving incubators collect client outcome data more often and for longer periods of time than their peers.

7 Most high-achieving incubators are not-for-profit models.

8 Public sector support also contributes to programme success.

9 Incubation programmes with larger budgets (both revenues and expenditures) typically outperform incubators with budgetary constraints.

10 All measures of the growth or size of a region’s economy are poor predictors of incubation programme outcomes.

11 Collectively, measures of a region’s capacity to support entrepreneurship have limited effect on incubation programme outcomes.

12 There is empirical evidence that business incubation best practices are positively correlated to incubator success (Lewis et al. 2011).

The National Business Incubation Association (NBIA) (2013) also strongly believes that the success of a business incubator lies in good practices. The NBIA (2013) provides the following recommendations:

‘In 1996, NBIA’s board of directors developed a set of industry guidelines to help incubator managers better serve their clients. Since that time, NBIA research has consistently shown that incubation programmes that adhere to the principles and best practices of successful business incubation generally outperform those that do not. The following industry guidelines are replicable and broadly applicable to business incubation programmes around the world, regardless of their focus or mission’.

Two principles characterise effective business incubation:

- The incubator aspires to have a positive impact on its community's economic health by maximising the success of emerging companies; and

- The incubator itself is a dynamic model of a sustainable, efficient business operation.
Model business incubation programmes are distinguished by a commitment to incorporate industry best practices. Management and boards of incubators should strive to:

- Commit to the two core principles of business incubation;
- Obtain consensus on a mission that defines the incubator's role in the community and develop a strategic plan containing quantifiable objectives to achieve the mission;
- Structure for financial sustainability by developing and implementing a realistic business plan;
- Recruit and appropriately compensate management capable of achieving the mission of the incubator and having the ability to help companies grow;
- Build an effective board of directors committed to the incubator's mission and to maximising management's role in developing successful companies;
- Prioritise management time to place the greatest emphasis on client assistance, including proactive advising and guidance that result in company success and wealth creation;
- Develop an incubator facility, resources, methods and tools that contribute to the effective delivery of business assistance to client firms and that address the developmental needs of each company;
- Seek to integrate the incubator program and activities into the fabric of the community and its broader economic development goals and strategies;
- Develop stakeholder support, including a resource network, that helps the incubation program's client companies and supports the incubator's mission and operations; and
- Maintain a management information system and collect statistics and other information necessary for ongoing programme evaluation, thus improving a programme’s effectiveness and allowing it to evolve with the needs of the clients.
On the basis of the foregoing recommendations a questionnaire will be developed to assist in the evaluation of the practices of a business incubator in Port Elizabeth.

2.10 SUMMARY

In the preceding paragraphs attention was paid to the following aspects:

- The incubator concept.
- Business incubation in the USA.
- Incubation in China, Brazil, Russia, and
- Incubators in South Africa.

The developments in the different countries led to a discussion on best practices in incubators.

In the following chapter, attention will be paid to the research methodology applied in this study.
CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION
Research design is defined as the master plan that specifies the methods and procedures that are implemented to collect and analyse the research information that is needed. It has been identified as the framework or blueprint that lay out the action plans for the research project. The predetermined objectives of the research are outlined in the design to ensure that the appropriate information is collected to solve the research problem (Zikmund 2003:65).

In South Africa little research has been conducted on the performance of a business incubator in terms of internationally recognised standards. Therefore, this study intends to expand on the current limited knowledge and information in respect of performance the application of standards to measure the performance of business incubators. The focus will be on the performance of the Seda NMB ICT Incubator in terms of international standards. The Seda NMB ICT Incubator was the unit of analysis for this study. In line with the objectives of this study, this chapter provides an explanation of the research methodology utilised to investigate the problem.

This chapter will provide a description of the research design, research methodology, and the stages in the research design such as determining the population, unit of analysis and sampling procedure used for the study. In addition this chapter will highlight the data collection methods as well as data analysis methods applied.

3.2 RESEARCH DESIGN
The type of research employed in this study is that of theory-testing and application empirical research. The theory testing applies because research has already been conducted elsewhere and a series of performance standards have evolved from those studies. From these performance standards, eleven groups, which were considered relevant to South African conditions, were identified. The main aim of this study is to test whether a South African business incubator situated in Port Elizabeth meets the performance criteria as stated in the literature.
To meet the objectives of the study a case study approach is followed. A comprehensive definition of case study research is given by Dul and Hak (2008:4): “A case study is a study in which (a) one case (single case study) or a small number of cases (comparative case study) in their real life context are selected, and (b) scores obtained from these cases are analysed in a qualitative manner.”

According to Dul and Hak (2008:4) “study” refers to a research project in which a practice-oriented or theory-oriented research objective is formulated and achieved. These authors considered a “case” to mean an instance of an object of study, and that “real life context” denotes the object of study as it occurs (or has occurred) in reality without manipulation. With “analysis in a qualitative manner”, Dul and Hak (2008:4) mean an analysis based on visual inspection of the scores of the case (in contrast to a statistical analysis). Dul and Hak (2008:4) distinguished between two main types of case studies: the single case study, in which data from one instance is adequate to achieve the research objective, and the comparative case study, which requires data from two or more instances to achieve the research objective. As discussed in Chapter One of this study the unit of analysis (the case) will be the Seda NMB ICT Incubator in Port Elizabeth, South Africa.

The definition of the case study by Dul and Hak (2008) does not include statements on data collection or measurement techniques. In their view research strategies do not, in principle, differ in respect of methods of measurement. For all kinds of research strategies it may be accepted that, the data analysed can be quantitative or qualitative. Measurement methods that are usually associated with case studies, such as the “qualitative” interview and using “multiple sources of evidence”, could also be used in the other research strategies. Similarly, measurement methods that are usually associated with other research strategies, such as standardised questionnaires in surveys and quantitative measurements in experiments, could also be applied in case studies. Principles of measurement and the quality criteria that apply to it, such as reliability and validity, also apply to any measurement in any research strategy. Although in a case study quantitative data can be used to generate the scores to be analysed, the interpretation of scores of the (small number of ) cases in order to generate the outcome of the study is done qualitatively (by visual inspection) and not statistically.
3.3 RESEARCH METHODOLOGY

The term methodology may be viewed as a description of a process. In addition, it can be extended to incorporate a philosophically consistent collection of theories, concepts or ideas, due to the fact that they relate to a particular discipline or field of inquiry. In its simplest form, methodology refers to a simple set of methods and procedures, whereas a more sophisticated approach is based on focusing on philosophical assumptions, which underlie a particular study relative to the scientific method.

Seven steps are associated with obtaining an adequate sample for a research study. These steps include determining the population from which the target population can be chosen and then to choose the target population. The researcher then has to identify the sampling frame and the sampling units. Once these sampling elements have been determined the researcher can then identify the sample and the sufficient size of the sample.

3.3.1 The population and target population

The target population of a research study can be regarded as the specific and complete group of individuals relevant to the research project at hand (Zikmund 2003:373). It is further stated that the target population comprises the complete group of specific population elements relevant to the research project. The target population of this study includes the Seda NMB ICT Incubator in Port Elizabeth as well as the incubatees of the mentioned Seda NMB ICT Incubator.

3.3.2 Method of data collection

According to Struwig and Stead (2001:80), data collection is the process by which a researcher acquires subjects and collects information from them in order to answer a particular research question. A researcher may use various data collection techniques to gather the necessary information, including surveys, scales, interviews, observation and/or project techniques. Zikmund (2003:66) stated that the survey technique is most often used by researchers to produce primary data. A survey is described as a research method in which data are gathered from respondents by means of a questionnaire. A questionnaire can be administered either in person, by telephone, by mail, at a mall, or through the Internet (Gitman &

The primary data in this study were gathered by means of a survey and personal interviews. Primary data relating to the performance of a specific business incubator were collected. A structured, self-administered questionnaire was made available to respondents via postal mail, email and personal delivery.

3.3.3 Instrument development

The measuring instrument comprised a covering letter and a questionnaire consisting of two sections. The cover letter introduced the respondent to the study, explained the purpose of the study and described the type of information being requested. Assurance of confidentiality and instructions on how to complete and return the questionnaire were also given in the cover letter.

Section One consisted of 67 statements (items) measuring the different variables. The statements measuring the variables described aspects relating to the various organisational factors normally associated with successful firms. A 5-point Likert-type scale (1 = least likely and 5 = most likely) was employed, and the respondents were requested to indicate the extent to which he/she agreed with each statement. As far as possible valid and reliable items were sourced from previous studies, but were rephrased to render them suitable for the present study.

In Section Two of the questionnaire, demographic information from respondents was requested. This information related to both the respondent and the incubatees. The information requested concerning the respondents included gender, age, population group, location of business, sponsorship, levels of education and sources of income of incubatees.

3.3.3.1 Scale development and operationalization

The scales measuring the factors under investigation have been developed based on items that had proved valid and reliable in previous empirical studies. In some cases the items have been rephrased to make them more suitable to the context of
this study. The operational definitions of each of the factors under investigation will be formulated in the paragraphs below.

(a) Corporate governance
Corporate governance involves a set of relationships between a firm’s management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the firm are set, and the means of attaining those objectives and monitoring performance are determined. In respect of corporate governance, ten statements were formulated as listed below in subsection A1.

A1 Corporate Governance
A1.1 This incubator’s mission statement is in writing.
A1.2 This incubator’s mission statement is relevant.
A1.3 This incubator’s stakeholders and sponsors understand its mission statement.
A1.4 The stakeholders and sponsors support this incubator’s mission.
A1.5 This incubator’s business/strategic plan supports its mission statement.
A1.6 This incubator’s advisory board is organised to help the program achieve its purpose.
A1.7 The incubator’s members are focused on their responsibilities to the incubator and its clients.
A1.8 This incubator’s board includes diverse representation from the business community, including current and former entrepreneurs.
A1.9 This incubator has sufficient stakeholders (sponsors and supporters) to support its operations.
A1.10 This incubator’s stakeholders assist in the development of client companies.

Practices most represented among high-achieving programs are: (a) having a written mission statement, (b) selecting clients based on cultural fit, (c) selecting clients based on potential for success, (d) reviewing client needs at entry, (e) showcasing clients to the community and potential funders and (f) having a robust payment plan for rents and service fees. All of these practices are highly correlated with client success (Lewis et al. 2011:7).

Central to any incubation program’s existence is its mission, which guides the program’s activities and development. A mission statement should describe an
organisation’s fundamental purpose clearly and succinctly. Imprecise language and wordiness can lead to unclear goals, conflicting expectations, and, ultimately, a mission that’s impossible to achieve.

A mission statement also should be motivational. It is important to involve board members, major stakeholders, and key staff members in the writing or revision process in order to gain their support. A mission statement that inspires commitment from these key players helps everyone involved to focus on and work toward the same purpose, thus promoting the success and longevity of business incubation programs.

The mission statement guides the incubator’s activities and should be in writing and easily accessible to staff and board members. A written statement enables them to focus on their mission during discussions concerning new goals, programs or services and to confirm that these goals, programs or services are compatible with the program’s stated purpose. Where proposed programs are in conflict with the incubator’s mission, it would be necessary to rethink such new ideas or, if the situation requires it, to revise the mission statement. Ideally a mission statement is a stable document, but significant changes in the environment might necessitate revisions.

Fulfilling a mission requires strategic planning - mapping out where an incubator is headed in the future or more and how it is going to get there. A strategic plan provides a clear picture of quantifiable goals, objectives and tasks within a given time frame, and keeps an incubator focused on its fundamental purpose.

The difference between a thriving incubator and one struggling to keep afloat depends on the effectiveness of its board of directors.

In addition to fiduciary obligations and hiring the incubator manager, a board of directors’ purpose includes thinking strategically and setting broad policies that will ensure the incubator attains the goals and objectives outlined in its mission statement. In order to achieve that purpose, all board members must first understand and be committed to the incubator’s mission. Board members who show weak commitment (or who have personal or professional agendas) can jeopardise the
success of an incubator program. That is why NBIA highlights the need to “build an effective board of directors committed to the incubator’s mission and to maximising management’s role in developing successful companies” as a critical industry best practice.

A strong, objective and effective board of directors ideally consist of people with diverse backgrounds and skills. An incubator board might include business assistance professionals, technology experts and anyone else with resources, know-how and commitment to the incubator’s mission. Developers and managers should be careful not to select sponsors who frequently expect and receive board appointments. An ineffective board member who also is a sponsor can cause conflict of interest to exist and cause unnecessary problems for the board and incubatees.

In this study, stakeholders are considered to be any non-staff persons who have a vested interest in the success of an incubation program. This broad definition may include sponsors, service providers, board members, successful entrepreneurs, community leaders and even community members who would benefit from a strengthened economy.

Stakeholders can promote an incubator’s success by marketing the program, encouraging promising entrepreneurs to apply for admission and by providing client firms with resources and expertise. “[Developing] stakeholder support includes a resource network that helps the incubation program’s client companies and supports the incubator’s mission and operations” (Cammarata 2003:24-25) is in itself an industry best practice and integral to a business incubator’s development.

(b) Staffing
Regarding the personnel situation, subsection A2, the following six statements were formulated.
A2 Personnel

A2.1 This incubator’s personnel are qualified to assist emerging companies with the required skills to grow and succeed.
A2.2 This incubator has sufficient personnel to meet client needs.
A2.3 Top incubator staff excels in managing incubator operations.
A2.4 This incubator makes use of community experts to supplement the services provided by its staff.
A2.5 This incubator’s personnel are appropriately compensated.
A2.6 This incubator invests in professional development and training for its personnel.

A critical factor in the success of every business incubator is its staff, which must be adequately qualified to handle the incubator’s own business functions and at the same time assist firms to grow. Incubator staffs tend to be small. The hiring of individuals - particular managers - with the necessary qualities to fulfil this range of needs is a difficult task.

An incubator manager is called upon daily to be landlord, accountant, teacher, recruiter, psychologist and public relations executive, thus it is important that he or she bring diverse experience to the job. Many incubators require their managers to have expertise beyond the “basics.” For example, the manager of a technology incubator might need a doctorate in a particular science along with knowledge of intellectual property issues.

Staffing an adequate number of people also is essential to an incubator’s success. Studies show that the more staff an incubator has, the more significant its impact. No matter how many people an incubator employs, the majority of staff time should be devoted to client assistance services rather than building or administrative tasks. A manager must prioritise staff time to place the greatest emphasis on client assistance, including proactive advising and guidance that results in company success and wealth creation.

The service provider network, or professional services network, is a collection of experts from the region who provide services to incubator clients but are not paid staff of the incubator. These experts typically include:
• Senior-level accountants;
• Attorneys;
• Marketing specialists;
• Venture capitalists;
• Academic researchers/professors;
• Experienced entrepreneurs;
• Technology specialists;
• Human resource professionals;
• Insurance professionals;
• Drug approval process experts (for life science incubators).

(c) Financial management
The following seven statements in subsection A3 were designed to investigate aspects of the managerial finance of the incubator.

A3 Incubator finances

A3.1 This incubator’s budgeting processes are based on realistic assumptions.
A3.2 This incubator’s budgets are reviewed each month against actual revenues and expenditures.
A3.3 This incubator is financially self-sustaining.
A3.4 This incubator charges appropriately for its service or space offerings.
A3.5 This incubator’s financial records are audited annually by an independent auditor or other independent third party.
A3.6 This incubator collects amounts due from its clients.
A3.7 This incubator consistently uses mechanisms for dealing with slow payment or non-payment by its clients.

In order to uphold principle A3.1, an incubation program must structure for financial sustainability by developing and implementing a realistic business plan. A realistic and well-structured business plan provides the framework for implementing a consistent budgeting process, using sound accounting methods, continuously monitoring each of these procedures, and making adjustments when necessary. Senior staff should review an incubator’s business plan annually, making sure that financial projections fall in line with the realities of the incubator’s daily operations.
Many cash flow problems can be avoided with detailed, disciplined, no-assumptions-made projections and planning, both for the short term and the long term. This means doing a line-item annual budget, broken down month by month and based on previous fiscal years, with flags on anything that may need adjustment.

A basic principle of business incubation is that an incubator be a dynamic model of a sustainable, efficient business operation. The reason for this principle goes beyond the need to set a positive example for client firms. Financial self-sustainability is essential to an incubation program’s long-term survival; to its ability to grow strong, lasting firms; and to its ability to have a significant positive impact on its community. In addition, a self-sustaining incubator enables staff to focus on growing new firms and implementing new ideas rather than worrying about finding the cash to pay next month’s creditors.

(d) Client selection
To address the client selection process the following four statements in subsection A4 were formulated.

**A4 Selecting clients**

A4.1 This incubator has implemented an effective application and screening process that identifies companies that can help the incubator achieve its current mission.

A4.2 This incubator successfully selects entrepreneurs who support the incubator’s goals, are willing to take advice and share information and contribute to a positive atmosphere of entrepreneurial support within the incubator.

A4.3 During the selection process the needs of a potential incubator client are established to determine how the client can benefit from the incubator services.

A4.4 During the selection process, incubator management gains each incubator client’s commitment to provide information regarding its revenues, investment and employment for a period of at least five years.

The benefits of effective client selection are, amongst others, assisting the incubation program to acquire an optimal mix of client companies; allow businesses to enter into an incubation program smoothly and efficiently; to weed out fly-by-night entrepreneurs; assisting those that are truly committed to, and capable of growing successful businesses. In addition it helps an incubator manager or selection committee to make tough decisions regarding who receives the program’s limited
staff time, space, and equipment. The ultimate goal of a client selection process is to determine whether a good match exists between the incubator’s resources, its mission and the applicant’s needs and potential.

(e) Serving clients

The client or incubatee is an important aspect of the business incubation process. In the light of client importance thirteen statements below in subsection A5 were developed.

**A5 Serving clients**

A5.1 This incubator offers a comprehensive program of business assistance services.
A5.2 This incubator helps businesses build their management team.
A5.3 This incubator helps its clients raise finances.
A5.4 This incubator has developed an effective service provider network.
A5.5 This incubator screens and regularly evaluates businesses that provide services to its clients.
A5.6 This incubator’s management regularly meets with its incubator clients to assess their needs and offer assistance.
A5.7 This incubator actively facilitates networking among its clients and other business communities.
A5.8 This incubator assists its incubator clients to establish milestones to measure their businesses progress.
A5.9 This incubator regularly performs routine checks to evaluate whether their incubator clients reach these milestones.
A5.10 This incubator gives highest priority to time spent directly serving clients.
A5.11 This incubator organises its resources to ensure the incubator is serving its incubator clients optimally.
A5.12 This incubator evaluates its program of services at least once a year.
A5.13 This incubator changes business assistance services based on a systematic evaluation in line with its mission statement.

According to Cammarata (2003:58) incubator managers seeking excellence in their programs put client services first. They know that providing start-up businesses with the tools they need to grow and succeed comprise the main goal of incubation programs and what separates them from simple real estate operations.
All too often, however, managers with the best intentions get distracted by the demands of daily operation such as overseeing finances, keeping sponsors happy, and maintaining the building, to name just a few. Devoting ample time to serving clients while negotiating operational tasks requires dedication and real organisational know-how, especially for incubators that are staffed leanly. It also requires the support from a board of directors that recognizes that service to clients is a first priority.

Generally, incubator offerings include assistance with drafting of business plans, securing capital and shared administrative services. However, services vary depending on an incubator’s mission and focus and according to individual client needs. For example, a professor commercialising a university technology might need assistance to create a product or prototype of a product, while a client developing a grilling sauce at a kitchen incubator might need access to bottling equipment, labelling requirements and marketing and advertising expertise. Services must be tailored to coincide with the stage of development of a firm in terms of the required skills, personalities and experience of its management team, as well as access to funding.

An important aspect of an incubator manager’s assistance to clients is the development and administration of a service provider network. The network gives clients access to high-level (and often reduced-rate) legal, accounting, financing, and other types of business assistance that might not be available from the incubator staff. The manager’s goal in developing a service provider network should be to identify and recruit a group of experts who will be readily available and able to resolve most problems faced by client companies. By negotiating pro bono or reduced rates with service providers, incubator managers help their clients conserve much-needed capital.

(f) Graduation
Graduation refers to the process whereby the client firm is released to operate independently. In this regard the following eight statements (Subsection A6) were developed for the questionnaire.
A6 Graduation

A6.1 This incubator has implemented a graduation process based on established criteria that promote incubator and graduate success.

A6.2 This incubator regularly monitors the progress of incubator clients in respect of their achievement of the set graduation criteria.

A6.3 This incubator discusses graduation and exit strategies at regular client meetings.

A6.4 Incubator management has frank discussions about alternatives outside the incubator when clients do not meet agreed-upon goals and/or do not apply incubator resources.

A6.5 Failing and non-performing incubator clients are removed from the program as non-graduates.

A6.6 This incubator helps its graduates find suitable space to relocate in the community, if possible.

A6.7 This incubator maintains regular contact with its graduates to obtain information regarding potential needs for assistance, project funding and support.

A6.8 This incubator provides graduates with reasonable on-going care and assistance with issues that may arise after graduation.

A fundamental and complex question for the business incubation management to consider is when a specific firm is ready to graduate. Many incubator managers have found that no single graduation policy is right, even for clients in the same incubator. Still, many programs set arbitrary time frames for graduation, such as twenty-four or thirty-six months after a firm entered into the incubator program. This approach is robust in its simplicity, but it has some drawbacks. Firstly, it assumes that firms will mature at the same rate, which is not necessarily the case. Secondly, it can cause cash-flow problems for the incubation program if several firms graduate at the same time.

Another approach is to develop a more complex set of exit criteria for clients, based on milestones such as establishing a complete management team, acquiring enough investments to accommodate the next stage of business, or requiring space beyond the capacity of the incubator. Exit criteria provide concrete goals to the firms and help ensure that they will be ready to exist outside the incubator environment when it is time to graduate. Exit criteria also help an incubator determine whether it can continue to provide value to a given company (Cammarata 2003).
Whatever the approach, the key is to have a well defined rationale for deciding when a company should venture out on its own, and that rationale should relate to an incubator’s mission and focus. For example, incubating a biotech company might take up to seven years, while a software company might need an accelerated time frame - eighteen months or less - to ensure the technology can be brought to market in a timely fashion. Additionally, an incubator’s graduation policy should be flexible enough to allow the incubator to accelerate or delay graduation on a case-by-case basis (Cammarata 2003).

The ultimate decision whether a firm is ready to graduate might rests with the same committee that decides which firm to admit to the incubator or a separate committee that focuses only on graduation. Some programs prefer to leave the decision up to the incubator manager. While this simplifies the process, using a committee allows members to share the burden should they need to ask a client to leave the incubator and it reduces the likelihood that a personality conflict will influence a decision. On the other hand, the manager would probably be more familiar with the client’s progress (or lack thereof) (Cammarata 2003).

(h) Marketing
The following three statements in subsection A7 concerning the marketing and public relations aspects of the incubatee business were developed.

A7 Marketing and Public Relations

A7.1 This incubator has developed and implemented an effective incubator marketing plan.

A7.2 This incubator has implemented a wide range of activities to raise public awareness, generate support and to recruit clients.

A7.3 This incubator uses different media (such as its Web site, open houses, press releases and other means) to showcase its clients to the community.

(i) Facilities management
To obtain information regarding the facilities management, the following three statements (Subsection 8A) were developed.
A8  Facilities Management

A8.1  This incubator’s size and configuration support program success and generate sufficient revenues to contribute to program sustainability.

A8.2  This incubator facility offers appropriate space for the needs of its client businesses that it serves.

A8.3  This incubator provides access to up-to-date data communications infrastructure and equipment for its client businesses.

The size of an incubator facility relates not only to the number of clients the program will serve but also to its financial sustainability. An incubator that is too big might take long to respond and that could deplete cash reserves needed to keep the program running. An incubator that is too small may be ineffective.

Renovating an existing structure for use as a business incubator can be a cost-effective alternative to new construction. Selecting an appropriate facility in which to operate is more complicated than finding an empty building to move into. Although a business incubation program comprises much more than just a building - an inappropriate facility can put an otherwise well-planned program in jeopardy.

(j) Measuring impact

According to Lewis et al. (2011:8-54) analysis provides sound empirical evidence that the time spent by an incubation program to collect outcome data of a graduate firm, resident client employment data, and graduate firm sales data are all statistically significant and positively correlated with measures of client firm success. This finding could mean that programs with the capacity to collect data also have the resources to implement best practices covering the array of management practices and services that lead to client firm success. It is equally plausible that collecting outcome data demonstrating a positive return on investment assures funders that business incubation is a viable aspect of a sound economic development strategy and that continuing to invest in the program will result in the anticipated outcomes. The stability of an incubator program could enhance the capacity of an incubator to meet its stated goals and be successful. Having a written policy requiring clients to provide outcome data is also positively correlated at a statistically significant level. This suggests that the capacity to collect data is not the only means to ensure data
collection, but that including this requirement among the entry criteria can reduce the administrative burden of data collection.

**A9 Measuring impact**

The following two statements in subsection A9 were developed in respect of measuring impact data.

A9.1 This incubator annually collects quantifiable data and information (e.g. revenue, employment, investments etc.) to ensure that the incubation program is successful in attaining its mission.

A9.2 This incubator collects impact data (revenue, employment and investment, etc.) from graduates on an annual basis for a minimum period of at least five years.

(k) Environmental impacts

Subsection A10 comprises five statements that are self explanatory and no further discussion is necessary. There is currently in the RSA a greater emphasis on “going green” than a decade ago. It is therefore expected that the incubator will pay attention to this aspect of conducting business.

**A10 Environmental impacts**

A10.1 This incubator’s construction (main facility, if more than one) is based on an energy-efficient design.

A10.2 This incubator has identified facility investments and process changes that can save the incubator money in the long term.

A10.3 This incubator has identified facility investments that would reduce future adverse environmental impacts.

A10.4 This incubator takes full advantage of recycling opportunities.

A10.5 This incubator encourages its client businesses to take advantage of recycling opportunities.
3.4 SUMMARY

In this chapter the research design and methodology adopted for this study were discussed. The population and target population were identified and described. The method of data collection and the development of the measuring instruments were explained.

In the following chapter the analysis of the surveyed data will be discussed.
CHAPTER FOUR
DATA GATHERING AND ANALYSIS

4.1 INTRODUCTION

Chapter Three provided the methodology to investigate whether the performance of the SEDA NMB ICT Incubator (SNMBICTI) is in line with generally accepted performance standards. The standards can be identified as the strategic alliance of the business (vision, mission and strategy), financing principles, management principles and human resource development and growth opportunities. This chapter presents the findings of these statistical analyses.

The demographic information will first be presented. Descriptive statistics such as the means, standard deviations and frequency distributions are tabled to summarise the sample data. The data collected were statistically analysed with the Excel computer program. Descriptive statistics are used to describe the basic features of the data in a study and they provide basic summaries about the sample and the measures to understand them better.

4.2 THE SEDA NMB ICT INCUBATOR (SNMBICTI)

The SEDA NMB ICT Incubator (SNMBICTI) is established in Port Elizabeth Eastern Cape, South Africa and currently serves the greater Nelson Mandela Bay Metropolitan region. The incubation programme ensures that the fundamentals of supported organisations are correct, in place and this enable SMMEs to ride out any economic difficulties, domestically and globally.

Organisational goals

- Creating enterprises in the ICT Sector – through assisting in the start up process of a business including developing a Business Case, Business layout to follow to success and its implementation with measurable and managed milestones.

- Supporting enterprises in the ICT Sector – through Business Development Plan interventions, on-going in-house training, on-going specialist mentoring and coaching, On-going Quality Assurance and Research and Development.
The SNMBICTI aims to build a steady pipeline by cementing relationships with the Eastern Cape tertiary institutions within its reach. The SNMBICTI’s Incubation Programme is backed up by a system of consistent Monitoring and Evaluation processes.

A total of 35 businesses are serviced by the incubator with a R7.5 million collective turnover.

4.3 DATA GATHERING PROCESS
Data were gathered by means of a questionnaire (Annexure B) and personal interviews. An interview was conducted with a Representative Board member of the Seda NMB ICT Incubator board in order to obtain up-to-date information about board activities.

Interviews were held with the management in respect of strategic planning and the leadership roles that management perform. Three senior managers were interviewed to ascertain management’s role and views on operational aspects surrounding the incubator and completed questionnaire.

A senior manager distributed questionnaires to Incubatees and interviews were conducted with eight incubatees on a one-on-one basis. The total population researched amounted to twelve (n=12).

Secondary data were obtained from sources such as books, research reports, newspaper articles, annual reports and websites.

4.4 DEMOGRAPHIC INFORMATION
Section B of the questionnaire comprised several questions concerning the demographic information of the respondents. Graphs 4.1 to 4.5 display some of the respondent distributions.
As far as gender is concerned, eleven (92%) of the twelve respondents were male. (n=12)

From Graph 4.2 above it can be seen that most of the respondents were aged between 30 and 39 years (50.0%), followed equally by respondents between the
ages of 20 and 29 and between the ages of 40 and 49 (25%). There were no respondents younger than 20 or older than 60 years (n=12.).

**Graph 4.3: Ethnicity distribution of the respondents**

Most of the respondents were Black (59%), followed by Coloured (25%), Asian and White each (8%). (n=12)

**Graph 4.4: Education distribution of the respondents**
Fifty per cent (50%) of the respondents have a university degree or higher. Ninety two per cent (92%) of the respondents have a post matriculation qualification with only 8% having a matriculation or lower. (n=12)

Graph 4.5: Income source of incubatees

Seventy five per cent (75%) of the incubatees are employed within the private sector of which 67% are self-employed. Twenty five per cent (25%) of the incubatees are not employed and their sole source of income is from family support. (n=12).

4.5 EMPIRICAL RESULTS

Descriptive statistics on the various questions to establish the performance of the SEDA are reported in this section. The response categories on the 5-point Likert scale is least likely (1), likely (2), somewhat likely (3), likely (4) and most likely (5). In Table 4.1 the questions pertaining to Corporate Governance are represented.

<table>
<thead>
<tr>
<th>A1.1</th>
<th>Corporate Governance Questions</th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
</table>

Table 4.1: Descriptive statistics on Corporate Governance
The mean of each of the questions relating to Corporate Governance ranged between 3.00 and 4.50 according to the 5-point Likert scale of measurement. This indicates that the participants felt neutral to most likely on Corporate Governance matters.

Table 4.2: Descriptive statistics on Personnel

<table>
<thead>
<tr>
<th>Personnel Questions</th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A3.1  This incubator's personnel are qualified to assist emerging companies with the required skills to grow and succeed</td>
<td>12</td>
<td>4.00</td>
<td>0.953</td>
</tr>
<tr>
<td>A3.2  This incubator has sufficient personnel to meet client needs</td>
<td>12</td>
<td>3.58</td>
<td>1.240</td>
</tr>
<tr>
<td>A3.3  Top incubator staff excels in managing incubator operations</td>
<td>12</td>
<td>3.58</td>
<td>1.165</td>
</tr>
<tr>
<td>A3.4  This incubator makes use of community experts to supplement the services provided by its staff</td>
<td>12</td>
<td>2.92</td>
<td>1.240</td>
</tr>
<tr>
<td>A3.5  This incubator's personnel are appropriately compensated</td>
<td>12</td>
<td>3.55</td>
<td>0.820</td>
</tr>
<tr>
<td>A3.6  This incubator invests in professional development and training for its personnel</td>
<td>12</td>
<td>3.36</td>
<td>0.809</td>
</tr>
</tbody>
</table>
The mean of each of the questions relating to Personnel ranged between 2.92 and 4.00 according to the 5-point Likert scale of measurement. This indicates that the participants felt neutral to most likely on Personnel matters.

Table 4.3: Descriptive statistics on Incubator finances

<table>
<thead>
<tr>
<th>Incubator finances Questions</th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A3.1 This incubator's planning and budgeting processes are based on realistic assumptions</td>
<td>12</td>
<td>3.50</td>
<td>1.000</td>
</tr>
<tr>
<td>A3.2 This incubator's budgets are reviewed each month against actual revenues and expenditures.</td>
<td>12</td>
<td>3.33</td>
<td>1.231</td>
</tr>
<tr>
<td>A3.3 This incubator is financially self-sustaining</td>
<td>12</td>
<td>3.09</td>
<td>1.044</td>
</tr>
<tr>
<td>A3.4 This incubator charges appropriately for its service or space offerings</td>
<td>12</td>
<td>3.58</td>
<td>1.165</td>
</tr>
<tr>
<td>A3.5 This incubator's financial records are audited annually by an independent auditor or other independent third party</td>
<td>12</td>
<td>4.18</td>
<td>1.168</td>
</tr>
<tr>
<td>A3.6 This incubator collects amounts due from its clients</td>
<td>12</td>
<td>4.30</td>
<td>0.675</td>
</tr>
<tr>
<td>A3.7 This incubator consistently uses mechanisms for dealing with slow payment or non-payment by its clients</td>
<td>12</td>
<td>3.36</td>
<td>1.027</td>
</tr>
</tbody>
</table>

The mean of each of the questions relating to Incubator finance ranged between 3.09 and 4.30 according to the 5-point Likert scale of measurement. This indicates that the participants felt neutral to positive on Incubation finance matters.

Table 4.4: Descriptive statistics on selecting clients

<table>
<thead>
<tr>
<th>Selecting clients Questions</th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A4.1 This incubator has implemented an effective application and screening process that identifies companies that can help the incubator achieve its current mission</td>
<td>12</td>
<td>3.92</td>
<td>0.900</td>
</tr>
<tr>
<td>A4.2 This incubator successfully selects entrepreneurs who support the incubator's goals, are willing to take advice and share information and contribute to a positive atmosphere of entrepreneurial support within the incubator</td>
<td>12</td>
<td>3.92</td>
<td>0.793</td>
</tr>
</tbody>
</table>
During the selection process the needs of a potential incubator client are established to determine how the client can benefit from the incubator services.

During the selection process, incubator management gains each incubator client’s commitment to provide information regarding its revenues, investment and employment for a period of at least five years.

The mean of each of the questions relating to Selecting Clients ranged between 3.75 and 4.00 according to the 5-point Likert scale of measurement. This indicates that the participants felt neutral to positive on matter of selecting clients.

Table 4.5: Descriptive statistics on serving clients

<table>
<thead>
<tr>
<th>A5.1</th>
<th>Serving clients Questions</th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A5.2</td>
<td>This incubator offers a comprehensive program of business assistance services</td>
<td>12</td>
<td>3.75</td>
<td>1.138</td>
</tr>
<tr>
<td>A5.3</td>
<td>This incubator helps businesses build their management team.</td>
<td>12</td>
<td>3.42</td>
<td>1.084</td>
</tr>
<tr>
<td>A5.4</td>
<td>This incubator helps its clients raise finances</td>
<td>12</td>
<td>2.83</td>
<td>1.115</td>
</tr>
<tr>
<td>A5.5</td>
<td>This incubator has developed an effective service provider network.</td>
<td>12</td>
<td>3.25</td>
<td>1.215</td>
</tr>
<tr>
<td>A5.6</td>
<td>This incubator screens and regularly evaluates businesses that provide services to its clients</td>
<td>12</td>
<td>2.92</td>
<td>0.793</td>
</tr>
<tr>
<td>A5.7</td>
<td>This incubator’s management regularly meets with its incubator clients to assess their needs and offer assistance (advice, referrals or solutions to problems)</td>
<td>12</td>
<td>3.58</td>
<td>1.311</td>
</tr>
<tr>
<td>A5.8</td>
<td>This incubator actively facilitates networking among its clients and other business communities</td>
<td>12</td>
<td>3.33</td>
<td>1.303</td>
</tr>
<tr>
<td>A5.9</td>
<td>This incubator assists its incubator clients to establish milestones to measure their businesses progress</td>
<td>12</td>
<td>3.50</td>
<td>1.000</td>
</tr>
<tr>
<td>A5.10</td>
<td>This incubator regularly performs routine checks to evaluate whether their incubator clients reach these milestones</td>
<td>12</td>
<td>3.33</td>
<td>1.303</td>
</tr>
<tr>
<td>A5.11</td>
<td>This incubator gives highest priority to time spent directly serving clients</td>
<td>12</td>
<td>3.08</td>
<td>1.240</td>
</tr>
<tr>
<td>A5.12</td>
<td>This incubator organises its resources to ensure the incubator is serving its incubator clients optimally</td>
<td>12</td>
<td>3.33</td>
<td>1.073</td>
</tr>
<tr>
<td>A5.13</td>
<td>This incubator evaluates its program of services at least once a year</td>
<td>12</td>
<td>3.33</td>
<td>0.985</td>
</tr>
</tbody>
</table>
This incubator adds, removes, or changes business assistance services based on a systematic evaluation in line with its mission statement, or changes in the business environment, needs/requests and other factors.

The mean of each of the questions relating to Serving Clients ranged between 2.83 and 3.75 according to the 5-point Likert scale of measurement. This indicates that the participants felt neutral on matters concerning Selecting Clients.

**Table 4.6: Descriptive statistics on Graduation**

<table>
<thead>
<tr>
<th>Graduation Questions</th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A6.1 This incubator has implemented a graduation process based on established criteria that promote incubator and graduate success</td>
<td>12</td>
<td>3.73</td>
<td>1.104</td>
</tr>
<tr>
<td>A6.2 This incubator regularly monitors the progress of incubator clients in respect of their achievement of the set graduation criteria</td>
<td>12</td>
<td>3.73</td>
<td>1.104</td>
</tr>
<tr>
<td>A6.3 This incubator discusses graduation and exit strategies at regular client meetings</td>
<td>12</td>
<td>3.27</td>
<td>1.104</td>
</tr>
<tr>
<td>A6.4 Incubator management has frank discussions about alternatives outside the incubator when clients do not meet agreed-upon goals and/or do not apply incubator resources</td>
<td>12</td>
<td>3.45</td>
<td>1.440</td>
</tr>
<tr>
<td>A6.5 Failing and non-performing incubator clients are removed from the program as non-graduates</td>
<td>12</td>
<td>3.18</td>
<td>1.328</td>
</tr>
<tr>
<td>A6.6 This incubator helps its graduates find suitable space to relocate in the community, if possible.</td>
<td>12</td>
<td>2.82</td>
<td>0.874</td>
</tr>
<tr>
<td>A6.7 This incubator maintains regular contact with its graduates to obtain to obtain information regarding potential needs for assistance, project funding and support</td>
<td>12</td>
<td>2.91</td>
<td>1.300</td>
</tr>
<tr>
<td>A6.8 This incubator provides graduates with reasonable on-going care and assistance with issues that may arise after graduation</td>
<td>12</td>
<td>2.73</td>
<td>1.104</td>
</tr>
</tbody>
</table>
The mean of each of the questions relating to Graduation ranged between 2.73 and 3.73 according to the 5-point Likert scale of measurement. This indicates that the participants felt neutral in respect of Graduation matters.

Table 4.7: Descriptive statistics on Marketing and Public Relations

<table>
<thead>
<tr>
<th>Marketing and Public Relations Questions</th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A7.1 This incubator has developed and implemented an effective incubator marketing plan</td>
<td>12</td>
<td>3.08</td>
<td>1.084</td>
</tr>
<tr>
<td>A7.2 This incubator has implemented a wide range of activities to raise public awareness, generate support and to recruit clients</td>
<td>12</td>
<td>3.42</td>
<td>1.084</td>
</tr>
<tr>
<td>A7.3 This incubator uses different media (such as its Web site, open houses, press releases and other means) to showcase its clients to the community</td>
<td>12</td>
<td>3.25</td>
<td>1.138</td>
</tr>
</tbody>
</table>

The mean of each of the questions relating to Marketing and Public Relations ranged between 3.08 and 3.42 according to the 5-point Likert scale of measurement. This indicates that the participants felt neutral on Marketing and Public Relations matters.

Table 4.8: Descriptive statistics on Facilities Management

<table>
<thead>
<tr>
<th>Facilities Management Questions</th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A8.1 This incubator’s size and configuration support program success and generate sufficient revenues to contribute to program sustainability.</td>
<td>12</td>
<td>3.58</td>
<td>0.793</td>
</tr>
<tr>
<td>A8.2 This incubator facility offers appropriate space for the needs of its client businesses that it serves</td>
<td>12</td>
<td>3.92</td>
<td>0.669</td>
</tr>
<tr>
<td>A8.3 This incubator provides access to up-to-date data communications infrastructure and equipment for its client businesses</td>
<td>12</td>
<td>3.58</td>
<td>1.311</td>
</tr>
</tbody>
</table>

The mean of each of the questions relating to Facilities Management ranged between 3.58 and 3.92 according to the 5-point Likert scale of measurement. This
indicates that the participants felt neutral to positive on Facilities Management matters.

Table 4.9: Descriptive statistics on Measuring Impact

<table>
<thead>
<tr>
<th>Measuring Impact Questions</th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A9.1 This incubator annually collects quantifiable data and information (e.g. revenue, employment, investments etc.) to ensure that the incubation program is successful in attaining its mission</td>
<td>12</td>
<td>3.83</td>
<td>0.835</td>
</tr>
<tr>
<td>A9.2 This incubator collects impact data (revenue, employment and investment, etc.) from graduates on an annual basis for a minimum period of at least five years.</td>
<td>12</td>
<td>3.50</td>
<td>1.168</td>
</tr>
</tbody>
</table>

The mean of each of the questions relating to Measuring Impact ranged between 3.50 and 3.83 according to the 5-point Likert scale of measurement. This indicates that the participants indicated a positive approach regarding Measuring Impact matters.

Table 4.10: Descriptive statistics Environmental impacts

<table>
<thead>
<tr>
<th>Environmental impacts Questions</th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A10.1 This incubator’s construction (main facility, if more than one) is based on an energy-efficient design</td>
<td>12</td>
<td>2.73</td>
<td>0.905</td>
</tr>
<tr>
<td>A10.2 This incubator has identified facility investments and process changes that can save the incubator money in the long term</td>
<td>12</td>
<td>2.73</td>
<td>1.009</td>
</tr>
<tr>
<td>A10.3 This incubator has identified facility investments and process changes that would reduce future adverse environmental impacts</td>
<td>12</td>
<td>2.73</td>
<td>1.009</td>
</tr>
<tr>
<td>A10.4 This incubator takes full advantage of recycling opportunities</td>
<td>12</td>
<td>2.09</td>
<td>0.831</td>
</tr>
<tr>
<td>A10.5 This incubator encourages its client businesses to take advantage of recycling opportunities</td>
<td>12</td>
<td>2.00</td>
<td>0.632</td>
</tr>
</tbody>
</table>

The mean of each of the questions relating to Environment Impact ranged between 2.00 and 2.73 according to the 5-point Likert scale of measurement. This indicates that the participants felt negative on Environmental Impact matters.
Table 4.11: Descriptive statistics on Type of business incubator

<table>
<thead>
<tr>
<th>Type of business incubator Questions</th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A11.1 Non-profit incubator focussing on economic development</td>
<td>12</td>
<td>4.45</td>
<td>0.820</td>
</tr>
<tr>
<td>A11.2 Profit making incubator</td>
<td>12</td>
<td>2.00</td>
<td>1.000</td>
</tr>
<tr>
<td>A11.3 Focus on early stage firms</td>
<td>12</td>
<td>2.64</td>
<td>1.433</td>
</tr>
<tr>
<td>A11.4 Focus on technology firms</td>
<td>12</td>
<td>4.18</td>
<td>0.874</td>
</tr>
<tr>
<td>A11.5 Focus on service firms</td>
<td>12</td>
<td>2.27</td>
<td>1.489</td>
</tr>
<tr>
<td>A11.6 Focus on manufacturing firms</td>
<td>12</td>
<td>2.00</td>
<td>1.483</td>
</tr>
</tbody>
</table>

The mean of each of the questions relating to Environment Impact ranged between 2.00 and 4.45 according to the 5-point Likert scale of measurement. This indicates that the participants had diverse feelings about Environmental Impact matters.

4.6 INTERVIEWS

The results of the interviews with a representative of the board as well as management are reported below.

4.6.1 Representative of the board

The Board member interviewed acted in a capacity to represent the Board. He stated that he had been invited to join the SNII Board three years ago and prior to his involvement the incubator was in a “huge mess with little or no corporate governance at all.”

Since the appointment of the current Board significant progress had been made, the situation stabilised and is now functioning in a proper manner.

The Chairman and Board members had impressed him in particular; the current Chairman is strong on leadership and corporate governance. All members of the board are serious about the business at hand.
The Board meets three times a year and holds an AGM at one of these meeting; the centre manager is the only Management representative serving on the Board.

The centre Manager is the link between the board and management and the Board has no interaction with any other role players at the incubator. Management are responsible for meeting targets and providing management reports.

The Board comprises seven members in total and is responsible for the Strategic planning and financial control of budgets and expenditure within the SNII.

The sustainability of the SNII is wholly dependent on the SEDA and NMMU for its funding and would be at great risk if one or both parties withdrew or changed their current policies in respect of the incubation process. Some sort of public private partnership should be developed as a matter of urgency.

Private sector incubators were, in his opinion, far more successful than government funded incubators and went on to explain about the R-Lab success based in Cape Town which has a nine month incubation period as opposed to the local incubator time frame of 3-4years.

State funded incubators are perceived negatively as it was felt that it only provided resources for the under privileged and non-performers.

He stressed the need for higher level of Incubatees to raise the profile of incubation; more graduates were needed as start-up candidates. Graduates were not attracted to the incubation process as they would receive a higher remuneration in the private sector as opposed to becoming entrepreneurs through the incubation process.

This has been debated at Board level and identified as one of the problem areas in creating growth in the SNII. The need for higher skilled Incubatees to generate knowledge and innovation was required as opposed to selling products such as websites and videos and graphics.
The selection process needed to be more defined as start-ups ranged from preparing business plans for ITC companies to video production, graphic design and call centres. The selection criteria were too vague and too diverse.

His son had graduated through the SNII incubation process and had had a very positive experience throughout and now runs a successful small business in the ITC sector.

It appeared that larger businesses do not trust small start-ups and tended to stay away and use larger and more established companies. He cited an example of his son quoting on work for a large company and was overlooked because he was considered a risk as a start-up, a larger more experienced company was awarded the contract. They in turn sub-contracted his son to do the work at a higher rate than initially proposed.

The approval of funding for the SNII was problematic as it was normally only approved during the second quarter of the financial year in progress; the funding was adequate but its lateness caused delays in implementing projects and payments for services required to performing at an acceptable level.

The relationship between the NMMU and SNII was valuable to both parties and more university graduates will be encouraged to visit and use the resources available at the SNII in future. In the long term NMMU is considering the establishment of a Science Park which could compete for the Incubatees currently steered towards the SNII.

Board members received no remuneration for their services and they serve on an invitational basis.

4.6.2 Representative of management

During the interview senior management stated that the SNII has met and exceeded many of the objectives it set out to achieve during 2012/13. The organisation had achieved more than 90% of its targets in the year under review.
The organisation established 12 enterprises in the review period measured against a target of 10. It also met its target of supporting 35 businesses. A total of 35 direct and 70 indirect jobs were created exceeding expectations.

Of the 35 businesses supported 11 were virtual incubates, 9 under full incubation, 8 in pre-incubation or ideas phase which includes prototyping and feasibility. A total of four were at launch pad phase which means they are ready to take their products to the market.

Three of the businesses are woman-owned while a further three hold more than 25% but less than 51% ownership. More than 70% of the businesses are owned by youth.

The relationship between the two major partners of SNII namely NMMU and the NMMM was critical. NMM provided a major part of the funding and NMMU a resource for potential Incubatees as well as access to information technology from the school of computer science.

Having a Board member form NMMU has strengthened the ties between these two organisations. There has been an increase in the number of NMMU students over the last three years.

Having a Board member from NMMM fostered a great deal of goodwill and added to the transparency of operations. As one of the major funders the NMMM could see what expenditure was taking place and how the funds were used for projects and not for Managements remuneration as an example.

A recent survey conducted by SNII about incubator awareness showed that 40% of applicants have been made aware of the incubator by means of WOM 20-30%, by referrals, other agencies such as NMMU and the NMMM - the rest by means of advertising in the media such as radio and print.

4.7 SUMMARY

Chapter Four presented the empirical results of this study. The empirical results were analysed using descriptive statistics and frequency distributions. The
distribution of certain demographic data such as gender, age, ethnic, education and income source of the participants and incubatees are displayed.

Two descriptive statistics, mean and standard deviation, were used to analyse each of the questions which were measured according to the 5 – point Likert scale. This was done to gauge the feelings of respondents on each aspect ranging from least likely to most likely.
CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter the focus will be on a summary of the most important findings of the research project. The purpose of the study was to investigate the operation of a business incubator in Port Elizabeth in terms of various aspects such as:

- corporate governance;
- personnel;
- finances;
- client selection and the survey of clients;
- graduation of incubatees;
- marketing and public relations;
- facilities management; and
- environmental impact.

In the sections to follow conclusions will be reached on the empirical results of the study as reported in Chapter Four. Some recommendations are made in respect of the business incubator in Port Elizabeth. In conclusion of this section, shortcomings of the study as well as indicators toward further research will be highlighted.

5.2 CORPORATE GOVERNANCE

In Table 4.1 the positive responses to the ten statements on Corporate Governance were above average which is an indicator that respondents felt that the incubator performed in an acceptable manner.

5.3 PERSONNEL

In Table 4.2 all of the responses were above average with the exception of statement A2.4, which read: ‘This incubator makes use of community experts to supplement the services provided by its staff’. The respondents did not offer an explanation for the deviation and it is recommended that the incubator management pays attention to this aspect.
5.4 INCUBATOR FINANCES
The responses to statements A3.1 to A3.7 were summarised in Table 4.3. The results indicated that the respondents were satisfied with the way the finances of the incubators are managed.

5.5 THE SELECTION AND SERVING OF CLIENTS
Table 4.4 and Table 4.5 in Chapter Four dealt with the selection and serving of clients. For the sake of economic development and continuity it is self-evident that an incubator should carefully select clients with the ability to create job opportunities now and in the future.

With the exception of statements A5.3 and A5.5 in Table 4.5, all the responses were above average. Statement 5.3 states: ‘This incubator helps its clients to raise finances’ and A5.5 read as follows: ‘This incubator screens and regularly evaluates businesses that provide services to its clients’.

It should be noted however, that the incubator research for this study does not provide direct financial assistance to its clients. That may be the reason for the negative responses.

5.6 GRADUATION
The results of responses in respect of graduation are reported in Table 4.6. Statements A6.1 to A6.8 in the questionnaire dealt with graduation principles. The responses to question A6.6 to A6.8 were all below average and ranged between 2.73 and 2.91. It may be concluded that respondents are dissatisfied with the service they receive from the incubator after graduation.

5.7 MARKETING AND PUBLIC RELATIONS.
The results of the empirical survey concerning marketing and public relations are reported in Table 4.8 in Chapter Four. In general the responses were above average and it may be concluded that the respondents are satisfied with the marketing plan of the incubator under investigation.
5.8 FACILITIES MANAGEMENT, MEASURING THE IMPACT AND ENVIRONMENTAL IMPACT.

Statements A8, A9 and A10 dealt with the management of facilities as well as the measurement of the environmental impacts. In the case of facilities management and the measurement of impacts the scores were above average.

In the case of environmental impacts, the scores were below average ranging from 2.00 to 2.73. Various factors may be the cause of this kind of “negative” response. A major reason may be that firms in South Africa are not really geared to protect the environment. In a study conducted by The National Business Incubator Association (2013) it was found that business incubators in the USA are better rated in terms of protecting the environment.

5.9 RECOMMENDATIONS

The SEDA NMB ICT Incubator is financed as follows: Partly by the Department of Trade and Industry (the SEDA technology programme) and partly by the Nelson Mandela Bay Metropolitan Municipality. It is recommended that public/private partnerships should be formed to ensure the continuity of the Port Elizabeth incubator.

A second recommendation is that the SEDA NMB Incubator becomes more focussed in terms of its clients it is serving. At present it is serving a wide variety of ICT clients ranging from website design and graphic art, to preparing business plans for ICT businesses.

The period of incubation may be too extended as some incubatees have been on the premises for more than five years. It is recommended that the SEDA NMB Incubator pays attention to the length of stay of an incubatee.

A substantial majority of incubatees on the SEDA NMB Incubator site are not compliant with business acts and regulations. Seven incubatees reported during the personal interview that they were not compliant with all the required acts and regulations.
5.10 LIMITATIONS OF THE STUDY
No major limitations in this study can be reported. In the beginning of the research it was difficult to obtain information on relevant sources but as the study progressed more relevant information became available. It also became clear that a comparison between South African incubators and incubators in BRIC countries and the USA are not always possible because the stages of development are too different. It is only recently that the RSA Government through the Department of Trade and Industry started playing a prominent role in incubator development.

5.11 RECOMMENDATIONS FOR FUTURE RESEARCH
It is recommended that this kind of research is extended to the incubator industry in South Africa. By extending the research to other incubators it will be possible to make comparisons on a local basis.

5.12 CONCLUSIONS
In Chapter One the objective of the study was stated as follows: To compare the performance of the Seda NMB ICT Incubator with international performance standards for incubators. As the research developed it became clear that the performance standards to be used should be in terms of managerial aspects of an incubator such as corporate governance, staffing marketing and other managerial issues as taken up in the questionnaire.

From the empirical results reported in Chapter Four it can be concluded that the incubator investigated compares well with international performance standards for incubators.

The results of this study resonate well with the opinion of the manager of the Seda NMB ICT Incubator: ‘We are excited about the recognition of our contribution to the productivity of both the province and the country. This achievement would not be possible without the entrepreneurs we incubate - it is through their success that we succeed.’
LIST OF SOURCES


Date: 07/10/2013

Dear Respondent

I am currently studying towards my MBA degree in the faculty of Management and Economic Sciences at the Nelson Mandela Metropolitan University in Port Elizabeth. In order to complete my degree, I am conducting research on the performance of the SEDA NMB ITC Incubator.

The purpose of this study is therefore to establish whether the performance of the SEDA NMB ITC Incubator is in line with generally accepted performance standards. The standards can be identified as a strategic alliance of the business (vision, mission and strategy), financing principles, management principles and human resource development and growth opportunities.

I would greatly appreciate it if you could respond to the following questions so as to assist me in compiling an accurate study.

Please note that all information will be treated as confidential. You may also elect to opt-out at any time of the study and it is understood that you cooperate voluntary. This research questionnaire is compiled in compliance with the University’s ethical and anonymity requirements. Although your identity will at all times remain confidential, the results of the research study may be presented at scientific conferences or in specialist publications.

Kind Regards

L.M.Chandler
Researcher
# ANNEXURE: B

## QUESTIONNAIRE

### SECTION A

Please answer the following sections based on your own perceptions; there are no right or wrong answers. Indicate to what extent you agree with the following statements. The responses are on a Likert type scale where (1) indicates the least likely, and (5) is the most likely.

### A1 Corporate Governance

<table>
<thead>
<tr>
<th>A1.1</th>
<th>This incubator’s mission statement is in writing</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1.2</td>
<td>This incubator’s mission statement is relevant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A1.3</td>
<td>This incubator’s stakeholders and sponsors understand its mission</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A1.4</td>
<td>The stakeholders and sponsors support this incubator’s mission</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A1.5</td>
<td>This incubator’s business/strategic plan supports its mission statement</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A1.6</td>
<td>This incubator’s advisory board is organised to help the program achieve its purpose</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A1.7</td>
<td>The incubator’s members are focused on their responsibilities to the incubator and its clients.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A1.8</td>
<td>This incubator’s board includes diverse representation from the business community, including current and former entrepreneurs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A1.9</td>
<td>This incubator has sufficient stakeholders (sponsors and supporters) to support its operations</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A1.10</td>
<td>This incubator’s stakeholders assist in the development of client companies</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

### A2 Personnel

<table>
<thead>
<tr>
<th>A2.1</th>
<th>This incubator’s personnel are qualified to assist emerging companies with the required skills to grow and succeed</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2.2</td>
<td>This incubator has sufficient personnel to meet client needs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A2.3</td>
<td>Top incubator staff excels in managing incubator operations</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A2.4</td>
<td>This incubator makes use of community experts to supplement the services provided by its staff</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A2.5</td>
<td>This incubator’s personnel are appropriately compensated</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A2.6</td>
<td>This incubator invests in professional development and training for its personnel</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
### A3 Incubator finances

| A3.1 | This incubator’s planning and budgeting processes are based on realistic assumptions | 1 2 3 4 5 |
| A3.2 | This incubator’s budgets are reviewed each month against actual revenues and expenditures. | 1 2 3 4 5 |
| A3.3 | This incubator is financially self-sustaining | 1 2 3 4 5 |
| A3.4 | This incubator charges appropriately for its service or space offerings | 1 2 3 4 5 |
| A3.5 | This incubator’s financial records are audited annually by an independent auditor or other independent third party | 1 2 3 4 5 |
| A3.6 | This incubator collects amounts due from its clients | 1 2 3 4 5 |
| A3.7 | This incubator consistently uses mechanisms for dealing with slow payment or non-payment by its clients | 1 2 3 4 5 |

### A4 Selecting clients

| A4.1 | This incubator has implemented an effective application and screening process that identifies companies that can help the incubator achieve its current mission | 1 2 3 4 5 |
| A4.2 | This incubator successfully selects entrepreneurs who support the incubator’s goals, are willing to take advice and share information and contribute to a positive atmosphere of entrepreneurial support within the incubator | 1 2 3 4 5 |
| A4.3 | During the selection process the needs of a potential incubator client are established to determine how the client can benefit from the incubator services | 1 2 3 4 5 |
| A4.4 | During the selection process, incubator management gains each incubator client’s commitment to provide information regarding its revenues, investment and employment for a period of at least five years | 1 2 3 4 5 |

### A5 Serving clients

| A5.1 | This incubator offers a comprehensive program of business assistance services | 1 2 3 4 5 |
| A5.2 | This incubator helps businesses build their management team. | 1 2 3 4 5 |
| A5.3 | This incubator helps its clients raise finances | 1 2 3 4 5 |
| A5.4 | This incubator has developed an effective service provider network. | 1 2 3 4 5 |
| A5.5 | This incubator screens and regularly evaluates businesses that provide services to its clients | 1 2 3 4 5 |
| A5.6 | This incubator’s management regularly meets with its incubator clients to assess their needs and offer assistance (advice, referrals or solutions to problems) | 1 2 3 4 5 |
| A5.7 | This incubator actively facilitates networking among its clients and other business communities | 1 2 3 4 5 |
| A5.8 | This incubator assists its incubator clients to establish | 1 2 3 4 5 |
A5.9 This incubator regularly performs routine checks to evaluate whether their incubator clients reach these milestones 1 2 3 4 5
A5.10 This incubator gives highest priority to time spent directly serving clients 1 2 3 4 5
A5.11 This incubator organises its resources to ensure the incubator is serving its incubator clients optimally 1 2 3 4 5
A5.12 This incubator evaluates its program of services at least once a year 1 2 3 4 5
A5.13 This incubator adds, removes, or changes business assistance services based on a systematic evaluation in line with its mission statement, or changes in the business environment, needs/requests and other factors 1 2 3 4 5

A6 Graduation

A6.1 This incubator has implemented a graduation process based on established criteria that promote incubator and graduate success 1 2 3 4 5
A6.2 This incubator regularly monitors the progress of incubator clients in respect of their achievement of the set graduation criteria 1 2 3 4 5
A6.3 This incubator discusses graduation and exit strategies at regular client meetings 1 2 3 4 5
A6.4 Incubator management has frank discussions about alternatives outside the incubator when clients do not meet agreed-upon goals and/or do not apply incubator resources 1 2 3 4 5
A6.5 Failing and non-performing incubator clients are removed from the program as non-graduates 1 2 3 4 5
A6.6 This incubator helps its graduates find suitable space to relocate in the community, if possible. 1 2 3 4 5
A6.7 This incubator maintains regular contact with its graduates to obtain information regarding potential needs for assistance, project funding and support 1 2 3 4 5
A6.8 This incubator provides graduates with reasonable on-going care and assistance with issues that may arise after graduation 1 2 3 4 5

A7 Marketing and Public Relations

A7.1 This incubator has developed and implemented an effective incubator marketing plan 1 2 3 4 5
A7.2 This incubator has implemented a wide range of activities to raise public awareness, generate support and to recruit clients 1 2 3 4 5
A7.3 This incubator uses different media (such as its Web site, open houses, press releases and other means) to showcase its clients to the community 1 2 3 4 5
### A8 Facilities Management

<table>
<thead>
<tr>
<th>A8.1</th>
<th>This incubator’s size and configuration support program success and generate sufficient revenues to contribute to program sustainability.</th>
<th>1 2 3 4 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A8.2</td>
<td>This incubator facility offers appropriate space for the needs of its client businesses that it serves</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>A8.3</td>
<td>This incubator provides access to up-to-date data communications infrastructure and equipment for its client businesses</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

### A9 Measuring impact

<table>
<thead>
<tr>
<th>A9.1</th>
<th>This incubator annually collects quantifiable data and information (e.g. revenue, employment, investments etc.) to ensure that the incubation program is successful in attaining its mission</th>
<th>1 2 3 4 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A9.2</td>
<td>This incubator collects impact data (revenue, employment and investment, etc.) from graduates on an annual basis for a minimum period of at least five years.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

### A10 Environmental impacts

<table>
<thead>
<tr>
<th>A10.1</th>
<th>This incubator’s construction (main facility, if more than one) is based on an energy-efficient design</th>
<th>1 2 3 4 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A10.2</td>
<td>This incubator has identified facility investments and process changes that can save the incubator money in the long term</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>A10.3</td>
<td>This incubator has identified facility investments and process changes that would reduce future adverse environmental impacts</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>A10.4</td>
<td>This incubator takes full advantage of recycling opportunities</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>A10.5</td>
<td>This incubator encourages its client businesses to take advantage of recycling opportunities</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

### A11 Type of business incubator

<table>
<thead>
<tr>
<th>A11.1</th>
<th>Non-profit incubator focussing on economic development</th>
<th>1 2 3 4 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A11.2</td>
<td>Profit making incubator</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>A11.3</td>
<td>Focus on early stage firms</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>A11.4</td>
<td>Focus on technology firms</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>A11.5</td>
<td>Focus on service firms</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>A11.6</td>
<td>Focus on manufacturing firms</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
SECTION B – BACKGROUND INFORMATION

*Please indicate your response by ticking the appropriate block.*

**B1 Gender**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B1.1</td>
<td>Male</td>
</tr>
<tr>
<td>B1.2</td>
<td>Female</td>
</tr>
</tbody>
</table>

**B2 Age group (years)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B2.1</td>
<td>&gt;20</td>
</tr>
<tr>
<td>B2.2</td>
<td>20 – 29</td>
</tr>
<tr>
<td>B2.3</td>
<td>30 – 39</td>
</tr>
<tr>
<td>B2.4</td>
<td>40 – 49</td>
</tr>
<tr>
<td>B2.5</td>
<td>50 – 59</td>
</tr>
<tr>
<td>B2.6</td>
<td>60+</td>
</tr>
</tbody>
</table>

**B3 Population group**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B3.1</td>
<td>Asian</td>
</tr>
<tr>
<td>B3.2</td>
<td>Black</td>
</tr>
<tr>
<td>B3.3</td>
<td>Coloured</td>
</tr>
<tr>
<td>B3.4</td>
<td>White</td>
</tr>
<tr>
<td>B3.5</td>
<td>Not willing to say</td>
</tr>
</tbody>
</table>

**B4 Geographic areas of operation**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B4.1</td>
<td>Mainly urban areas</td>
</tr>
<tr>
<td>B4.2</td>
<td>Mainly rural areas</td>
</tr>
<tr>
<td>B4.3</td>
<td>Mainly suburban areas</td>
</tr>
</tbody>
</table>

**B5 Sponsorship (sponsors of this business incubator)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B5.1</td>
<td>Academic institutions</td>
</tr>
<tr>
<td>B5.2</td>
<td>Economic development organisations</td>
</tr>
<tr>
<td>B5.3</td>
<td>Government entities</td>
</tr>
<tr>
<td>B5.4</td>
<td>No sponsor or host firm</td>
</tr>
</tbody>
</table>
### B6 General

<table>
<thead>
<tr>
<th>B6.1</th>
<th>In which year was this incubator started?</th>
</tr>
</thead>
<tbody>
<tr>
<td>B6.2</td>
<td>What is the form of ownership of this business incubator?</td>
</tr>
<tr>
<td>B6.3</td>
<td>In which sector does this incubator operate?</td>
</tr>
<tr>
<td>B6.4</td>
<td>How many people are employed at this incubator?</td>
</tr>
<tr>
<td>B6.5</td>
<td>What is your current position in this incubator?</td>
</tr>
</tbody>
</table>

### B7 Level of education

<table>
<thead>
<tr>
<th>B7.1</th>
<th>Senior certificate (matriculated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B7.2</td>
<td>Higher or professional diploma</td>
</tr>
<tr>
<td>B7.3</td>
<td>University degree</td>
</tr>
<tr>
<td>B7.4</td>
<td>Post-graduate degree</td>
</tr>
<tr>
<td>B7.5</td>
<td>Other (please specify)</td>
</tr>
</tbody>
</table>

### B8 Source of income of incubatees

<table>
<thead>
<tr>
<th>B8.1</th>
<th>Self-employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>B8.2</td>
<td>Private sector</td>
</tr>
<tr>
<td>B8.3</td>
<td>Government</td>
</tr>
<tr>
<td>B8.4</td>
<td>Family support</td>
</tr>
<tr>
<td>B8.5</td>
<td>Family business</td>
</tr>
<tr>
<td>B8.6</td>
<td>Other (please specify)</td>
</tr>
</tbody>
</table>

THANK YOU FOR YOUR PARTICIPATION
ETHICS CLEARANCE FOR TREATISES/DISSERTATIONS/THeses

Please type or complete in black ink

FACULTY: BUSINESS AND ECONOMIC SCIENCE

SCHOOL/DEPARTMENT: BUSINESS SCHOOL

I, (surname and initials of supervisor) M.CULLEN

the supervisor for (surname and initials of candidate) L.M. CHANDLER

______________________________ (student number) 210239085

a candidate for the degree of MBA


BUSINESS INCUBATION IN THE EASTERN CAPE: A CASE STUDY

considered the following ethics criteria (please tick the appropriate block):

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is there any risk of harm, embarrassment of offence, however slight or temporary, to the participant, third parties or to the communities at large?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2. Is the study based on a research population defined as 'vulnerable' in terms of age, physical characteristics and/or disease status?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2.1 Are subjects/participants/respondents of your study:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Children under the age of 18?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>(b) NMMU staff?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>(c) NMMU students?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>(d) The elderly/persons over the age of 60?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>(e) A sample from an institution (e.g. hospital/school)?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>(f) Handicapped (e.g. mentally or physically)?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>(g) Socially/economically disadvantaged?</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
3. Does the data that will be collected require consent of an institutional authority for this study? (An institutional authority refers to an organisation that is established by government to protect vulnerable people) X

3.1 Are you intending to access participant data from an existing, stored repository (e.g. school, institutional or university records)? X

4. Will the participant’s privacy, anonymity and confidentiality be disclosed/revealed? X

4.1 Are you administering a questionnaire/survey that:
(a) Collects sensitive/identifiable data from participants? X
(b) Does not guarantee the anonymity of the participant? X
(c) Does not guarantee the confidentiality of the participant and the data? X
(d) Will be distributed electronically (e.g. online via email/web link)? X

Please note that if ANY of the questions above have been answered in the affirmative (YES) the student will need to complete the full ethics clearance form (REC-H application) and submit it with the relevant documentation to the Faculty Ethics Co-ordinator.

and hereby certify that the student has given his/her research ethical consideration and full ethics approval is not required.

SUPERVISOR(S) __19 NOVEMBER 2013___

HEAD OF DEPARTMENT __22/11/2013___

STUDENT(S) __19 NOVEMBER 2013___

Please ensure that the research methodology section from the proposal is attached to this form.