Business Incubation in the Eastern Cape: A Case Study

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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 platform for businesses to build their foundations. Incubators are part of a larger value chain that connects businesses to a vital support system, such as local service providers (including lawyers, corporate service providers or accountants) to establish relationships that will last after the business leaves the incubator. This paper investigates whether the performance of the Seda Nelson Mandela Bay ICT Incubator is in line with generally accepted performance standards. These standards are identified as a strategic alliance of the business (vision, mission and strategy), financing principles, management principles and human resource development and growth opportunities. Alignment to these standards was investigated through surveys with members of the board, employees and incubatees. The findings show that the incubator in the case study was aligned to generally accepted performance standards but that there is room for improvement in market alignment, incubate compliance and periods of incubation.

Key words: *Incubator, business, performance standards.*

1. Introduction.

Entrepreneurship drives innovation - in the words of Peter Drucker (1985)'Innovation is the specific tool of entrepreneurs, the means by which they exploit change as an opportunity for a different business or service….' Entrepreneurship has different stages in practice - the first is the new start-up venture in which the entrepreneur brings something new to the world [5]. It is at this stage that the new business is most vulnerable and where incubators play a critical role.

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' [28]. In line with this definition, young or start-up businesses are provided with a safe environment to establish and grow their businesses. They 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 connects businesses to a vital support system such as local

services providers (such as lawyers, corporate service providers or accountants) and establish relationships that will last after the firm leaves the incubator [20].

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 [12].

Minister Davies [12] 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'[12].

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'[12]. The success of these incubates lies in good practise.

2. Problem investigated and research objective.

Pals [22] and Vanderstraeten, Matthyssens and van Witteloostuijn [31] studied the factors which determine the success or failure of business incubators and the measurement of performance of business incubators. A 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, which resulted in the current study.

'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 [23] 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'. The case of the study is the Seda Nelson Mandela Bay ICT Incubator in Port Elizabeth**,** Eastern Cape. The main funders of this incubator are the SEDA Technology Programme (STP) and the Nelson Mandela Bay Municipality (NMBM).

The problem researched in this study is the management of incubators. 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 [6]. The research objective of this study is to establish whether the performance of the Seda NMB ICT Incubator is in line with generally accepted performance standards. These 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.

3. Literature review.

Business incubator literature can be classified in various manners. A first observation shows literature dealing with the theory of incubation [18]. Maital et al. [18] were concerned that business incubators are found all over the world, but that no viable integrative theory of effective business incubation exists. They [18] expressed the wish that scholars of incubation would 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 [14] on the other hand tried to make a contribution in the sense that the literature on business incubators is systematically reviewed. Hackett and Dilts [14] 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 is the emphasis on a comparison of business incubators in different countries. In a three part study, Tang, Baskaran and Pancholi [27] compared technology business incubators in China and India. Tang et al. [27] 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 [10], 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) 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 are mixed. Adegbite [1] also concentrated on business incubators and small enterprise development in an African context. Ndabeni [21] 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 [2] reported on the initiative whereby incubators were used to stimulate the economy. Lalkaka (2002) also concentrated on the way that technology business incubators can build an innovation-based economy. Campbell [9] investigated the relationship between business incubators and economic development.

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. 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 is maintained that business incubators were pioneered in the U S A 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 [1;2;3;16].

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 [26]. 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 [1].

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; the provision of a comprehensive range of shared services; strict admission and exit rules; professional management; and other assistance as needed and required [1;14;20;32].

Characteristics of incubators

The practise of business incubation is evident all over the world however, the focus differs 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 [33]. 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 [10].

In India, the development of business incubation focused on knowledge-driven and technology intensive units [24]. 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 [24].

The Government of China focused on the development of high technology businesses. They have various models. 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 [30].
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 [10] 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.

Business incubation in South Africa

In South Africa, the concept of incubation was first applied in 1995 when the Small Business Development Corporation (SBDC) established the '*hives of industry'* [19]. The hives were a number of independent work stations that were grouped together to form a cluster of workshops. 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 [19]. Unlike the examples from the USA, China and India the focus was to develop small and medium sized businesses in any sector.

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 [19].
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.
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 [25].
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 [25].
According to Baloyi [3] 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 ;
- Provide funding to incubators which over time can generate revenue; and
- Reduce small and medium enterprise (SME) failure rate.

In March 2012 the CEO of the Small Enterprise Development Agency (Seda) reported in a public address as follows [25]:

> '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'.

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.

Business incubator best practices

The literature dealing with business incubator success is prolific [4; 7; 16; 17; 18]. In the South African context Buys and Mbewana [7] 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.

The National Business Incubation Association (NBIA) [20] believes that the success of a business incubator lies in good practices. 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.

4. Research methodology.

In South Africa, limited 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 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 objective 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 [13]: "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."

The population and target population

The target population of this study includes the staff (n=3), the manager (n=1) and the incubatees (n=8) of the **Seda NMB ICT Incubator** in Port Elizabeth. Personal interviews were conducted with a member of the board and management.

Method of data collection

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. The measuring instrument comprised a covering letter and a questionnaire consisting of two sections. 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. The information requested concerning the respondents included gender, age, population group, location of business, sponsorship, levels of education and sources of income for incubatees.

Scale development and operationalisation

The scales measuring the factors under investigation were 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 are as follows:

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. 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" [8] is in itself an industry best practice and integral to a business incubator's development.

Staffing

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. Six items were formulated.

Financial management

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 and continuously monitoring each of these procedures. Seven items were designed to investigate aspects of the managerial finance of the incubator. 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.

Client selection

The benefits of effective client selection assist 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. 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. The client or incubatee is an important aspect of the business incubation process.

According to Cammarata [8] 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 recognises that service to clients is a first priority.

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 [8]. 25 items were developed to measure the components of client selection.

Marketing and facilities management were each measured with three items respectively.

Measuring impact

According to Lewis et al. [17] 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. Measuring impact comprises five items.

5. Findings.

Demographic Information

Section B of the questionnaire comprised several questions concerning the demographic information of the respondents. The findings are represented in Figure 1.

Figure 1: Demographics

Gender n=12	92% male	8% female		
Age n=12	20-29 (25%)	30-39 (50%)	40-49(25%)	
Race n =12	Black- 59%	Coloured -25%	Asian - 8%	White - 8%
Education n=12	Degree- 50%	Post matric- 92%	Matric or lower- 8%	
Employment n=12	Employed- 75%	Unemployed- 25%		

Corporate governance

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. 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.

Personnel

All of the responses were above average with the exception of one, 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. The mean of each of the questions relating to Personnel ranged between 2.92 and 4.00.

Incubator finances

The finance results indicated that the respondents were satisfied with the way the finances of the incubators are managed. The mean of each of the questions relating to Incubator finance ranged between 3.09 and 4.30.

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 one statement 'This incubator helps its clients to raise finances', all the responses were above average. 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. The mean of each of the questions relating to Selecting Clients ranged between 3.75 and 4.00 and Serving Clients ranged between 2.83 and 3.75.

Graduation

The results of responses in respect of graduation 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. 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.

Marketing and public relations.

The results of the empirical survey concerning marketing and public relations were above average and it may be concluded that the respondents are satisfied with the marketing plan of the incubator under investigation. 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.

Facilities management, measuring the impact and environmental impact.

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 [20] it was found that business incubators in the USA are better rated in terms of protecting the environment. 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.

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.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. 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.

Interviews

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[25] and NMB 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.

The selection process needs 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.

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.

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. NMMM 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.

6. Conclusions.

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. From the empirical results 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.'

7. Managerial implications.

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. Management need to address this.

8. References.

[1] Adegbite, O. 2001. Business incubators and small enterprise development: The Nigerian experience. *Small Business Economics*, 17(3): pp 157-166.

[2] Almubartaki, H,M., Al-Karaghouli, W. and Busler, M. 2010. *The creation of business incubators in supporting economic developments*. Paper delivered at the European, Mediterranean and Middle East Conference on Information Systems 2010, April 12-13 2010, Le Royal Mendien, Abu Dhabi.

[3] Baloyi, E. 2013. *Incubation S.A. perspective*. Paper delivered at IASP Africa 2013 Workshop, 8-10 April 2013, Port Elizabeth: Nelson Mandela Metropolitan University.

[4] Bergek, A. and Norman, C. 2008. Incubator best practice: A framework. *Technovation* 28(1-2): pp. 20-28.

[5] Bessant , J. and Tidd , J. 2011. Innovation and Entrepreneurship. 2nd Edition. Wiley, UK.

[6] Brigham, E.F. and Ehrhardt, M.C. 2005. *Financial management*: *Theory and practice*. 11th Edition. Mason, Ohio: Thompson/South Western.

[7] Buys, A.J. and Mbewana, P.N. 2007. *Key success factors for business incubation in South-Africa: The Godisa case study*. *South African Journal of Science*, Number 103, September-October 2007.

[8] Cammarata, K. 2003. *Self-evaluation workbook for business incubators*. Sthens, Ohio: NBIA Publications.

[9] Campbell, C. 1989. Change agents in the new economy: Business incubators and economic development. *Economic Development review*, Spring, pp. 56-59.

[10] Chandra, A. 2007a. *Business incubators in Brazil: Creating an environment for entrepreneurship.* Working paper. Terre Haute: Indiana State University, Networks Financial Institute, Scott College of Business.

[11] Chandra, A. 2007b. *Approaches to business incubation: A comparative study of the United States, China and Brazil.* Working paper. Terre Haute: Indiana State University, Networks Financial Institute, Scott College of Business.

[12] DT I. 2012. The Department of Trade and Industry, S.A. Programme guidelines: Incubation Support Programme. [Online]. Available: http://www.thedti.gov.za/financial_ assistance/ financial_incentive.jsp?id=54&subthemeid=8 (Accessed 13 May 2013).

[13] Dul, J. and Hak, T. 2008. Case study methodology in business research. Amsterdam: Elsevier.

[14] Hackett, S.M. and Dilts, D.M. 2004. A systematic review of business incubation research. *Journal of Technology Transfer*, 29 January: pp. 55-82.

[15] Lalkaka, R. and Shaffer, D. 1999. *Nurturing entrepreneurs, creating enterprises: Technology business incubators in Brazil.* Paper read at the International Conference on Effective Business Development Services. Rio de Janeiro, Brazil, March 2-3.

[16] Lalkaka, R. 2002. Technology business incubators to help build an innovation-based economy. *Journal of Change Management*, 3(2): pp. 167– 176.

[17] Lewis, D.A., Harper-Anderson, E. and Molmar, L.A. 2011. *incubating success. incubator best practices that lead to successful new ventures.* Ann Arbor, Michigan: USA Department of Commerce in association with University of Michigan.

[18] Maital, S., Ravid, S., Seshadri, D.V.R. and Dumanis, A. 2008. Toward a rounded theory of effective business incubation. *Vikalpa*, 23(4): pp. 1-14, October-December.

[19] Mbewana, P.N. 2006. *The key success factors for business incubation in South Africa: The Godisa case study*. Pretoria: The University of Pretoria.

[20] NBIA.2013.National Business Incubation Association (NBIA). [Online]. Available: http://www.nbia.org/ (Accessed 13 May 2013).

[21] Ndabeni, L.L. 2008. The contribution of business incubators and technology stations to small enterprise development in South Africa. *Development Southern Africa*, 25(3): pp. 1-11.

[22] Pals, S. 2006. *Factors determining success/failure in business incubators: A literature review of 17 countries.* Report submitted to the Worcester Polytechnic Institute. Worchester, MA. USA.

[23] Seda NMB ICT Incubator. 2013. [Online]. Available: http://www.snii.co.za (Accessed 13 May 2013).

[24]Singla, N., Khanduja, D. and Singh, S.S. 2008. Enigma and growth of business incubators in India. *International Journal of applied Engineering Research*, 3(10): pp. 1415-1423.

[25]SEDA.2013.Small Enterprise Development Agency (SEDA). [Online]. Available: http://www.seda. org.za (Accessed 13 May 2013).

[26] Stefanovic, M., Devedzic, G. and Eric, M. 2008. *Incubators in developing countries: Development perspectives.* Paper read at Quality Festival. 2008. 2nd International Quality Conference. Kragujevac, May 13-15.

[27] Tang, M., Baskaran, A. and Pancholi, J. 2010. *Technology business incubators in China and in India: A comparative analysis.* Paper read at Globelics 8th International conference. Kuala Limpur, Malaysia: University of Malaya, November, 1-3.

[28] The Free Dictionary by Farlex.Available: http://www.thefreedictionary.com/.(Accessed 13 May 2013).

[29] The Southern Africa Business and Technology Incubation Association (SABTIA). 2013. [Online]. Available: http://www.sabtia.com (Accessed 13 May 2013).

[30] Torch High Technology Industry Development Center. 2013. [Online]. Available: http://www.ctp.gov.cn/ctp-eng/index.htm (Accessed 28 May 2013.).

[31] Vanderstraeten, J., Matthysens, P. and van Witteloostuijn. A. 2012. *Measuring the performance of business incubators*. Research paper 2012-012. Department of Management. Antwerp, Belgium: Antwerp.

[32] Van der Zee, P. 2007. *Business incubator contributions to the development of businesses in the early stages of the business life-cycle*. Pretoria: University of Pretoria.

[33] Wiggins, J. and Gibson, D.V. 2003. Overview of US incubators and the case of the Austin Technology Incubator. *International Journal of Entrepreneurship and Innovation Management*, 3.