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**AN ANALYSIS OF THE IMPACT OF BUSINESS  
INCUBATION ON SMALL MEDIUM AND MICRO  
ENTERPRISES:  
AN INTERNATIONAL PERSPECTIVE**

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BY

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## **Acknowledgement**

Blessed be the Lord God of our fathers who has extended mercy unto me. Ezra 7:28

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## **Dedication**

This thesis is dedicated to my father Agaze Dessie Worku and my mother, Terechu Wubante Feleke, my brothers and sisters and all children of SOS Children's Village Ethiopia.

## **Declaration**

I, Mulugeta Agaze Dessie, hereby declare that this thesis for the degree of Doctor of Philosophy (PhD) submitted at North West University has not been submitted by me for any other degree at this or any other university. I also declare that it is my own work and materials and references contained in this study are acknowledged.

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Mulugeta Agaze Dessie

## **Abstract**

Following the acceptance of the incubation model in many countries, South Africa has also embraced this form of business incubation. Currently, there are 23 business and technology incubators incorporated under the Small Enterprise Development Agency (SEDA). The intent of the South African government is to enhance the capacity of small enterprises in accordance with the demands facing a modernising and global economy by addressing the outdated technologies employed by many SMMEs, the poor technology support given to SMMEs, the low entry rates of SMMEs into the economy, the high failure rate of start-ups, the poor access to facilities for testing and the promotion of SMME's innovator ideas. The incubation concept is important to the DTI because it is in line with the DTI's mandate and vision which is encapsulated in the National Industrial Policy of South Africa, namely that of "Growth, Equity and Employment".

This study reviews lessons learnt from international business incubation professionals and the performances of South African business incubators under the SEDA, specifically the SEDA Technology Programme. The evaluation focuses on impacts in relation to business incubators' contribution to business survival, job creation and revenue generation. A literature review was conducted with the aim of uncovering the process of business incubation as a support model and its impact in internationally and in South Africa. Following the review, a survey was conducted for the purpose of evaluating incubation impacts both internationally and in South Africa. Greater emphasis was placed on South African incubation managers and incubator clients/graduates.

The survey consists of three sets of questionnaires. The first was for international business incubation professionals, the second was for South African incubation managers and the third was for South African current incubator clients and graduates. The questionnaire was followed by semi-structured and unstructured interviews with incubation professionals as well as observation of incubation centres and tenant projects both internationally and in South Africa.

Descriptive statistics were used to answer research questions. A t-test was employed for hypothesis testing; that is, testing whether there is a significant difference between the two related samples of job creation and annual revenue before and after joining incubation centres or not. Correlation analysis was also applied to identify any relationships among variables. Content analysis was used to give a thematic summary of the respondents' views.

Key findings indicate that 85% of international and 100% of South African respondents agreed that business incubation is a better support model compared to other government support services and schemes. The findings also indicate that the number of clients being served by incubation centres is increasing in South Africa. The rate of graduation is very slow compared to the number of clients available in the country but with a growth trend. From a total of 579 clients admitted from 2001 to 2009, only 128 have graduated. The majority (73.3%) of South African incubator client/graduate respondents in this study are currently resident and non-resident clients. The remaining (18.1%) are anchor tenants and graduates.

With regard to business survival, job creation and annual revenues, the results show that 60% of respondents survived for less than two years and the other 40% survived for two and more years. This is relatively low as compared to international business survival rates achieved through business incubation. The number of jobs created has increased by 62% after SMMEs joined incubation centres. Total annual revenues of clients/graduates have also increased from R6, 735,799 to R18, 687,000 after joining incubation centres. This difference shows a statistically significant difference according to the t-test applied for the two hypotheses on job creation and total annual revenue. According to the t-test, the null hypothesis is rejected for both hypotheses.

Finally conclusions and recommendations have been given based on the literature review and survey.

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# CHAPTER 1

## ORIENTATION

### 1.1 INTRODUCTION

In today's world, technology is changing rapidly, creating both opportunities and challenges for people at the same time. People commonly referred to as "entrepreneurs" exploit these opportunities. These entrepreneurs are also caught up by different challenges in the process. Each opportunity brings its own challenges which perhaps never existed before. To overcome these challenge might be a result of many factors such as one's commitment, skill and experience, availability of financial and non-financial resources, existing entrepreneurial culture and government support in creating enabling environment. The advance of technology did not give a guarantee of success. People and businesses are still failing. The agenda of success and failure and lessons learned is always there.

Failure which occurs especially for young and early stage entrepreneurs affects the development of economies in countries. "All job growth happens in young firms; one-third of Gross Domestic Product (GDP) is created by companies which did not exist 25 years ago" (Schramm, 2009).

Apart from the "negative emotional response" and "grief" (Shepherd, 2003: 318–320), which comes from failure, the question of survival and livelihood is a crucial issue for entrepreneurs or business owners especially in developing countries. Archer (in Shepherd, 2003: 320) equates the grief that comes from business failure to that of the death of loved ones. Business failure that ensues after gathering resources and exploiting opportunities has a daunting effect. The effect can be a matter of life and death in situations where there is high scarcity of resources or a learning curve for others.

Shepherd (2003: 318) explains the situation of business failure as follows:

Business failure occurs when a fall in revenue and/or a rise in expenses are of such a magnitude that the firm becomes insolvent and is unable to attract new debt or equity funding; consequently it cannot continue to operate under the current ownership and management.

There are many ways in which businesses can fail. Business failure can be understood as the inability to meet annual financial targets or the inability to set and implement correct business strategies or the eminent inability to fulfil set objectives. Businesses can operate with many challenges even failing to meet targets. In this case it is only the degree of success which varies and this makes it difficult to measure failure or success. In this study, failure is defined as ceasing to trade and unable to continue operation.

In recent years, business incubation has been proven successful for reducing the rate of business failure. The National Business Incubation Association (NBIA) defines 'business incubation' as a general business support process that accelerates the successful development of start-up and fledgling companies by providing entrepreneurs with an array of targeted resources and services (NBIA, 2001). These services are usually developed or orchestrated by incubator management and offered both in the business incubator and through its network of contacts. A business incubator's main goal is to produce successful firms that will leave the programme financially viable and freestanding. These incubator graduates have the potential to create jobs, revitalise neighbourhoods, commercialise new technologies, and strengthen local and national economies ([www.nbia.org](http://www.nbia.org)). Business incubation can also be described as "an innovation, involving organisational form to create value by combining the entrepreneurial drive of a start-up business with resources generally available to large or medium sized firms" (Statistics Canada, 2006). Hackett and Dilts (2004a; b) give a broader definition of business incubators as:

A business incubator is a shared office space facility ...that seeks to provide ... a strategic, value adding intervention system of monitoring and business assistance ... with the objective of facilitating the successful new venturing development while simultaneously containing the cost of their potential failure.

Incubators vary in the way they deliver their services; in their organisational structure and in the types of client they serve. Highly adaptable, incubators have different goals, which include diversifying rural economies, providing employment for and increasing wealth in depressed inner cities, and transferring technology from universities and major corporations. Incubator clients are at the forefront of developing new and innovative technologies, and creating products and services that improve the quality of our lives in communities around the world ([www.nbia.org](http://www.nbia.org)).

The business incubation concept as an economic development tool is spreading rapidly throughout the world. Government and policy makers have been channelling public money into establishing incubators in different industries ever since this started in Philadelphia, USA in 1964 (Erlewine and Gerl, 2006). In a speech read during the Incubation Day by Wyeth (2008), the CEO of the SEDA Technology Programme on 8 December 2008 at the DTI Campus in Pretoria, it was stated that currently there are about 6,000–7,000 incubators in the world. According to the research done by Dinah Adkins, there are about 4,683 incubators worldwide. Table 1.1 gives a list of countries and their incubators. Dinah Adkins, the CEO and President of the National Business Incubation Association for more than 20 years who did this research, says that the number of incubators is far more than is shown in Table 1.1 below. In some countries business support programmes may be given other names but be giving exactly the same support as business incubators. This may not mean some countries which are not in this list do not have incubators or business support programmes. Whatever the case, Table 1.1 gives a picture of incubators in different countries and their growth.

**TABLE 1.1: LIST OF BUSINESS AND TECHNOLOGY INCUBATORS IN THE WORLD**

Country	No. of incubators	Country	No. of incubators	Country	No. of incubators
United States	981	Spain	28	Cyprus	5
China	400	Netherlands	25	Egypt	5
Germany	380	Switzerland	25	Greece	5
France	335	Argentina	23	Latvia	5
Korea	289	Israel	23	Hong Kong	4
Japan	269	Norway	23	Uruguay	3
United Kingdom	230	Colombia	22	Venezuela	3
Brazil	207	Bulgaria	20	Luxemburg	2
Canada	150	Denmark	20	Bahrain	1
Ireland	145	Romania	19	Ecuador	1
Austria	103 plus	South Africa	17	Jamaica	1
Australia	101	Ukraine	16	Kuwait	1
Taiwan	80	New Zealand	15	Malta	1
India	76	Kazakhstan	14	Morocco	1
Finland	71	Thailand	14	Panama	1
Russia	70	Turkey	13	Saudi Arabia	1
Singapore	70	Chile	12	Tajikistan	1
Poland	55	Malaysia	12	United Arab Emirates	1
Sweden	50	Slovakia	10	Ethiopia	1
Mexico	47	Czech Rep.	8		
Italy	46	Kyrgyz Repub.	8		
Uzbekistan	36	Estonia	7		
Hungary	32	Lithuania	7		
Portugal	30	Belarus	6		

Source: Adkins (2009)

It still remains to be asked whether or not the increase in the number of incubators means the incubation model is perfect for entrepreneurial and small business support. Does it mean this model will solve all small business challenges that prevail in many countries and be a last remedy? Is the model equally suitable and effective for both developed and developing countries? The researcher feels these questions need to be addressed.

In this research it is aimed to share valuable lessons from international business incubation professionals. It is also the purpose of this research to find some measureable impacts of incubators in South Africa specifically with regards to business

failure/survival and job creation, and to explore whether the incubation model is a better business support model than other government support services and schemes. Is the business incubation model a “one size fits all” model which can work in any circumstances? The researcher hopes that the results from this study will encourage policy makers, economic development professionals and business support agencies to re-examine the existing entrepreneurial culture, economic setup, skills level and infrastructure available in South Africa. It is also hoped that this will ultimately lead to the desired utilisation of the incubation model.

In this chapter, the background of the study including the personal experience of the writer, history of business incubation in South Africa, significance and scope of the study, outline of the research, definitions and concepts used in the study will be provided.

## **1.2 BACKGROUND OF THE STUDY**

### **1.2.1 Personal experience of the researcher**

In the early days of his professional career, the researcher was involved in training unemployed youth in business skills and establishing small projects in Ethiopia. It was always the researcher’s passion and dream to see each project succeed. It was a dream to see each individual run his/her own business and create jobs for themselves and others. The ultimate success of these unemployed youth would be enormous. This is mainly because the start-up funding was a grant from non-governmental organisations (NGOs) or individuals dedicated to helping others. Self-reliance and independence was a high priority for these youth projects, as there was no continuous finance available to support them. Therefore, it was very important to analyse each person’s business idea and match it with the available business opportunity and resources. It was also very important to align their ideas, skills and experience. There was continuous training and consultation in specific fields just to satisfy the lack of skills and experience of the youth. Private consultation was also provided in order to turn these youth projects into reality and to be sustainable. This was considered one solution for assisting unemployed youth in light of the high unemployment challenge at the time

in Ethiopia. Assisting young men and women in starting their own businesses was a huge relief for donors, and to the people involved in the process such as the researcher.

All in all, the success rate of the youth projects was very discouraging. The established youth projects mostly failed with the majority collapsing in the first six to 24 months. The projects did not survive for more than two years and a very small number made it to the second year. A review was conducted concerning the main challenges leading to such project failure. The main findings, according to youth coordinators' reports, were lack of business and technical skills; lack of commitment and determination from the youth; and a very low asset base.

During the period 2004 to 2005, the researcher undertook a study on the sustainability of funded small businesses/projects in South Africa with particular focus on Mafikeng, the administrative capital of the North West Province. This involved 37 projects with funding ranging from R25,000 to R3.2 million. The projects were funded by the Department of Economic Development and Tourism from 2002 to 2005. The findings revealed that 75% of all the funded projects from 2002 to 2005 failed or ceased to trade all together in the first two years of operation (Agaze, 2006). These results prompted the researcher to study challenges of SMME sustainability and business survival. Tables 1.2 and 1.3 below give the list of Mafikeng projects, amount of funding and their status.

**TABLE 1.2: COMMUNITY PROJECTS FUNDED IN 2002, JOB CREATION, SURVIVAL/FAILURE STATISTICS**

<b>No</b>	<b>Type of project</b>	<b>Females</b>	<b>Males</b>	<b>Youth</b>	<b>Disabled</b>	<b>Total</b>	<b>Grant amount (R)</b>	<b>Current status (2006)</b>
1	Steelworks	1	7	8	0	8	70,000	Collapsed
2	Chicken	4	4	2	1	8	109,000	Collapsed
3	Sewing	8	0	7	0	11	30,000	Collapsed
4	Bakery	0	0	0	0	0	42,000	Operational
5	Crafts	32	0			20	50,000	Operational
6	Sewing/crafts	3	2	3	0	5	200,000	Collapsed
7	Youth training	3	2	1	3	4	100,000	
8	Brickyards	0	0	0	0	0		Collapsed
9	Brickyard	2	3	0	1	10	30,000	Collapsed
10	Carwash/Indoor Cleaning	1	7	8	0	11	71,000	Operational
11	Furniture	0	6	0	0	6	100,000	Operational
12	Sewing	12	0	0	0	12	30,000	Operational
13	Chemicals	4	0	4	0	5	25,000	Collapsed
14	Catering	7	0	0	0	7	80,000	Collapsed
15	Bakery	9	5	7	0	14	220,000	Collapsed
16	Bakery	6	2	2	1	11	110,200	Collapsed
17	Arts and crafts	8	0	0	0	12	100,000	Implementation Problems
18	Bakery	4	0	1	0	6	60,000	Collapsed
19	Bakery	6	5	6	0	11	90,000	Collapsed
20	Sewing	6	0	5	0	7	42,000	Collapsed
<b>Total Jobs created</b>		<b>116</b>	<b>43</b>	<b>54</b>	<b>6</b>	<b>168</b>		<b>Collapsed</b>

SOURCE: Department of Economic Development and Tourism, North West Province (2006)

TABLE 1:3: COMMUNITY PROJECTS ESTABLISHED FROM 2003–2005

Year of start-up	Type of project	Grant	Current status (2006)
2005	Toilet roll and tissue manufacturers	R200,000	Being implemented
2005	Fibre manufacturing CC	R100,000	Being implemented
2005	Furniture and coffins CC		Being implemented
2005	Carpentry and cleaning services	R63,000	Being implemented
2005	Garden and cleaning services	R100,000	Being implemented
2004	Adult nappies	R100,000	Operational
2004	Confectionary	R70,000	Collapsed
2004	Sisal cooperative	R2,300,000	Operational
2004	Clothing, bedding, curtaining	R200 000	Operational
2004	Clothing, bedding, curtaining	R58,000	Operational
2004	Slate mining	R300,000	Operational
2004	sewing project	R60,000	Operational
2004	Bricks Manufacturing cooperative	R100,000	Being implemented
2003	Mining diamonds	R220,000	Operational
2003	Bakery	R110,000	Collapsed
2003	Bakery	R90,000	Collapsed
2003	Concrete works CC	R300,000	Being implemented

SOURCE: Department of Economic Development and Tourism, North West province (December 2005)

It was established that the reasons for failure in the Mafikeng (South Africa) projects were not exactly like the reason for failure in Ethiopia (Agaze, 2006). The start-up capital for SMMEs in the Mafikeng projects of the North West Province ranged from R25,000.00 to R3.2 million. This amount of starting capital was by far greater than that of the Ethiopian SMMEs. The problem of South African SMMEs shifts from financial challenges to business and technical skills, entrepreneurial orientation and level of motivation. The South African SMMEs' failure was not necessarily based on financial challenges. The South African SMMEs were failing "even when finance was available" (South Africa. Department of Trade and Industry, 2007). All projects were funded for a group of six to 12 people. Members of these groups had different levels of motivation, passion and commitment. Some started business with self (internal) motivation while others just joined the various teams to make up the numbers so that the projects would be funded (Agaze, 2006). Their technical and business skills were also very low. This was evident from individual interviews and physical observation of some of the projects

(Agaze, 2006). Whatever the case, small businesses were still failing and this left the researcher with no real solution.

In the continuous pursuit of related literature, the researcher came across the concept of business incubation as an instrument to increase survival rate of small businesses. There was much evidence of success of the incubation model especially for developed countries, such as the United States of America (USA) (Erlewine and Gerl, 2006; NBIA 1997; 2006).

### **1.2.2 Contribution of the study**

The next question asked by the researcher was whether the business incubation concept would work for developing countries. Does the business incubation model work for Africa where there is a low infrastructure, technology and asset base as compared to developed countries such as the USA? This question comes from some authors who reported challenges on the success of the incubation model mainly in USA, areas referred to as “rural”, with low infrastructure in terms of road, telecommunications and transport. Other challenges deal with an inadequate entrepreneurial culture in some communities in the rural parts of the USA (Adkins, Sherman and Yost, 2001).

The challenges faced by rural incubators of the USA further beg the question as to whether business incubation can actually work in developing countries. What kinds of places are referred to as ‘rural’ in the USA where incubation challenges are faced? If those areas are referred to as rural in USA, what kinds of places can be referred as urban in Africa? What is rural in America and Africa? These and other questions can compound the doubt as to whether business incubation can really work in Africa.

The researcher established that the incubation concept had also been introduced in South Africa by 2001 (Godisa Trust, 2003/2004). This added to the researcher’s curiosity to study the way South African incubators performed. How did the incubation concept provide integrated business support for the survival and growth of small businesses in terms of job creation and revenue generation?

This research explores how business and technology incubators under the Small Enterprise Development Agency (SEDA) programme of South Africa contributed to integrated business support. It further explores how measurably this integrated support impacts on small business survival and job creation. The study is not meant to find out the overall impact of these incubators. Likewise, it is not the objective of this study to compare the impact or performance of one business incubator on another. Different incubators have different objectives and their performance depends on their specific objectives. The impact of business incubators on business survival and job creation is not limited to the current incubator tenants or graduates. Survival of businesses is also followed after graduation; once clients or tenants leave incubation centres. This has been referred to as the 'in-house' and 'out-house' impact of incubators on clients and graduates. Readers should be reminded that the calculation of cost per job created and indirect jobs created are not the main objectives of this research. As a developing country, survival of businesses and job creation are crucial aspects in their contribution to economic development and poverty alleviation.

Business survival and job creation have been the core elements of many impact studies in the business incubation industry. The National Business Incubation Association studies of (1997, 2002 and 2006) in the USA are major examples. This does not mean the issues of business survival and job creation are the only elements of business incubator impacts (Lewis, 2001: 13). The long-run impacts of business incubators are more than business survival and job creation. Local and regional impacts of incubators and improving "local community image", technology commercialisation, wealth creation, encouraging entrepreneurial culture, new business formation, empowering minorities and women, are some of the other benefits to be mentioned (NBIA, 1997: 9–10). Business survival and job creation are very important elements especially for countries with high unemployment and low entrepreneurial orientation and business failure such as South Africa (GEM, 2005). In addition, the business incubation model is very young

in South Africa and it is therefore logical to start impact studies with business survival and job creation; number of incubator graduates and clients and their annual revenue and related variables. This study aims to fill this gap in the literature, now that it has been five to seven years since incubation was introduced (Seda, 2007; Ravjee, 2009).

This research contributes to the body of knowledge not in merely proving or disproving the effectiveness of business incubation with regards to better business survival and to job creation. The incubation model has been successful in many countries with varied degrees of success based on the available enabling environment and infrastructure. The research will substantiate or refute the role of business incubation to better business survival and to job creation of South African SMMEs based on the available business environment, entrepreneurial orientation and infrastructure. Based on primary and secondary data, the study will investigate whether business incubation works in developing and middle income countries such as South Africa. The study will also explore the notion of business incubation in developing countries which could be a real contribution to the existing literature. In addition, the study is aimed at finding support if rural incubators in South Africa are contributing to business survival, job creation and poverty alleviation in the face of marketing challenges, poor communication, lack of technology, infrastructure and lack of qualified mentors and advisors (South Africa. Department of Trade and Industry, 2007). These challenges are mentioned as major obstacles in rural incubators of developed countries such as USA (Erlewine and Gerl, 2006). How will these challenges affect the incubators in South Africa and how severe will the impact of these challenges be on rural incubator of South Africa?

Apart from the above contributions, the study will give credence to the incubation model and encourage other African countries to invest in business incubation. The findings will serve to challenge the views of some people who claim that the incubation concept is just 'American', and can only work for rich countries, never to be adopted as useful for developing countries.

### **1.3 THE BUSINESS INCUBATION CONCEPT**

The word “incubation” is borrowed from biological sciences in the context of assisting difficult child births and creating a controlled and artificial environment for survival. It is nurturing and protecting the newborn infant. Without that artificial environment and care, the newborn baby is unlikely to survive. In the same context the word is used in business where newly start-ups struggle to survive in their first years of operation. It is the support and nurture given when they are most fragile and weak. Entrepreneurs in their early stage of business operation lack many resources and skills which contribute for their failure or collapse. This model of business incubation provides a controlled and integrated support system to tackle these early stage challenges and prepare them to operate for growth (Hannon, 2004: 274).

Experts in specific fields control and monitor incubates (clients) to achieve specified outcomes in a specified time frame through the provision of tailor made interventions. The experts monitor the progress of each incubatee and prepare them for exit or graduation. The whole idea of this controlled support is to prepare clients to operate independently and be successful. The use of the term “incubator” in the widest possible sense is to include enterprises, entrepreneurs, and innovators and new/value adding and appropriate technologies (Godisa Trust, 2004).

### **1.4 BRIEF HISTORY OF BUSINESS INCUBATION**

According to Erlewine and Gerl (2006:10) Joseph Mancuso started the first business incubation centre in the rural community of Batavia, New York, USA in 1959. A Massey Ferguson factory had closed leaving two thousand employees jobless which affected the rural local economy. Mancuso bought the factory to rent 85,000 square foot space to different small businesses. His concern was not just the condition of the unemployed in that community but also the wellbeing of his business. As a business man he realised his business would be affected by the economic conditions of the community. He started renting out space and provided support to small businesses.

In 1964 the business incubation concept was expanded to Philadelphia and Pennsylvania with the opening of the University City Science Centre. The centre was

focused on developing a university research parks which later started the establishment and growth of early-stage companies (Erlewine and Gerl, 2006: 10). In 1980 there were approximately 12 business incubators in the USA. Most of these incubators were located in Rust Belt communities of the industrial North East where heavy industries such as steel foundries, textile plants and equipment manufacturers ceased operation in the previous decade. The closure of industries encouraged communities to find new ways of economic development. Communities realised the economic value of keeping businesses in order to grow and sustain local economies.

In the mid-1980s editors of *Frontiers of Entrepreneurship Research* dedicated a session for business incubation at their conference each year which contributed later towards the business incubation concept being used by many people in the industry (Al-Mubarak, 2008: 9). At the conference it was recommended by business incubator scholars to have a physical space with 'below market' cost, shared services and other supporting services. Later, other scholars presented empirical evidence to show that the business incubation industry was in fact more than just a physical facility and reduced rent; but a place of value added services such as entrepreneurial training and networking (Al-Mubarak, 2008: 9).

By 1998, there were about 19,000 incubator graduates employing over 245,000 people in the United States (McKinnon in SEAA, 2003:1). By the year 2000, there were over 900 incubators in the USA and Canada with new business incubators opening at a rate of one per week (Rosenwein, 2000: 64). In recent years the business incubation concept has been embraced in many developed and developing countries including Australia, China, England, Turkey, Nigeria and Brazil (Lalkaka, 2003). Today it is estimated that there are about 6,000–7,000 incubators worldwide (Wyeth, 2008).

Recognising the need for information sharing within this new growth industry, business incubation leaders formed the National Business Incubation Association (NBIA) in 1985 to provide training and tools for assisting start-up firms and to serve as clearing house for information on incubator management and development issues. The Association

membership has grown from a membership of 40 in its first year (1985) to approximately 1,600 in 2006 ([www.nbia.org](http://www.nbia.org)).

#### **1.4.1 Business incubation in South Africa**

According to the Godisa programme, the SMME sector in South Africa is highly diverse with structures, problems, growth potential and access to support differing widely between SMME segments. According to Godisa (2004), previous studies on SMMEs point to poorly developed networks among SMMEs especially on innovation levels. The report further explains that very little use has been made of supply and value chains as follows:

Optimum use is not made of the science and technology infrastructure. Other findings include outdated technologies employed by many SMMEs, poor technology support to SMMEs, low entry rates of SMMEs in to the manufacturing sector, high failure rate of start-ups and poor access to facilities for testing and promotion of SMME's innovator ideas (Godisa, 2001: 4).

The Godisa report (2001) further explains the recognition of a need to provide a mechanism to optimise, commercialise and package newly developed technologies in order to effectively implement them in to the SMME community in South Africa. The background to the Godisa programme rests on the explicit intent of the government of South Africa to enhance the capacity of small enterprises in accordance with the demands facing a modernising and global economy.

The White Paper on Science and Technology and the Small Enterprise Development Act (1996) makes it clear that SMME target groups should be capable of upgrading to get involved in more value-added activities and the support should increase the rate of technology transfer and diffusion among SMMEs to assist them as they attempt to compete in global markets. "The overall objective of the Godisa business support programme was economic growth and long-term employment creation ... by increasing

international competitiveness of SMME” (Godisa, 2001: 1). The report clearly shows the means of achieving such objectives including very specific technology support interventions and in particular the establishment of several centres which target high growth potential SMMEs with technology support services aimed at addressing their needs. According to the Godisa report (2001), the main objectives of the Godisa trust are summarised as follows:

- improve enterprise permanently
- enhance enterprise profitability and growth
- enhance technological innovators
- improve SMME competitiveness
- reduce enterprise failure rates

As a result of the above-mentioned gaps in the SMME sector, it was important to bring in business support programmes which added value for better competitiveness. The first initiative was the establishment of Godisa, which means “nurturing” or helping to grow in Setswana, one of the local languages of South Africa (Godisa, 2004). In 1999/2000, the Godisa programme was born under the technology transfer sub-programme of Department of Science and Technology (DST) and evolved to a joint initiative between DST, Department of Trade and Industry and the support of the European Union (EU) and Council for Scientific and Industrial Research (CSIR). The European Union’s Programme Management Unit (PMU) and the CSIR’s Interim Management Team (IMT) shared their extensive knowledge and experience with SEDA Technology Programme staff. This initiative of establishing more integrated business support programmes such as the “development of more science parks and incubators for hi-tech and research and development (R&D) start-ups through Public Private Partnerships” has been one of the recommendations of the GEM Report since 2001 (GEM, 2006: 71) for entrepreneurship development in South Africa.

The government of South Africa started supporting incubation through the Godisa programme in 1999/2000. Initially four incubators were established by the support of Special Development Programme (SDP) which falls under the DTI. These incubators included Down Stream Aluminium Centre for Technology (DACT) in Richards Bay, the

Middleburg Stainless Steel Initiative (MSI) in Middelburg, the Clothing and Textile Centre in Port Elizabeth and Furntech in George. At the same time, the Department of Science and Technology (2001) and the European Union started three pilot centres namely, Soft Start, Embezini and Zenzele. The two departments came together and formed the Godisa Trust (DTI and DST). The number of incubators increased steadily under the Godisa programme. By the year 2005/2006, there were 10 incubation centres (Figure 1.1) which later increased to a total number of 23 incubation centres (July, 2009). These 23 incubation centres operating under the SEDA are shown in Appendix I.



FIGURE 1.1: THE FIRST INCUBATION CENTRES IN SOUTH AFRICA

- Softstart Technology and Business Incubator

- Acom Technologies Incubator
- eGoli Bio Life Science Incubator
- Chemin Technology Incubator
- Timbali Technology Incubator
- Zenzele Technology Demonstration Centre
- Downstream Aluminium Centre of Technology (DACT)
- The Furniture Technology Centre (Furntech)
- Eastern Cape IT Initiative (ECITI)
- SEDA Ethekewini Contractors Incubator (Emerging Contractors)

In the following section, a brief description of the incubators stated above, with regard to the type of industry, intervention and support provided to start-up firms in South Africa will be given.

#### ***1.4.1.1 Softstart technology and business incubator***

The Softstart Technology and Business Incubator (STBI) is located in Pretoria in Gauteng province, and has assisted early-stage Information Communication Technology (ICT) entrepreneurs since it was started in 2001. The STBI was initially known as the Softstart Software incubator and was born from the merger of the Softstart and Bodibeng Technology Incubator. Softstart technology incubator assists innovative early stage ICT entrepreneurs with mentoring and support in the strategy and practice of growing a sustainable business. Bodibeng Technology Incubator supports virtual high tech entrepreneurs in starting and growing their business by offering innovative products and services (SEDA Annual Report, 2003/2004-2007/8).

Some of STBI's key services include strategic, technical and operational mentoring, furnished "plug and play" office space in a secure environment, shared resources such as reception and conference facilities, internet access to service providers and funding sources. The STBI business and technology incubator adds value in different categories such as the following:

- **Market:** the understanding of the market in all aspects and the design and delivery of strategies that will fully exploit the products potential.
- **Technical:** the design and development of the actual products and services that will be delivered to the customer.
- **Business:** the analysis of the potential of the business venture to making a profit and developing business plans and strategies that will ensure that the venture meets its desired goals that is profitability that include strategies to accessing funding and growth strategies.
- **Operational:** the design documentation and operation of the business activities as a potential legal entity.

Businesses in various phases have the opportunity to receive the services of STBI in th concept, developmental and commercial phase.

- **Concept phase:** Tenants in this phase are “at the very early stages of exploiting an innovation” according to the Godisa report (2006: 12). At this stage businesses do not have sales, investors or profits to speak of and are primarily focused on analysis and refinement of the venture concept. This stage aims to shape an optimal business and technological approach based on a first assessment of the strategic environment.
- **Development phase:** At this stage tenants have demonstrated that a real business opportunity exists. They have achieved sales and have investors. Tenants are focused on validating initial market opportunities through real world sales operations. The limited nature of their current operations typically indicates they are not yet profitable. This stage focuses on feasibility, development and market strategy supporting the business concept.
- **Commercial phase:** Tenants in this phase are already exploiting available market opportunities and the major focus is expansion. This stage focus on growth and maturity through careful operational management. STBI also focuses on supporting the broader high technology community. Apart from the support

entrepreneurial activities at the Tshwane University of Technology, University of Pretoria and CSIR, it also provides a rich array of public resources to the ICT entrepreneur. One of the services is facilitating access to start-up capital for early stage business. STBI has collated a database of all funding sources active in South Africa that are accessible to early stage entrepreneurs. These funding sources include banks, venture capitalists, grant providers, credit guarantors. According to the report a total of more than 150 sources have been researched and included in a revolutionary finance resource tool. The web enabled finance finder which is available at [www.softstart.co.za](http://www.softstart.co.za) (SEDA Annual Report, 2006)

STBI tenants and clients are involved in the following projects (SEDA, 2007/8):

- the development of mobile software applications including a solution that allows officers from Johannesburg Metro Police Department to access information such as outstanding fines on their cell phones
- the development of a secure telecommunication solution for the GSM and other wireless networks
- specialized software and web development
- researching opportunities in the software training and solutions development
- development of e-learning course for computer based training applications
- specialising in projects for Business Analytics Business Intelligence and Information Systems development
- the development of a revolutionary new software programming tool making it easier to deploy user configurable solutions
- a payphone management system that enables pay phones business owners to manage their ventures on sound business principle, and
- a project to develop a print management soft ware solution for business enterprises and academic institutions

#### **1.4.1.2 Acorn Technologies**

Acorn Technologies is based in the Western Cape province of South Africa. The incubator supports start-ups and established SMMEs involved in the life sciences

(medical sector). The objective of the incubator is to nurse life science and medical related businesses through the provision of laboratory and office space. The businesses are also supported in terms of mentoring and access to finance. According to the same report (SEDA, 2007/2008), Acorn Technologies has been listed as a “bio medical, bio engineering and bio technology start-up business incubator”. The incubator is a Section 21 company facilitating access to technology and business expertise within the sector and other business development support services for entrepreneurs and fledging life science businesses.

SEDA Technology Programme Reports (2007/2008) further state that the business expertise and support provided by Acorn Technologies incubator through the provision of residential and laboratory facilities are meant to provide a supportive environment which can stimulate growth and commercialise viable technologies through world class services, which are meant to add value to all participants through the following main areas:

- commercial and technology services
- space and facilities
- administration services
- education and marketing services
- business planning and models
- financial modelling

The SEDA 2007/2008 report revealed that there were In-house (residential) and virtual clients (non-resident) benefiting from the services of the incubator. Some of the services and projects undertaken by Acorn Technologies involve the following:

- demonstration and provision of a wide range of diagnostic products and services with emphasis on HIV/AIDS
- development of second and third generation yeast strains
- development of novel technologies to pioneer a range of electronic medical devices
- consulting services in metallurgical engineering

- engineering solutions and development of medical and orthopaedic devices

#### **1.4.1.3 Egoli Bio Life Science Incubator**

The eGoli Bio Life Science incubator is located in Johannesburg, Gauteng province. The SEDA report of 2007/8 reveals that this incubator has been constituted as a non-profit business. Its primary aim is to nurture entrepreneurs involved in the natural life sciences and bio-technology. This incubator, like all others in the programme, is meant to support start-up businesses during the period when they are considered most vulnerable. Entrepreneurs involved with the incubator have the rear chance to commercialise the products and/or services that they offer. This is done by affording the entrepreneurs an environment that is technologically strong, with the correct managerial and legal framework. The services offered to the entrepreneurs by the incubator, have been summarised in the report as follows:

- provision of physical infrastructure; which involves office space with fully furnished services and information technology facilities
- business development support services
- access to financing
- learning and sharing environment
- exposure to business partners
- access to laboratory and pilot plant facilities

The SEDA (2007/2008) report revealed that participating entrepreneurs stand to benefit by way of an increased start-up success rate, which is achieved through the venture evaluation programme under the advisory panel. Other benefits cited include exposure to mentorship and networking with other tenants within the incubator. This exposure creates a supportive atmosphere to participants. The participants also benefit from the subsidised essential services and in-house training provided through workshops and courses.

#### **1.4.1.4 Chemin Incubator**

Chemin was started in 2002 and is located in Port Elizabeth. The incubator is involved with the provision of support to start-up businesses in the chemical manufacturing industry of South Africa. The SEDA 2007/8 report attests that joint ventures have been sort with institution or individuals outside the incubator; this is owing to the difficulty of setting up an in-house facility. The difficulties cited include logistics and finance constraints. Alongside the business aspect of nurturing incubatees, Chemin provides technical support which includes feasibility evaluations, product development and optimisation and product testing. Essential infrastructure and equipment has been made available to incubatees on site. This includes state of the art chemical facilities which otherwise would not be available to incubatees. Project specific requirements which are not present on site can be developed or sourced from service providers. The SEDA 2007/8 report further states that Chemin received more than 150 expressions of interest, where 10 were contracted as clients, 11 were evaluated for pre-incubation support and ten were submitted for thorough pre-incubation evaluation (SEDA Technology Programme, 2007/2008).

#### **1.4.1.5 Timbali Technology Incubator**

The Timbali Technology Incubator was established in 2002 and is located in Mbombela region of Mpumalanga. The incubator was established as a centre for the purpose of giving support to emerging farmers in the cut flower market. The SEDA 2007/8 report reveals the centre provided technical, business and marketing services for entrepreneurs with the aim of developing entrepreneur's floriculture businesses. The incubator has applied certain principles from the franchise industry in order to provide its service to emerging farmers involved in the incubation programme. Like most of the other incubators, the Timbali incubator has focused on the provision of assistance to its incubatees with marketing, finance, business and elimination of skills barriers. The incubator has also provided high-tech laboratory facilities aimed at assisting incubatees. One of the primary aims of the project cited in the report is the successful delivery of novice farmers into the mainstream economy, job creation and empowerment of the previously disadvantaged people in the Mbombela region.

#### **1.4.1.6 Zenzele Technology Demonstration Centre**

The Zenzele Technology Demonstration Centre was established in 2002 and is located in the Mintek Campus, Randburg, Gauteng. It has been described in the SEDA 2007/8 report as a centre providing technical support and research support to small-scale mining and mineral-related entrepreneurs. Zenzele aims to harness the rapid growth of start-up businesses through skills development, job creation and assistance of entrepreneurs to successfully compete in the market. The assistance provided by the incubator includes the provision of technology and services appropriate to the miners, technical facilities, procurement of finance and business planning. The number of incubatees is widespread in areas within the ambit of Zenzele which include Mpumalanga, Gauteng, KwaZulu-Natal, the Northern Cape, Free State and the Northern Province. Zenzele assists incubatees with the review and improvement of existing processes, assessment of viability of new projects and the supply of basic testing services. The incubator also helps by hosting workshops and seminars.

#### **1.4.1.7 Downstream Aluminium Centre of Technology (DACT)**

The Downstream Aluminium Centre of Technology is located in Richard Bay, focusing on services such as training, skills development and incubation of potential entrepreneurs and small enterprises in the aluminium casting industry (SEDA Annual Report, 2007/8).

#### **1.4.1.8 The Furniture Technology Centre (Furntech)**

The Furniture Sector Technology Incubator, Furntech, with five branches located across South Africa, has its headquarters in Cape Town and focuses on the provision of training, skills development and business incubation support to potential entrepreneurs and small enterprises involved in furniture manufacturing. Furntech is an accredited training Service provider for the furniture Industry, and provides training to over 600 people each year (SEDA Annual Report, 2007/8).

#### **1.4.1.9 Eastern Cape IT Initiative (ECITI)**

The Eastern Cape Information Technology Initiative has an independent, non-profit company, promoting the development of the knowledge economy of the Eastern Cape. ECITI's mission is to develop and promote the Eastern Cape's ICT industry and to retain the province's human capital by developing a strong business development network to establish and grow the Eastern Cape ICT business potential. The initiative has two centres, one in Port Elizabeth and the other in East London. Both incubators are responsible for the provision of office space, 'plug-and play' offices and a variety of business development services for entrepreneurs and small enterprises supported through the programme.

#### **1.4.1.10 Ethekekwini Contractors Incubator**

The Seda Ethekekwini Contractors Incubator SECI is based in Durban, and has been created to provide business support services, office infrastructure and other resources to eligible businesses in the construction sector. It stems from an identified lack of capacity presented with abundant opportunities and demand for services in this particular sector. The centre focuses specifically on the development of small contracting firms classified under the Construction Industries Development Board (CIDB) as grade 3, and provides them with the necessary support to grow their businesses to grades 4 and 5 within a designated period of time.

### **1.5 SEDA TECHNOLOGY PROGRAMME**

In 2006, after SEDA was launched, it was decided to discontinue the Godisa Trust and put all incubators under SEDA specifically SEDA technology programme. "This was a continuation of the refinement and consolidation of small business support agencies in to a single small and medium firm agency" (South Africa. Department of Trade and Industry, 2007: 13). The main objective of STP is to support Technology Business Centres (TBCs) commonly known as business incubators.

All incubators under the SEDA technology programme funded by the DTI are contributing in assisting SMMEs and fill many gaps. Incubation centres have full-time

and part-time employees, consultants and mentors, machinery, equipment and all support SMMEs with different challenges. Why did the South African government particularly the Department of Trade and Industry, decided to fund and establish incubators? Why is incubation so important to DTI? Incubation is important to DTI because the incubation concept is in line with the DTI's mandate and vision of the National Industrial Policy of South Africa namely that of "Growth, Equity and Employment" according to Potgieter (2008), Chief Director, Innovation and Technology, DTI. Potgieter (2008) points out three areas in which incubators support the vision of South African Industrial Policy Framework:

1. The long-term intensification of South Africa's industrialisation process and movement towards a knowledge economy.
2. The promotion of a more labour-absorbing industrialisation path with a particular emphasis on tradable labour-absorbing goods and services and economic linkages that catalyse employment creation.
3. The promotion of a broader-based industrialisation path characterised by greater levels of participation by historically disadvantaged people and marginalised regions in the mainstream of the industrial economy.

At this level, Potgieter (2008) argues that there are many services incubators can provide entrepreneurs:

- Offer entrepreneurs physical premises, professional guidance, financial support, management support and administrative assistance, so that during their stay in the incubator, they may develop their ideas into products/processes for the marketplace.
- Assist individuals in developing technologies and establishing technology firms.
- Commercialise research.
- Transfer emerging technology.
- Create jobs.
- Diversify local economic base.

The DTI is learning from other countries with experience in the business and technology industry. The DTI believes in international trends and success stories of technology incubators such as the following (Potgieter, 2008):

- Technology business incubators will continue to have increasing significant impact on economic development. Up to 80% of graduated businesses are succeeding.
- A regional development focus for incubators calls for strengthened, value-added services for entrepreneurs particularly in areas of design, packaging and marketing to bring improved products based on local resources to regional and global markets.
- Professionalism in the incubator design and operation is increasingly the norm for benchmarking, sustainability and performance monitoring.
- Second generation incubators are providing more consulting services outside the incubators to outside local business as well as graduates from the incubators.
- Policy makers are increasingly being persuaded that incubators are a proper use of public funds.
- Incubators are increasingly being linked to universities or sited inside research parks or industrial estates.
- Pre-incubation assistance of potential entrepreneurs is sometimes given, for instance they are helped with innovative concepts.
- Increasingly, post-incubation programmes are being developed to provide continuing support to graduated businesses, even linking graduates to larger companies as suppliers.
- Incubators are developing into a hub and a satellite configuration allowing them to serve a broader section of the business community.
- Private sector involvement is a powerful contributor to success.
- Under the right conditions the incubator reaches break-even in about three to four years.
- Incubators are human resource intensive not capital intensive.

## **1.6 PROBLEM STATEMENT**

Incubation centres facilitate economic development by providing a favourable environment to nurture new enterprises thus improving the entrepreneurial base. Business incubators also provide coaching, mentoring, specialised support services and

networking during the start-up phase of an enterprise. An incubator helps in incubating knowledge-based and technology-led start-ups into sustainable business by providing expert guidance, along with a wide range of shared and specialised services including critical support services, innovative financing and networking support within well equipped work space ([www.incuborsnetwork.com](http://www.incuborsnetwork.com)).

The specialised and tailor made support programmes from incubators are meant to assist SMMEs to achieve their objectives such as better survival, job creation, poverty alleviation and overall profitability of businesses. In this study the main problem of the study will be to find out if South African Incubators contributed for better survival of SMMEs and job creation as a result of the impact of incubators. A comprehensive problem statement, rationale to the problem and formulation of the hypothesis will be given in Chapter 4.

## **1.7 RESEARCH OBJECTIVES**

### **1.7.1 Core objective**

The core objective of this study is to analyse the impact of business incubators support to South African SMMEs with regards to business survival, job creation and revenue generation. This core objective can be split up in to the following distinct specific objectives.

### **1.7.2 Specific objectives**

- To analyse the rate of business survival of incubated firms in South Africa
- To investigate if incubated firms survive beyond the first two years of operation
- To investigate if business incubation is a better support model than other government support services and schemes such as NAMAC, Ntsika
- To investigate what makes business incubation a better business support model than other government support services and schemes

- To relate good incubation practices learned from other countries to South Africa, specifically to the North West province and to other African countries
- To investigate how incubated firms contributed to job creation as compared to prior their joining the incubation centres
- To explore performance of SMMEs before and after the intervention of business incubators
- To ascertain whether the concept of business incubation is internationally a viable concept

## **1.8 IMPORTANCE OF THE RESEARCH**

Government, non-government and private funding are designed to change the lives of individuals and communities through small to medium enterprises and community projects of different sizes. Both formal and informal sectors contribute to the growth of the economy and better quality of life of people. Understanding the role of incubation programmes enables better management of such interventions for the success of both formal and informal sector, first and second economy respectively. Government spending on business support programmes is high in many countries including South Africa. Therefore a study such as this is necessary to help government, private and donor organisations in working together, in policy design and implementation (establishment) procedures of incubation centres for the success of SMMEs, which are the main means of reducing unemployment and poverty in most developing countries. Studies with relevant data about the impact of business incubators will assist policy makers in making decisions whether to provide continuous support for incubators or channel public funds for other business support schemes.

The good practices which will be revealed will pave a better way in transferring skills and technologies into the informal sector for the support of marginalised communities and low- tech arenas which is one of the strategies in halving poverty in the country. In addition, a study such as this will contribute in the organisation and implementation of incubation centres in the North West province.

It is also aimed that this study will be used as a reference by government, NGOs and private investors in South Africa and other African countries such as Ethiopia. It is also planned to

- motivate other universities and technology centres such as North West University, Mafikeng Campus to open a learning lab which can transfer technology, targeting communities and rural individuals in the province
- assist SMME policy makers and government officials in resource allocations so as to create equal opportunities for all. Impact studies such as this will give evidence for policy makers and responsible government people who are in the decision of channelling public money.
- reveal good incubation practices learned from international and other incubation centres of South Africa to the North West province.
- Contribute to the literature review by exploring on the views of business incubation in developing countries such as South Africa.

## **1.9 SCOPE OF THE STUDY**

This study covers all business and technology incubators available throughout South Africa under the Small Enterprise Development Agency Programme, previously under Godisa Trust. Three hi-tech incubators namely, Maxum at the innovation hub, Raizcorp and Bandwidth which are not under the SEDA programme are not part of this study. The study aims to find measureable impacts of incubators on the performance of SMMEs. The evaluation is more specific to business survival, job creation and revenue generation. These incubation centres are distributed in all provinces of South Africa as shown in Annexure I.

## **1.10 PLAN OF THE STUDY**

- **Chapter 2** gives a description of major theories applied in the study. This will help readers link entrepreneurial and small business support concepts to the base theories.

- **Chapter 3** starts with the concept of entrepreneurship and related models. This helps to show where business incubation and small business support fits in the whole entrepreneurial support model. Business incubation is all about strategies of supporting entrepreneurs for success whether the business is entrepreneurial or survivalist as the case may be. In this chapter classification of SMMEs, their economic contribution and challenges are discussed. The chapter goes on to explain available business support strategies in South Africa. This is followed by the business incubation model as a current integrated strategy in many countries. The review gives major incubation procedures such as client selection, client services and graduation. International and national impact reports on business incubation have been included. The chapter also concludes with views of different experts on why the incubation model is so effective compared to other business support models which is not available in most literature.
- **Chapter 4** provides an in-depth understanding of the problem statement, research objectives and rationale of the study.
- **Chapter 5** leads the reader through all the steps and methodology followed in finding both secondary and primary data such as instruments, type of analysis and presentation used.
- **Chapter 6** gives the results of both quantitative and qualitative surveys, which are analysed and finally
- **Chapter 7** contains all the discussions, conclusions and recommendations and topics for further research.

### 1.11 CLARIFICATION OF CONCEPTS AND DEFINITIONS

In this section, some terms and concepts will be defined in relation to this study.

- **Business incubation:** A dynamic process of business enterprise development that seeks to fill the gaps in entrepreneurial development by providing a supportive environment where new entrepreneurs receive training in business management skills and marketing, shielded from stiff market forces with below market rate, reduced fees for services and improved access to necessary seed capital (Lewis, 2001).

- **Business incubators:** Facilities designed to nurture young firms, helping them survive and grow during the start up period when they are most vulnerable. Incubators provide hands on management assistance, access to financing and orchestrated exposure to critical business or technical support services. They also offer entrepreneurial firms shared office services, access to equipment, flexible leases, and expandable space, all under one roof. An incubation programme's main goal is to produce successful graduates, businesses that are financially viable and free standing when they leave the incubator, usually after two to three years (Lewis, 2001).
- **Technology incubators** foster the growth of companies evolved in emerging technology such as software, biotechnologies, robotics and instrumentation. Research and development, as well as the commercialisation of technology, may be areas for technology incubators (NBIA, 1997).
- **Mixed use incubators** foster the growth of all kinds of companies; the businesses in a mix use incubator are not required to fit in any kind of specialised niche. Companies in mix use incubators may include service, distribution, light manufacturing, and other types of firms (NBIA, 1997).
- **Empowerment/microenterprise incubators** foster the growth of businesses located in areas that face economic challenges, such as high unemployment or distressed and deteriorated neighbourhoods. The presence of the incubator in such locations is expected to fuel economic recovery. Employment incubators are often mixed-use, and their mission may be to give support to low-income, minority and women-owned businesses (NBIA, 1997).
- **Graduates** are businesses that have met an incubation programmes exit criteria within a specific period of time. The exit or business graduation criteria are typically determined by the manager or the incubator's board of directors (NBIA, 1997).
- **Tenant clients** are participants in the incubation programme who are occupants of the incubation facility. They receive services for a fee from the incubation staff and the incubator resource network (NBIA, 1997).

- **Affiliate clients** are participants in the incubation programme who are not occupants of the incubation facility. However, they also receive formal, ongoing incubation services from the incubation services from the incubation staff and the incubator resource network. The term 'client' refers to both tenants and affiliate clients (NBIA, 1997).
- **Board members** are individuals who sit on the board of the incubator itself, on the board of the organisation that oversees the incubation programme, or on the client advisory board. Board members often provide networking assistance to tenants, give guidance to the incubator managers, and determine the mission of the incubation programme. However, their responsibilities and levels of involvement vary from incubator to incubator (NBIA, 1997).
- **Stakeholders** are individuals or organisations that have an interest in the success of the incubation programme but are not staff. Stakeholders come from various organisations in the community, including banks, local government, businesses, universities, and economic development agencies. They may be board members who sit on the incubator board, the board of the incubator's parent organisation, and/or on client advisory boards. Entrepreneurs who are currently receiving services as clients and graduates are also stake holders. Stakeholders also may be funders, have a political stake in the programme, and /or be involved in promoting the growth of the new businesses in the communities (NBIA, 1997).
- **Entrepreneurship** is the emergence and growth of new businesses; it is the process that causes changes in the economic system through innovations of individuals who respond to opportunities in the market. The term 'entrepreneur' is borrowed from the French term, *entreprendre*, which is a combination of two words being *entre* interpreted either as the verb 'to enter' or as an adverb 'between'; *prendre* a verb which means 'to take'. In the German language 'entrepreneur' can be translated as *Unternehmer*. The term 'Unternehmer' describes a person who owns and runs a business. In the German language *Unternehmer* has in the recent past been used in a broader sense to describe any person who has the ability to search the environment and identify

opportunities for improvement to mobilise resources and implement, and to take action of maximising the opportunities. In this wider sense, the term “entrepreneur” includes a variety of innovators, who, in business, work in small, medium and large businesses and in the non-business sector, work in voluntary and government institutions. In this wider sense the term “entrepreneur” includes a variety of innovators who, in business, work in small, medium and large businesses and in the non-business sector, work in voluntary and government institutions (Cronje, Du Toit, and Motlatla, 2000). The meaning of the word “entrepreneur” has been effectively summed up as an individual who establishes and manages a business for the main purpose of profit and growth. An entrepreneur is characterised by innovative behaviour and will employ strategic management practices in the business (Nieman, Hough and Nieuwenhuizen, 2003: 10).

- **Entrepreneurs:** any entity, new or existing, that provides a new product or service or that develops and uses new methods to produce or deliver existing goods and services at lower cost” (Baumol, Litan and Schramm, 2007: 2). This definition is in line with the famous Peter Drucker’s distinction of a small business and entrepreneurial entity as not every new business is entrepreneurial or represents entrepreneurship (Drucker, 1965: 21).
- **SMME (Small Medium and Micro Enterprises):** A small business is any business that is independently owned and operated, but is not dominant in its field and does not engage in any new marketing or innovative practices (Nieman *et al.*, 2003: 10).

According to The National Small Business Act 102 of 1996, a small business covers all sectors of the economy as well as types of enterprises and consists of two parts-qualitative and quantitative criteria. According to the qualitative criteria a small business must have the following characteristics:

- a separate and distinct business entity
- should not be part of a group of companies

- includes any subsidiaries and branches when measuring the size
- should be managed by its owners
- should be a natural person, sole proprietorship, partnership or a legal person such as a Close Corporation or Company

Small business owners are individuals who establish and manage their businesses for the principal purpose of furthering personal goals and ensuring security. The qualitative criteria classify small businesses according to size such as micro, very small, small and medium.

- **Start-up phase:** A three-month period during which one or more individuals identify the products or services that the business will trade in, access resources and put in place the necessary infrastructure. When the business is in this phase of development, it is referred to as a start-up firm.
- **A new firm:** A period of 3–42 months, when the new business begins to trade and compete with other firms in the marketplace. The definition of a new firm is a business that has paid salaries or wages for longer than three months (GEM, 2006).
- **Established firm:** Once a business has established itself and is more than 42 months old, it is referred to as established form (GEM, 2006).
- **Business failure:** There are many ways of SMME business failure. Business failure can be understood as the inability to meet annual financial targets; or the inability to set and implement correct business strategies or the eminent inability of fulfilling set objectives. Many SMME businesses operate with many challenges which ultimately cause most to fail to meet set business targets. The degree of success and business failure amongst SMMEs in most cases has been difficult to measure. The great challenge of failure can be taken further than just ceasing to trade. Most small businesses remain small. Business failure has to be understood in this research as undesired ceasing to trade (Nieman, *et al.*, 2003)

## CHAPTER 2

### THEORETICAL FOUNDATION

#### 2.1 INTRODUCTION

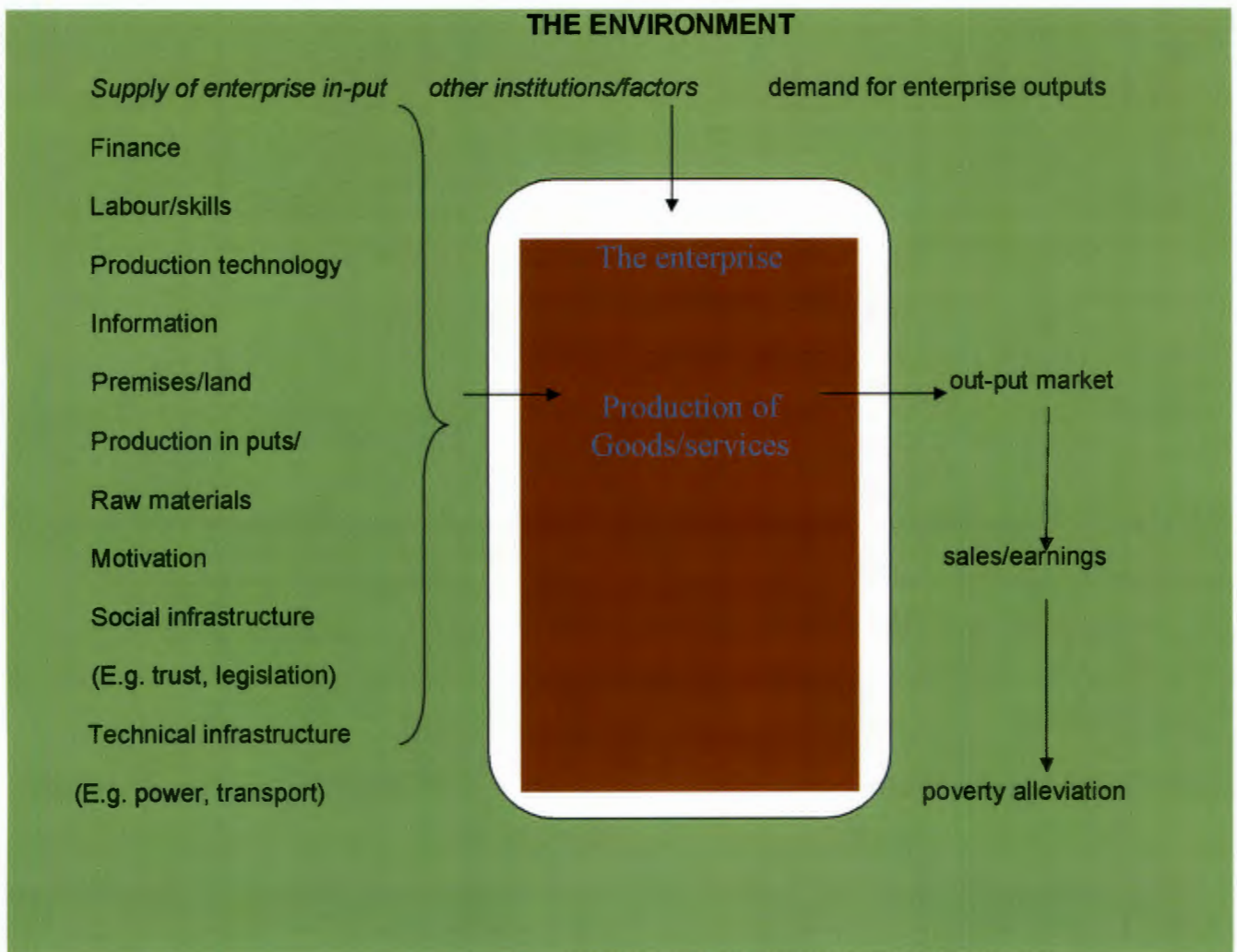
This chapter deals with the basic theories related to the business incubation concept and entrepreneurial support in general. As a new concept there are not so many theories specifically related to business incubation except few which will be discussed in this chapter. Business incubation as one of the entrepreneurial support models also fits in many entrepreneurship theories. This increases the number of theories in relation to business incubation. Business incubation is a form of business support model aimed at the economic development of entrepreneurs and small businesses. The entrepreneurial support (input) contributes to enterprise development (output). This is shown in the systematic model of small business (Figure 2.1).

The entrepreneurial support (input) requires financial and non-financial resources in order to achieve any output. This implies the success or failures of achieving the output depend on the available resources and proper coordination of the input and fill a gap in the process of starting and developing new ventures. These relationships has led to the development of theories of resources which include theories such as the 'Resource Based View and the 'Resource Munificence Theory'. The resources theories and other theories related to entrepreneurial and small business support give a better understanding of the subject to be studied in this chapter. In order to achieve this, the following theories and models will thus be discussed; the Systematic model of Small Business, Resource Based View Theory, Resource Munificence Theory, Self Serving Bias Theory, Theory of Economic Development, Transaction Cost Economics, Structural Contingency Theory and Network Theory.

In the following section, the Systematic Model of Small Business and the theories and their links to entrepreneurial support and business incubation will be discussed.

## 2.2 SYSTEMATIC MODEL OF A SMALL ENTERPRISE

The Systematic Model of Small Business developed by Wilson and Heeks (in Allen and Thomas, 2000: 403–423) has been illustrated in Figure 2.1 below. The theory is based on the 'inter connectedness of resources' such as finance, information, land, social and technical infrastructure (input) for the production of goods and services to achieve sales or income/revenue (output).



**FIGURE 2.1:** SYSTEMIC MODEL OF A SMALL ENTERPRISE

**Source:** Allen and Thomas (2000)

The result or performance outcomes of small businesses are dependent on the type and availability of resources (inputs) and the enabling environment created by institutions such as government and other players. The enterprise by itself is only a player to use the available in-puts and opportunity in order to produce the best out-puts. The support and coordination of all these elements is very crucial for an enterprise to be successful. This theory or model is of relevance to entrepreneurship and small business development in that it identifies the necessary in-puts for a business to be successful. The strength of this model is based on the inclusion of the supportive environment in addition to the resources mentioned as inputs. The available supportive environment to mobilise the resources equally determines the success of a business. However the weakness of this model is the failure to include a fundamental input which is 'people'. These can come in the form of experts or advisors. The model is closely related to the business incubation concept as a business support model, but only fails in the lack of the involvement of 'people' (experts) which is one of the core elements of business incubation.

### **2.3 RESOURCE-BASED THEORY**

According to Barney in Wickham (2006: 131) a resource is defined as:

All assets, capabilities, organizational process, firm attributes, information, knowledge, etc. controlled by a firm to conceive and implement strategies that improve its efficiency and effectiveness.

Barney (1991: 1010) describes resources as all assets both tangible and intangible which are tied to a firm and can be thought of as a strength or weakness of a firm. These resources can include factors of production such as land, capital, labour and buildings. It can also include intangible assets of a specific firm such as brand, names, patents, recipes, information, knowledge and technological skills.

The underlying principle of this theory is that the competitiveness of one business depends on the availability and use of resources. Penrose in Wickham (2006: 130) indicates that resources "are not in-puts to production but collectively provide services

that support production”. The author further emphasises that “different firms have different resources” and “there is difficulty in transferring these resources between firms” (Wickham, 2006: 130), which ultimately determines their performance.

Where resources determine the performance for a firm, it is also important to ascertain whether those resources are easy to imitate by another firm or not (Wickham, 2006: 130) . For a firm to consider their resources as a competitive advantage, the resources should not be easily imitated or tradable by other businesses (Wickham, 2006: 131). The protection of intellectual property such as patent and copyright are some of the means to protect resources. Other resources, however, such as “organizational learning” and “reputation” of a firm, which come through time, cannot be traded unlike machinery and equipment.

Barney (1991: 99) summarises the key element of the Resource-Based View theory as follows: firstly a firm must identify the key resources that give competitiveness over other competitors; secondly resources should fulfil criteria of ‘Valuable’, ‘Rare’, ‘Inimitable’ and ‘Non-substituted’ (VRIN). A resource is regarded as valuable if it enables a firm to employ a value creating strategy to either out perform its competitors or reduce its own weakness. For a resource to be valuable, it must be scarce or rare to find (Barney, 1991:100). The scarcity of a certain resource to other business can be a competitive advantage for those having it. If a resource is also un-imitable by other competitors, it is considered valuable. If a resource is owned and controlled by a firm such as a recipe, or a patent, it gives a source of competitive advantage for a firm if competitors are unable to duplicate or replicate this strategic asset perfectly (Choi and Shepherd, 2004: 378–379).

### **2.3.1 Resource based theory relevance to entrepreneurship and business incubation**

Entrepreneurs identify an opportunity or a gap left in the market; gather resources and exploit that opportunity (Baron and Ensley, 2006: 1–10; Pretorius, 2008). In order to exploit opportunities properly, entrepreneurs should identify what tangible and intangible resources are available in their firm. This step can help assess the strengths and

weakness of a firm. Identifying a firm's weakness should make an entrepreneur to fill that weakness somewhere be it skill or resource shortage. Entrepreneurs especially in the start-up phase lack both tangible and intangible resources. Tangible resources can include modern machinery and equipment or other facilities such as a building. Intangible resources or assets can constitute management and technical skills or expertise. Entrepreneurs being in a controlled support programme under incubation centres as a client (resident or non-resident) get a chance to fill these missing resources (tangible or intangible). Incubator clients get an array of services and support programmes once admitted as a client. Such services continue until clients reach a certain level of competency. When incubators feel clients have the necessary support and can run their own business independent in the outside market, clients leave /graduate from incubation centres (NBIA, 2001).

#### **2.4 RESOURCE MUNIFICENCE THEORY**

Castrogiovanni (1991: 542) argues that "environmental munificence is the scarcity or abundance of critical resources needed by (one or more) firms operating within an environment". Resource munificence is an environment where businesses struggle to survive with scarce resources. Randolph and Dess (in Castrogiovanni, 1991: 543) also argue on the ability of new firms to enter into a business environment, stating that their survival in business and their growth is influenced by the resources available in an environment. Castrogiovanni further compares the survival and growth of business when there are abundant or scarce resources. "When resources are abundant, it is relatively easy for firms to survive. When resources are scarce, competition intensifies" (Castrogiovanni, 1991: 543). These factors of abundance and scarcity of resources can make an organisation change its planning, budget, equipment and facilities. The key element that is emphasised by Castrogiovanni is that the performance of a firm is sensitive to the availability of opportunities or threats in an environment (Castrogiovanni, 1991: 557).

### **2.4.1 Relevance of munificence theory to entrepreneurship and business incubation**

The availability and scarcity of resources influence the performance of firms in an industry. Businesses can perform better when resources are abundant and vice versa. When resources are scarce, firms compete for the available resources which ultimately affect firm performance such as survival and profitability. The competition under scarce resources will have a severe effect on a start-up business. Entrepreneurs starting their businesses with limited resources such as facilities, equipment and management experience are bound to fail. The degree of competition in a stiff environment can be negative to start-up businesses especially if they happen to be small scale enterprises. In such situations, small businesses struggle to compete with bigger businesses which already in the market that have better resources and experiences. This might contribute to the ultimate collapse of many small enterprises.

Castrogiovanni (1991) points out the challenges for government and entrepreneurs of starting and running a business in an environment where resources are scarce. For SMMEs to be successful, the interventions of government to create an enabling environment seem crucial. These financial and non-financial interventions will help to protect novice entrepreneurs to compete and survive in operation. Understanding the munificence and scarcity of business resources can applaud entrepreneurs to be cognisant of the fact that success and profitability in a limited environment is difficult and almost impossible. This will thus require entrepreneurs to exploit available innovation that can make them competitive. The recent price fixing scandal of many South African companies such as Tiger Brands is a good example of this theory. South African companies in the food and pharmaceutical industries colluded in price fixing in order to maximise profit literally through the reduction of competition (Nieman, 2008).

## **2.5 THE SELF SERVING BIAS THEORY**

The Self Serving Bias theory or Self Serving Attribution theory is a tendency of individuals to acknowledge personal responsibility for successes and reject failures (Pollard, Collage and Bristol, 2006: 38; Wickham, 2006: 58). People attribute their

successes to internal factors such as their own effort or contribution and their failures to external or situational factors.

It is commonly heard when soccer fans say “We won” when their team won and “they lost” when their team lost. When their team wins, they are part of the success (internal attribution) but not when the team fails (external attribution). This tendency of attribution was originally founded by Kelly (in Wickham, 2006: 58). Later works by Berstein and Stephen (in Wickham, 2006: 58) examined how individuals attribute success and failure to themselves or to external factors beyond their control.

### **2.5.1 Relevance to entrepreneurship and business incubation**

A study by Rogoff, Lee and Suh (2004: 365) shows the existence of self serving bias among entrepreneurs because of intervention of psychological influence, though the application of this theory to entrepreneurship has been made only recently. The relevance of this to entrepreneurs is how they attribute their success or failure. The tendency of entrepreneurs to attribute failure to external factors impedes their effort to improve. Reasons of failure are attributed to external factors such as government. This has a negative effect on entrepreneurs who fail to relate failure to themselves and find solution such as skills training or financial assistance.

## **2.6 THEORY OF ECONOMIC DEVELOPMENT**

Brooks (in Al-Mubarak, 2008: 26) gave the first formal hypothesis grounded on the theory of economic development as follows:

Once extraneous factors that lead to early stage failure of small businesses such as poor management, inability to find early financing and high overhead are controlled or eliminated, the projected increased survival rate of new ventures should lead to increased employment and an expanded tax base.

The theory of economic development through entrepreneurship is based on the view that the creation of new firms results from business concepts in an entrepreneurial

process which is the basis of economic growth (Brooks, 1986). According to this theory there is a gap from the concept stage to the creation of the firm. It is not easy to change the concept in to an existing business. Brooks (1986) argues the gap between the concept and the actual firm creation can be narrowed by business incubators.

## **2.7 TRANSACTION COST ECONOMICS (TCE)**

According to Transaction Cost Economics Theory, firms can get competitive advantage by reducing the cost of doing business (Williamson, in Hackett and Dilts, 2004: 69). "The fundamental of transaction cost economics is that market transactions have a cost associated with them that is additional to the value of the good exchanged" (Wickham, 2006:133). In any transaction, the price is the cost of transaction and the final value of the good. The transaction cost whether a contract is signed or failed is still cost for a buyer (Wickham 2006:133)

According to Wickham 2006:133), Transaction cost economics predicts that priority should be given to transactions that:

- Would have a high cost if they went wrong
- Have a high probability of going wrong
- Were costly to police using market mechanisms

This is exactly what business incubators are doing for start-up firms during their early stage of business development, when they are tied up with many challenges especially high operational cost. Incubators give a relief in providing lower rentals for machinery and other facilities available in business incubators.

## **2.8 DEVELOPMENT THEORIES**

Allan and Thomas (2000: 245) define development as "the absence of poverty". If a country or society is developed, poverty is absent or more practically minimised. This does not mean there is no poverty where there is development. There are many

developed countries still with poverty. Allan and Thomas (2000: 3) argue that “[d]evelopment can take place without reducing poverty”. If development is the advancement of technology, production capacity improvement for instance, as the philosophy of capitalism, there are many developed countries but still failing to eradicate poverty in their peoples’ lives. There can be improvement such as technological advancement, increased productivity or better Gross Domestic Product (GDP) but not poverty relief for the majority. There can be technological advancement but for wealth creation of the few. There is not much effort put in the transfer of technology to the rural areas, and the “unreachable” to change their lives. Annual reports of increase in GDP/GNP per capita that can only show the average but fail to appreciate the real individual life will remain only a cover-up for development. The income disparity remains high between the rich and the poor.

Development in relation to poverty is understood in different senses. The first sense is development as “a vision”, which is the description or measure of the state as being a desirable society. What is considered desirable for one person, individual, society or country in general may not be real to the other. What is considered important, beneficiary or valuable for any state of development depends on an individual’s societies or country’s views that are subject to different cultural and political implications. Apart from a perception, the level of priority defers. In one country or society, economic targets might take priority while in another country social and political or religious aspects take priority. The measurement or standard set for every target might also differ. The ranking criteria might be different which makes it difficult to measure the same level of development in different places. For instance in one society development might be to satisfy all basic needs regardless of other needs like human rights, political or religious freedoms. On the other hand, proponents of “people centred” development argue that development is “where conditions exist for all to develop themselves to their full potential” (Allan and Thomas, 2000: 250).

According to this view, development is what is achieved by the modern industrial society, the realisation of human potential and ameliorating poverty. Development in the modern industrial society is dominated by advanced capitalist economies and the idea

is only to follow their footsteps. This is the dictation from the west to convince others that development is what they have done and any one intending to develop should use their formula (Bernstein, in Allan and Thomas, 2000).

The realisation of human potential and poverty alleviation is again relating development to human needs. According to this view any development should entail aims such as justice, sustainability, inclusiveness, physical necessity, equality, participation, human security, women and environment (Allan and Thomas, 2000: 33). The whole concept is approaching development from the basic needs approach and the United Nations Human Development Approach. The basic needs approach has demonstrated in historical perspectives as well as a philosophy (paradigm) of development in the recent past. The approach has been conceived to be as 'bottom top development', provided at grassroots level. This means that the beneficiaries are perceived to be at the grassroots level like villages and localities. The components of the basic needs include social services such as education, health, water supply including the need for facilitating infrastructure.

The other view about development is related to the so called 'development agencies'. Development means anything done in its name by the so-called development agencies (Allan and Thomas, 2000: 40). In this case development is not only about economic and social changes as before rather engaging in poverty reduction and humanitarian activities such as health, education, gender equality and mitigate internal wars and other disasters respectively.

This is putting more 'trust' in development agencies as a solution. That is considering good mediators and intersection or fulcrum for a problem. When United Nations was first organised, it was considered as "the last and best hope of human kind" (Lippmann, 1973: 47). It was assumed to be the agent that will solve human problems on this earth. It was considered as the last and best solution for human kind to solve problems including peace, security and other poverty issues. The United Nations, governments and other local and international development agencies including NGOs have been working together. However, problems seem proliferated rather than reduced. Peace is

fragile in every corner of the world. People are still in poverty, struggling to get a daily bread for survival. Poor countries are still poor. Poor people are still poor, be it in developing countries or developed countries.

The majority of the world's population is struggling against poverty even fulfilling basic needs. Human rights are being violated. The world has been unsafe more than any time before. People have reached to the extent of feeling unsecured in any corner of the world. The so-called developed countries like the United States of America or the United Kingdom can be hardly considered as safe places to live in. In this regard both developing and developed countries, rich and poor are equal. The distinction of safety is almost coming to nil. Everyone is feeling unsafe and insecure. In this regard, it is difficult to say one is poor and the other rich. It is difficult to say one is developed than the other. Is this taking the entire world towards poverty? Are we all heading towards considering the whole world under poverty, which is equally miserable, fragile and insecure? What kind of story of development do we have? If development is no more only a matter of income or basic needs but also safety and security, is it not difficult to say USA is more developed than South Africa or Somalia?

Apart from the truth entailed it seems some times to confuse what is poverty and who is poor? This seems almost to confuse who is poor and who is not. Slim (2002: 2-3) argues that "the adoption of rights based development is really all about fluff and power and the taking of moral high ground without changing ones practice in a meaningful way". He asserts "rights do little more than an improved discourse which may not be much use to people enduring poverty around the world". Slim continues arguing this way of the "rights talk just makes people to feel good". This might work however only for those people who have fulfilled their basic needs and struggle for the next hierarchy of needs. It is hard to talk to people about rights and neglect their basic needs. This is like preaching to people in the wilderness for days and leaving them without giving their physical need. As the confusion of the definition of poverty continues in our mind for ever, for the sake of this research poverty should be understood only in terms of lack of resources or income, not security, people's right or spiritual poverty.

There are always suggested solutions and targets. The World Bank's development goals at the United Nations World Summit in Copenhagen in 1995 to reduce the proportion of people living under extreme poverty by half by 2015 (Allan and Thomas, 2000: 3) is a good example. In line with this goal for instance, the government of South Africa has designed targets for reducing poverty. Accelerated and Shared Growth Initiative of South Africa (ASGISA) in a special publication of A Succeed/Essential (2007) is working towards this goal. This national goal of the government of South Africa is approached with many suggested strategies like improving the level of skill in coordination with other countries on the scarce and critical skills of the country either by training or importing expertise from other countries. In this regard the concept of incubation centres through supporting SMMEs can also contribute to this golden goal of skill transfer, job creation and poverty alleviation.

Other scholars like Karl Polanyi (in Allen and Thomas, 2000: 39) even argue, "[d]evelopment worsens poverty". This is to say the poor are affected for any action done for the sake of development. If a technological advanced mill or factory is installed in one area, poor people who used to grind the maize or wheat the traditional way will lose their jobs. This is the same as computerisation of many activities and loss of many jobs in our day-to-day life. This may not how ever seem a good justification. Computerisation and advanced technology is doing much more cool than harm. Development through technological advancement has brought dramatic changes to human life improvement.

Many people understand poverty in different ways. A recent report of the World Bank (2008: 1) assists in visualising the condition of poverty of an African woman as: "An African woman bent under the sun weeding sorghum in an arid field with a hoe, child strapped on her back, a vivid image of rural poverty." This is what any outsider can see when passing by during the day. If one still follows up and makes a greater effort to see what the same woman is doing in her smoky traditional kitchen, "Majet" at night, the image is still worse. The same woman who has been in the sun has to carry a pot full of



water back home around sunset and walk from 5 to 10 kilometres. On arrival, she opens a dark hut (Gojo) and start cooking for the family. If she was clever enough, she has prepared the peas and beans earlier, otherwise she has to grind and prepare it for supper. This might take as late as midnight. It is common to sleep on animal skins laid on the plain floor "Medeb". This is the only time to get the baby down but still keep him next to her breast lying on her hand. A little rest and break. The same woman has to wake up early and prepare food so that her husband and children can eat and leave early for work. This is a typical routine work for a rural woman in Ethiopia. Whether rural or urban it is clear who the poor are. We all know who are suffering in poverty traps and people who are living with despair.

Lack of development and poverty mainly in the rural areas can be partially relieved by business incubation which can help in transferring technology and increasing infrastructure from cities to rural areas. Communities can be revitalised if businesses operating in rural areas get support. The business incubation model has been a tool for poverty alleviation specifically by transferring skill from the first economy (formal) to the second economy (informal) and reduces income inequality (Erlewine and Gerl, 2006: 297; Seda, 2007; Adkins *et al.*, 2001; [www.nbia.org](http://www.nbia.org)). Business incubation in Bulgaria is a successful example of a model aimed at poverty alleviation through employment and skills development in an economically depressed region. It is the positive example of local empowerment and sustainable partnership for poverty alleviation. The UNDP Report found out that the leasing scheme was the key success factor for incubator financial independence and sustainability. The leasing scheme is a revolving fund provided by United Nations Development Programme (UNDP 2001).

### **2.8.1 Relevance to entrepreneurship and business incubation**

The reports of high GDP in many countries more specifically South Africa is a sign of development but not utilised in helping entrepreneurs and small businesses, is just artificial and helps little to the majority. The available infrastructure and technology without being transferred to the rural areas in many support programmes such business

incubation, remains a face value. If properly implemented, the incubation model could help many entrepreneurs in transferring available technology and skill from one area to the other or from one institution/person to the other which ultimately contributes to better competitiveness of SMMEs, job creation and poverty alleviation.

## **2.9 CONCLUSION**

The main theories in this chapter namely the Systematic Model of Small Business, the Resource Based View, the Resource Munificence Theory, the Self Serving Bias Theory, and Development theories tell how enterprises can use available resources for growth and development and stay complete in the market. This competitiveness or success of enterprises has many outcomes such as financial growth, job creation and poverty alleviation. In order to get all these outcomes, careful use of scarce resources of developing countries is very crucial. In this regard the role of incubators in assisting entrepreneurs in allocating and providing scarce resources is considerable. In the next chapter, Chapter 3, literature on business incubation in relation to these basic theories will be explored.

## **CHAPTER 3**

### **LITERATURE REVIEW**

#### **3.1 INTRODUCTION**

In Chapter 2 theories related to entrepreneurship and business incubation with emphasis on resources have been discussed. In this chapter, how these resources are best used to contribute for business success is discussed.

Most governments of developed countries are willing to inject money and resources into incubation programmes targeted at the areas of wealth creation and advancement of technology. This is contrary to developing countries which normally want to use the available little resource or money for actual job creation and poverty alleviation. The disparity of how developed countries and the developing countries perceive the notion of entrepreneurship and business Incubation therefore generates an ideal platform for discussion.

This chapter on literature review starts with highlights on entrepreneurship and common entrepreneurial models. Small and medium enterprises which are discussed in this study can be grouped into entrepreneurial or non-entrepreneurial ventures. Many factors are used to determine what entrepreneurial is and what it is not. Irrespective of the different interpretations, the concept of entrepreneurship and small and medium enterprises are discussed. It is not the aim of this review to discuss entrepreneurship theories, models and processes, which are contained in the following references (Churchill, 1989; Timmons, 1978; Cunningham and Lischeren, 1991; Pretorius, 2008). The emphasis will be on entrepreneurial support rather than entrepreneurship and its characteristics.

The classification of SMMEs and their economic contribution has been included in the literature review. The main concept of SMME challenges such as high failure rate and business support services available in South Africa aimed at increasing their sustainability has been included. The SMME challenges such as high failure rates and

the current business support models available have been reviewed. These business support programmes are compared to the incubation model of business support. The review also includes the incubation process such as client selection and graduation. Finally business incubation and its impact on international and national perspectives are discussed. The impact review includes reports and major studies conducted by the National Business Incubation Association, the UN Guidelines on Best Practices in Business Incubation covering all European Economic Commission for Europe member countries and Small Enterprise Development Agency of South Africa.

### **3.2 NATURE OF ENTREPRENEURSHIP**

There is no common definition of an entrepreneur or entrepreneurship. Different people view it differently. For example, economists associate entrepreneurship with innovation while behaviourists concentrate on “the creative and intuitive characteristics of entrepreneurs” (Nieman *et al.*, 2004; Gibb, 2002; Ibrahim and Soufani, 2002). Nieman *et al.* (2004:5) define entrepreneurship as “the perception and exploration of new opportunities in the realm of business”. This difference on definition of entrepreneurship was further found in Roger Bennet’s (2006) research about the perception of business lecturers on the nature of entrepreneurship. The study found that there was no consensus on the interpretation of the word “entrepreneurship” and how it should be taught (Bennet, 2006: 165).

Other writers such as Saras (2001) argue that entrepreneurs are not just people who own and run businesses while others agree with the view. Saras (2001: 2) writes about “what makes entrepreneurs entrepreneurial”. Entrepreneurs begin by asking themselves “who they are” to identify their traits, tastes and abilities. Secondly, entrepreneurs ask “what they know” by examining their education, training, expertise and experience. Thirdly, entrepreneurs take advantage of “whom they know” as a means to start what is essentially social networking; by starting with the means available and closest to them, and moving into action. This is exactly the opposite of ‘casual reasoning’. Casual reasoning follows a certain process of “careful and belief in a yet to be made future” (Saras, 2001: 2) that can be shaped by human action only. This is mostly taught by



many and is inducted by developing an idea, business planning and market research before entering into business. Saras (2001) does not agree with the casual reasoning approach.

There are different notions of entrepreneurship by different scholars. The Department of Trade and Industry (DTI) perceives the core elements of entrepreneurship as the identification of an opportunity, innovation and creativity, gathering resources, creating and growing of ventures, taking risks and being rewarded and managing the business (University of Pretoria, 2008: 7).

Some scholars, who prominently include Professor Nieman (2008) of Pretoria University, in one of his class lecture notes, argue on the notion of entrepreneurship and small business. According to him small businesses are not entrepreneurial because they do not grow and are without strategy. He further argues that small businesses remain small and do not contribute to the economic development of a country. Nieman (2008) contends that small businesses do not create employment and that they are VAT substitute for a job. According to him, it is only entrepreneurial ventures which create employment. He argues that the growth of entrepreneurial ventures which is an increase in turnover, business strategy, infrastructure and organisational growth can contribute to economic growth.

This argument of denying the contribution of SMMEs seems to be without grounds and is even in contrast to his earlier views published in Nieman (2003). In his book he reported that "SMMEs constitute 97.5% of all business in South Africa. They generate 34.8% of the Gross Domestic Product (GDP); contribute to 42.7% of the total value of salaries and wages paid in South Africa, and employ 54.7% of all formal and private sector employees" (Nieman *et al.*, 2003: 3). The writer totally disagrees with the argument of Nieman (2008). This is because the role of SMMEs is not underestimated by both developed and developing countries. The sum of SMMEs is far greater than large companies available in any country and contributing far much in job creation and economic development compared to large companies and corporations.

### **3.3 ENTREPRENEURSHIP CONTRIBUTION TO ECONOMIC DEVELOPMENT**

Although entrepreneurship is a new concept in South Africa, the government still has a firm belief that it can be a “solution to poverty alleviation and unemployment” (GEM, 2006: 62). Baumol *et al.* (2007) argue that there is no “silver bullet” answer to what drives economic growth. A “successful entrepreneurial economy” comprises four elements as the main contributing factors. These elements include the ease to start and run a business; the reward of institutions to successful entrepreneurs; government creating conducive and safe environment; and the chance for successful entrepreneurs to innovate and grow (Baumol *et al.*, 2007: 7–8). They further argue that countries and business support agencies should work on these four elements if entrepreneurial economy is expected to bring the highest economic growth.

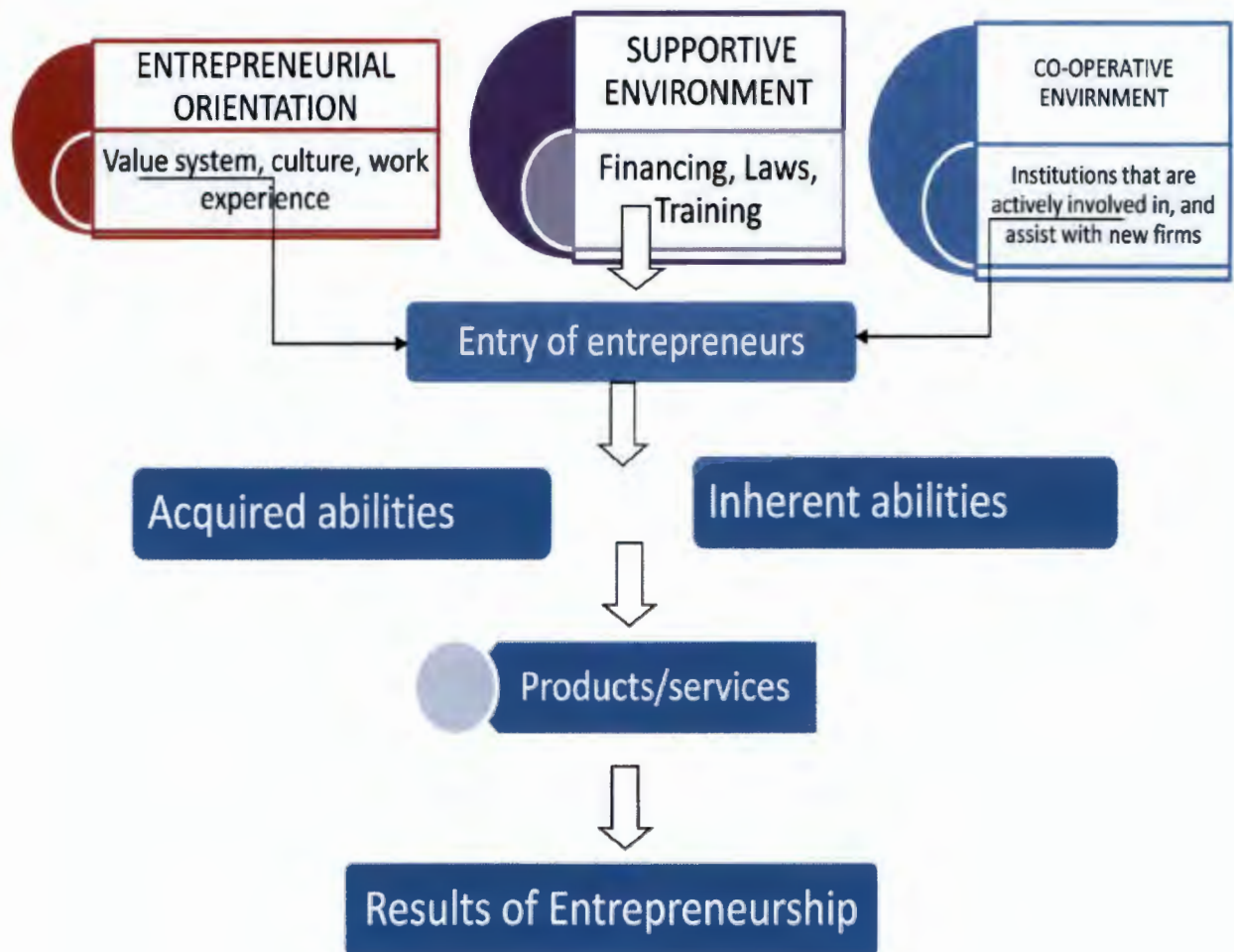
Accepting the entrepreneurial economy for growth does not mean one-size-fits-all. There are different entrepreneurial models which countries can adopt based on factors available in one country. It is therefore important to assess the different entrepreneurial models.

### **3.4 ENTREPRENEURSHIP DEVELOPMENT MODELS**

#### **3.4.1 Entrepreneurial support model**

An entrepreneurial model developed by (Nieman *et al.*, 2003: 11) shows the influence of the external environment on entrepreneurial development (Figure 3.1). The environment is influenced by entrepreneurial orientation, supportive environment and cooperative environment. Entrepreneurial orientation has been referred to as the cultural, family, role-models, education, and work experience of individuals engaged in an entrepreneurial activity. These factors are critical to growth of firms. The supportive environment refers to the external assistance in terms of finance, training, infrastructure and policies which encourages entrepreneurs to exploit available opportunities. The supportive environment assists start-up entrepreneurs in resolving the most common challenges, especially in their early stage of operation. The cooperative environment refers to institutions and universities which are actively involved in research and other

activities to build businesses through research and development. There are other large firms engaged in similar activities (Nieman *et al.*, 2003: 11–14).



- Tax base is enlarged by a greater number of new firms
- Technological development occurs
- Job opportunities arise
- Economic growth occurs
- Incomes increases
- Living standards improves
- Investment opportunities increase

**FIGURE 3.1:** A MODEL FOR ENTREPRENEURSHIP DEVELOPMENT

Source: Adapted from Nieman *et al.* (2003: 11)

### 3.4.2 Entrepreneurship education and training model

The Entrepreneurial and Training model developed by Van Vuuren and Nieman (1999) is about entrepreneurial performance. According to this model, entrepreneurial performance is a function of motivation, entrepreneurial skills and business skills. The model shows the correlation of motivation, entrepreneurial and business skills to performance. The model is given as a mathematical formula as follows:

$$E/P = f a M (b E/S \times c B/S)$$

Where:

E/p =Entrepreneurial performance

M = Motivation

E/S = Entrepreneurial skills

B/S = Business skills

a, b and c = constants or existing skills

According to this model, entrepreneurial skills available to assist entrepreneurs in opportunity identification are very important. Proper identification of an opportunity in an existing market is very crucial. These opportunities should consider the available resources in terms of finance, infrastructure, skills and experience of the entrepreneurs running the business. The model further suggests that business skills refer to running the business venture throughout the life cycle of the business. In addition the model shows not only the importance of both entrepreneurial and business skills but also motivation. The model points out that where entrepreneurs have the necessary skills but are lacking in motivation, the whole venture will amount to zero. As the mathematical relationship shows if motivation is zero, anything inside the bracket will be zero. This complements the notion that passion of any venture by the concerned entrepreneur or entrepreneurs is a crucial factor for success of the venture over and above available resources and skills (Van Vuuren and Nieman, 1999).

### 3.4.3 GEM conceptual model

This model is reported by the General Entrepreneurship Monitor (GEM) (Figure 3.2). The model clearly indicates among others the importance of supportive environment such as finance and mentorship. The GEM conceptual model shows small or large businesses need supports such as finance, mentoring and other supports which lead to national economic growth, business churning and finally to the formation of new ventures.

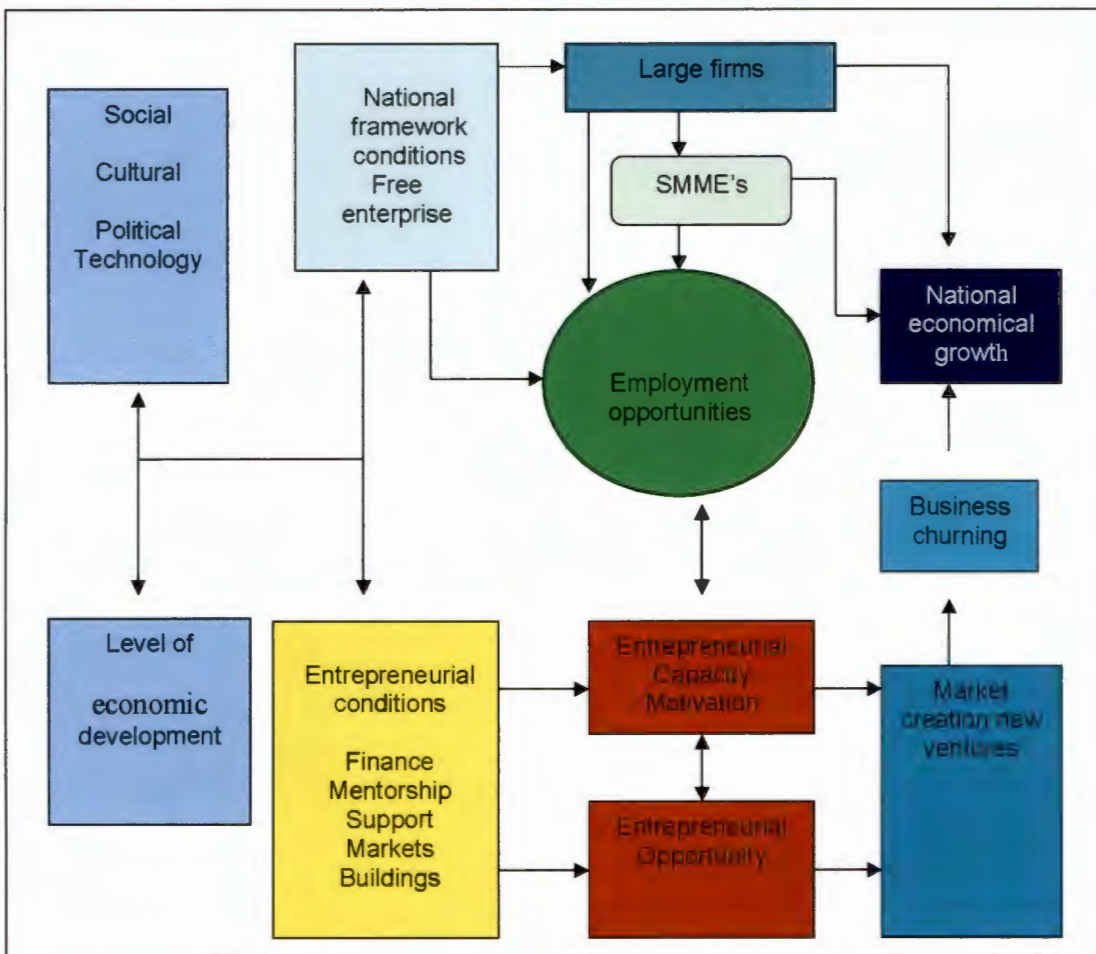


FIGURE 3.2: GEM CONCEPTUAL MODEL

Source: South Africa Executive Report (GEM, 2002: 11).

#### **3.4.4 Relation to business incubation and entrepreneurship**

The concept of business incubation is related to the entrepreneurial model developed by Nieman *et al.* (2003) and the GEM conceptual model. All incubators provide favourable and controlled environment to different firms. Entrepreneurs (incubatees) are supported in paramount areas such as finance, training, infrastructure and create an entrepreneurial atmosphere which contributes to the better performance of businesses.

### **3.5 ENTREPRENEURSHIP IN SOUTH AFRICA**

South Africa has been referred to as “the rainbow nation” This is because of the diversity of people, culture, language and religion. It is a country with enormous opportunities for growth and development. Entrepreneurship plays a major role in utilising opportunities and resources for growth and development of one nation. However the role of this discipline is limited in South Africa because of some challenges faced such as culture, skills, support services, access to finance, push and pull factors (GEM, 2006). The high business failure rate of SMMEs is another challenge for entrepreneurial development in the country. Central Statistics Service data (CSS, 2000) show that 40% of new ventures fail in their first year, 60% in their second year and 90% in their 10 years of operation.

Entrepreneurship in South Africa exploded as a science in the 1980s. The development of entrepreneurship as a discipline did not follow a similar pattern as other disciplines. Different researchers developed interest in the field of entrepreneurship each using a different approach based on culture, logic and methods. Nieman *et al.* (2003: 7) confirm that “there has been no studies in South Africa that investigate the state of entrepreneurship education in the country” with a nationwide perspective except some studies on high school (North, 2002) and current methodologies of training used by universities in teaching entrepreneurship (Davies, 2001). The authors further argue that entrepreneurship education in South Africa is at its early stages even though some higher educational institutions have been involved since the early 1990s.

Entrepreneurship is a young developing field with growing importance to the global environment. The demand for the field has increased from time to time and because of this, most universities and training institutions are delivering courses on entrepreneurship. It is up to these institutions to increase the entrepreneurial orientation and skills of people which will result in encouraging people to take up business opportunities. This responsibility is higher when compared to the current low level of entrepreneurial orientation of the majority of South African labour force, especially concerning the black population. This has been affirmed by the Professional Management Review (PMR, 1995), which states that South Africa has a black population that constitutes the majority at 90%, but only accounts for 4% of the potential labour force. The PMR also states that the majority of the South African population grow up with little or no experience of business innovation or entrepreneurship orientation at home. The report further states that for the black population to compensate for the economic imbalance arising from the proliferation of their labour force and the backlog of workers not in employment, they will have to expand their entrepreneurial positioning in the formal sector 11 times over in the period of 20 years.

In South Africa, entrepreneurship plays a major role in economic development leading to job creation through the formation of SMMEs. Most entrepreneurial activities take place in the form of SMMEs (Nieman *et al.*, 2004: 3). The Department of Trade and Industry estimates that small businesses employ almost half of the formally employed people in South Africa (Levin, 1998: 79).

Despite the economic contribution of entrepreneurship to South Africa, the country's performance is below par in this area compared to other countries in the world. The Global Entrepreneurship Monitor (GEM) which gave a comparative study among countries in its 2005 Report placed South Africa in 25<sup>th</sup> position out of 34 countries. According to the report small businesses sector in South Africa languish at 43 out of 60 countries in the world competitiveness rankings. The GEM 2006 Report also places South Africa below average in the Total Early Stage Entrepreneurial Activity (TEA). The TEA is a measure of the national rate of new business formation. The Report estimated

the average TEA for all countries in the survey; at different levels of development at (9.43) while that of South Africa was at (5.29). The Report also stated that South Africa's TEA still ranks below average when compared to the upper middle income countries (7.79) where South Africa is categorised. According to the GEM 2006 report, factors such as skills, culture, and support, access to finance, push and pull factors limit entrepreneurship in South Africa.

Another challenge faced by entrepreneurs is the high rate of small business failure. The Godisa Trust (2004) states that eight in every 10 businesses fail within the first two years of operation. The GEM (2005) report states that "the probability of a firm surviving beyond 42 months is far less likely in South Africa than any other GEM country sampled in 2005" (Global Human Capital Development, 2006/7: 116).

The Africa Growth Research (2006) states that more than 96% of businesses in South Africa represent SMMEs. The Report further explains the SMME indices which measures current and future sentiments of SMME managers recorded mixed results. The records for three categories (industrial, trade and services sector) show an increase of business confidence. However, the future outlook which measures the expected business outlook during next quarters, showed a decrease in the trade and services sectors. The industrial sector still showed a marginal percentage increase. The overall SMME Business Confidence report which averaged all the three business sectors in the country showed a slight increase in the four quarters of 2006.

### **3.6 SMALL MEDIUM AND MICRO ENTERPRISES (SMMEs)**

Small Medium and Micro Enterprises (SMMEs) are business entities established and managed by individual owners for the principal purpose of furthering personal goals and ensuring security (Watson, in Nieman *et al.*, 2003: 10). A small business is any business that is independently owned and operated, but that is not dominant in its field and does not engage in any new marketing or innovative practices (Carland, in Nieman *et al.*, 2003: 10).

### **3.6.1 Classification of SMMEs**

The limits of what constitutes a small business vary from one economy to the other. In developed countries entities with less than 500 employees are usually considered as small and medium enterprises (OECD, 2004), while in developing countries the thresholds are generally lower. For instance in the USA a business having an annual turnover of up to 2 billion dollars and having fewer than 500 employees is referred to as an enterprise (SBA, 2008; OECD, 2004). In the United Kingdom small and medium enterprises are enterprises having fewer than 200 employees with an annual turnover of 2 million pounds. In Japan an entity having fewer than 300 paid employees and 100 million yen paid-up capital in the manufacturing industry is regarded as a small and medium enterprise (Kotey and Folker, 2007). An entity in retail and services sector with 10 million yen paid-up capital and 50 employees is also regarded as a small medium enterprise in Japan. In Australia SMEs are entities having employees of between five and 199 (Kotey and Folker, 2007), whereas in Indonesia business enterprises with five to 99 employees are considered as small medium enterprises (Mira, 2006: 72). In another developing African country, Kenya, enterprises having between 11 to 100 employees are small and medium enterprises.

In South Africa, micro enterprises are occasionally described as businesses whose turnover is below the compulsory VAT registration limit (R300,000). A further distinction is the “survivalists” business that is generally defined as providing income only below the poverty line (Annual Review of Small Business in South Africa, 2004: 28). The National Small Business Act of South Africa, Act 102 of 1996, gives an official definition of small business in South Africa (<http://www.dti.gov.za>). Small business means a separate and distinct business entity (including cooperative enterprises and non-governmental organisations), managed by one owner or more (including any branches or subsidiaries) is predominantly carried on in any sector or sub sector of the economy which are described as a micro, a very small, a small or a medium enterprise in Column 1 below and satisfying the criteria mentioned in columns 3, 4 and 5 (Table 3.1). The table shows the classification of small, medium and micro enterprises according to different sectors in South Africa. It indicates the type of industry SMMEs are involved in,

size or class of SMMEs, total full-time equivalent of paid employees, total annual turnover, and total gross asset value (fixed property excluded).

**TABLE 3.1: CLASSIFICATION OF SMMEs ACCORDING TO INDUSTRY, SIZE, NUMBER OF EMPLOYEES, TURNOVER AND ASSET VALUE**

<b>Sector or sub-sectors in accordance with the Standard Industrial Classification</b>	<b>Size or class</b>	<b>Total full-time equivalent of paid employees Fewer than:</b>	<b>Total annual turnover Fewer than:</b>	<b>Total gross asset value (fixed property excluded) Fewer than:</b>
Agriculture	Medium	100	R 4.00 m	R 4.00 m
	Small	50	R 2.00 m	R 2.00 m
	Very small	10	R 0.40 m	R 0.40 m
	Micro	5	R 0.15 m	R 0.10 m
Mining and Quarrying	Medium	200	R 30.00 m	R18.00 m
	Small	50	R 7.50 m	R 4.50 m
	Very small	20	R 3.00 m	R 1.80 m
	Micro	5	R 0.15 m	R 0.10 m
Manufacturing	Medium	200	R40.00 m	R15.00 m
	Small	50	R10.00 m	R 3.75 m
	Very small	20	R 4.00 m	R 1.50 m
	Micro	5	R 0.15 m	R 0.10 m
Electricity, Gas and Water	Medium	200	R40.00 m	R15.00 m
	Small	50	R10.00 m	R 3.75 m
	Very small	20	R 4.00 m	R 1.50 m
	Micro	5	R 0.15 m	R 0.10 m
Construction	Medium	200	R20.00 m	R 4.00 m
	Small	50	R 5.00 m	R 1.00 m
	Very small	20	R 2.00 m	R 0.40 m
	Micro	5	R 0.15 m	R 0.10 m
Retail and Motor Trade and Repair Services	Medium	100	R30.00 m	R 5.00 m
	Small	50	R15.00 m	R 2.50 m
	Very small	10	R 3.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m
Wholesale Trade, Commercial Agents and Allied Services	Medium	100	R50.00 m	R 8.00 m
	Small	50	R25.00 m	R 4.00 m
	Very small	10	R 5.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m
Catering, Accommodation and other Trade	Medium	100	R10.00 m	R 2.00 m
	Small	50	R 5.00 m	R 1.00 m
	Very small	10	R 1.00 m	R 0.20 m
	Micro	5	R 0.15 m	R 0.10 m
Transport, Storage	Medium	100	R20.00 m	R 5.00 m
	Small	50	R10.00 m	R 2.50 m

Sector or sub-sectors in accordance with the Standard Industrial Classification	Size or class	Total full-time equivalent of paid employees Fewer than:	Total annual turnover Fewer than:	Total gross asset value (fixed property excluded) Fewer than:
and Communications	Very small	10	R 2.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m
Finance and Business Services	Medium	100	R20.00 m	R 4.00 m
	Small	50	R10.00 m	R 2.00 m
	Very small	10	R 2.00 m	R 0.40 m
	Micro	5	R 0.15 m	R 0.10 m
Community, Social and Personal Services	Medium	100	R10.00 m	R 5.00 m
	Small	50	R 5.00 m	R 2.50 m
	Very small	10	R 1.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m

Source: <http://www.polity.org.za/html/legislation/1996/act96-102.html>.

In Table 3.2 the enterprises by province are illustrated. It is indicated that Gauteng is the leading province with the total number of SMMEs in the country. KwaZulu-Natal and the Western Cape are the second and third respectively.

**TABLE 3.2: DISTRIBUTION OF ALL ENTERPRISES AND SMMEs BY PROVINCE**

Province	% of all enterprises in SA	Number of SMMEs	% of total number of SMMEs in SA
Gauteng	38.6	414166	38.4
KwaZulu-Natal	16.7	198749	18.4
Western cape	12.6	144749	18.4
Eastern Cape	8.2	94253	8.7
North West	4.1	56117	5.2
Mpumalanga	7.0	53636	5.0
Limpopo	6.4	49985	4.6
Free State	4.7	49335	4.6
Northern Cape	1.7	19791	1.7
<b>RSA</b>	<b>100.0</b>	<b>1079627</b>	<b>100.0</b>

Source: *Enterprise* (2004: 22)

Table 3.3 shows enterprises by size from survivalists to large enterprises per province. Gauteng province still has the most of all types of enterprise size.

**TABLE 3.3: PROVINCIAL SHARES OF ENTERPRISES BY SIZE**

Province	Survivalist	Micro(0)	Micro (1-4)	Very small	Small	Medium	Large
Western Cape	8.6	15.4	8.6	15.4	12.4	16.3	11.8
Eastern Cape	9.8	9.5	12.6	8.2	5.6	5.1	6.4
Northern Cape	1.5	1.2	3.9	1.8	1.5	1.2	1.7
Free State	5.4	33.0	5.5	4.9	5.5	3.3	5.6
KwaZulu-Natal	6.1	18.8	21.4	18.2	17.6	16.9	17.9
North West	6.5	5.4	4.4	4.1	3.8	3.1	2.5
Gauteng	19.6	36.7	32.5	40.8	46.1	45.4	49.7
Mpumalanga	21.7	3.8	4.6	3.7	4.9	5.7	4.7
Limpopo	20.8	5.9	6.8	2.9	2.6	2.4	4.8
<b>RSA</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: *Enterprise* (2004: 22)

Table 3.4 estimates the SMME business density of each province by comparing the number of enterprises to the population of the province. It shows that the proportion of formal businesses to the provincial population is highest in Gauteng and the Western Cape.

**TABLE 3.4: SMME DENSITY PER PROVINCE; NUMBER OF ENTERPRISES PER 100 PEOPLE**

Province	Survivalist	Micro (0)	Micro (1–4)	Very small	Small	Medium	Total
Western Cape	0.6	1.3	0.7	0.9	0.2	0.0	3.7
Eastern Cape	0.5	0.5	0.3	0.1	0.1	0.0	1.5
Northern Cape	0.4	0.3	0.7	0.4	0.1	0.0	1.9
Free State	0.5	0.4	0.4	0.3	0.1	0.0	1.7
KwaZulu-Natal	0.6	0.8	0.6	0.4	0.1	0.0	2.5
North West	0.4	0.4	0.3	0.2	0.1	0.0	1.4
Gauteng	0.9	2.3	1.2	1.6	1.5	0.3	7.8
Mpumalanga	0.6	0.4	0.4	0.3	0.1	0.0	1.8
Limpopo	0.6	0.5	0.3	0.1	0.0	0.0	1.4

Source: *Enterprise* (2004: 22)

### **3.6.2 Economic contribution by SMMEs**

#### **3.6.2.1 Contribution to GDP and job creation**

The unemployment rate in South Africa decreased to 26.1% in the year 2007 as the total employment (both formal and informal) grew from 11,035,345 in 1994 to 12,179,346 in 2006. The majority (more than 70%) of employment in the tradable sectors still comprises low and unskilled workers with around 60% in manufacturing. In contrast, private and public non-tradable sectors are far more skill intensive, with low and unskilled workers accounting around one third of employment (NIPF, 2007: 14). SMMEs constitute 97.5% of all businesses in South Africa. They generate 34.8% of the Gross Domestic Product (GDP); contribute to 42.7% of the total value of salaries and wages paid in South Africa, and employ 54.7% of all formal and private sector employees (Nieman *et al.*, 2003: 3). They exert a positive influence on the economies of

all countries particularly in the fast changing and increasingly competitive global market. SMMEs are recognised as playing a fundamental role in the advancement of prosperity in communities. In a study conducted by Driver *et al* (in Nieman, 2003: 28) it was found that 1 in 18 South African adults are entrepreneurs as measured by the Total Entrepreneurial Activity (TEA) index. The GEM undertakes annual surveys in the South Africa population to estimate, among other things, the proportion of entrepreneurs in the country. In GEM terminology, a start-up becomes a running business when it starts paying wages and salaries (South Africa. Department of Trade and Industry, 2004: 41). According to the 2004 statistics, the following proportions of entrepreneurs are estimated (Table 3.5):

**TABLE: 3. 5 PROPORTIONS OF ENTREPRENEURS IN SOUTH AFRICA**

<b>Proportion of adults currently ...</b>	
starting a business	3.90%
running a business less than 3.5 years old (new firms)	1.60%
running a business older than 3.5 years (established firms)	1.40%

**Source:** South Africa. Department of Trade and Industry (2004: 41)

Combining these rates with the estimated population of working age yields a statistic shown in Table 3.6 below. The table indicates only 0.98 million adults are starting a business, which may not necessarily mean these businesses are still trading. Because the entrepreneurial reality is that many start-ups (projects) never reach the stage of actual operation. In addition only 0.35 million people are running established businesses. In the USA, an average of 464,000 adults creates new businesses according to statistics available from Kauffman Foundation (Kauffman.org). Although it is difficult to compare the USA and South Africa, it is possible to compare the difference in the new entrants into the market.

**TABLE 3.6: NUMBER OF ENTREPRENEURS IN SOUTH AFRICA**

<b>Proportion of adults currently ...</b>	
starting a business	0.98 million
running a business less than 3.5 years old (new firms)	0.40 million
running a business older than 3.5 years (established firms)	0.35 million
<b>Total</b>	<b>1.73 million</b>

**Source:** South Africa. Department of Trade and Industry (2004: 42)

The Enterprise Development Programme of the United Nations Economic Commission for Europe (UN/ECE) supports the contribution of business incubators to foster entrepreneurship and encourage growth and competitiveness among small and medium sized enterprises (SMEs). Small and Medium enterprises have been “the priority focus for government policies throughout the UN/ECE region targeted to stimulating economic prosperity and growth in employment” (United Nations, 2000: xi).

The economic contribution of small businesses is not only in developing countries but also in developed countries such as the United States of America. Jere (2000) from the US Small Business Administration has assessed the economic impact of small businesses as follows:

As we enter the 21<sup>st</sup> century, America’s 25 million small businesses continue to be a potent force in our dynamic economy. They employ more than 52 percent of the private work force. They are the principal source of new jobs in the country – more than 20 million since 1993 – and they generate more than 51 percent of the private sector gross domestic product (Jere, 2000: 3).

The US Department of Commerce ([www.sba.gov](http://www.sba.gov)) further affirm the contribution of small businesses as follows:

- Small firms represent 99.7% of all employer firms.
- Employ about half of all private sector employees.
- Pay nearly 45% of total U.S private payroll.
- Have generated 60 to 80% of new jobs annually over the last decade.
- Create more than half of nonfarm private GDP.
- Hire 40% of high tech workers such as scientists, engineers and computer workers.

- Made up 97.3% of all identified exporters and produced 28.9% of the known export value in the financial year 2006.
- Produce 13 times more patents per employee than large patenting firms; these patents are twice as likely as large firm patents to be among the 1% most cited.

The European Network for Small and Medium Enterprises Research (ENSR) describes the importance of small enterprises as follows:

More than 90 percent of the 15.7 million businesses in the private non-primary sector of the European Community are small and medium enterprises. These enterprises provide 70 percent of the jobs in this sector and make a significant contribution to the prosperity of the community. Throughout Europe, the SME sector experienced a revival of dynamics and new entrepreneurship (Tsfayohannes, 1998: 15).

SMMEs are considered good contributors to job creation. The current unemployment problem worldwide, especially in developing countries, cannot be reduced without the application of the SMMEs. Khalid (2001) underlines the importance of SMMEs as follows:

Further growth and employment in developing countries is mainly dependent on small and medium enterprises (SMEs) and services, although agriculture will remain dominant in some regions. Their success depends on combining entrepreneurship with innovativeness, entering relatively younger industries (Khalid, 2001: 12).

The macroeconomic policy of South Africa, referred to as Growth, Employment and Redistribution (GEAR), also stresses the contribution of SMMEs in job creation and income generation. The promotion of small, medium and micro enterprises is a key element in government's strategy for employment creation (GEAR, 1996). Small businesses are identified as key to realising the goals of the Accelerated Shared Growth

Initiative of South Africa (ASGISA) as well as address the chronic challenges of unemployment and endemic poverty (*Enterprise*, 2007: 25).

Clem Sunter (2007) from Anglo American (plc), South Africa, argues that the bulk of employment will not come from “the long established major corporations” but from the small and medium enterprises. He further states that many of the major corporations have been downsizing their human resources for a decade or more (*Enterprise* 2007: 56). Wagner (1997: 6) argues that SMMEs constitute “the overwhelming bulk of total firms by number and contribute one-third to half of gross national product creating almost all the net growth in employment”. He also highlights the fact that most of the employment contribution comes from “technology based firms, high growth firms and service businesses” (Wagner, 1997: 6). This seems to agree with other scholars who argue that it is not all small businesses which create jobs (Campbell, 1988).

### **3.6.2.2 SMME development and poverty alleviation**

The critical importance of the SMME economy for addressing the challenge of sustainable development in South Africa was highlighted by the Human Development Report for South Africa (UNDP, 2003). The report highlights that the SMME economy “is assigned the burden of addressing poverty and unemployment directly” (UNDP, 2003: xxi). The UNDP switched its focus from macro-businesses to small businesses usually consisting of few individuals or family members. The United Nations passed a Micro Enterprise Act in 1996 which states in part, “the development of micro and small enterprises as a vital factor in the stable growth of developing countries and continues to assist the development of the private sector” (<http://www.undp.org>). In many developing countries, which include South Africa, poverty is a major challenge. The poverty rate in South Africa is believed to be 50%, higher than other developing countries like Bangladesh with (45%), Botswana (47%), and India with (25%), (Isaac, 2007: 31). Unemployment in South Africa has been cited at about 26.2% (Isaac, 2007: 31). In March 2007, the unemployment figures stood at 25.5% (Republic of South Africa, 2007: 17; Van Vuuren, 2007). Unemployment in Algeria is estimated at 25.4% but less than 2% of the population of Algeria is regarded as poor (Isaac, 2007: 31).

Developed countries have a better percentage with regards to unemployment and poverty statistics. In Austria for example, unemployment stands at about 5.1%, Belgium 12.1%, France 1.1% and Germany at about 10.6%. In these developed countries the poverty rate is below 7% (Isaac, 2007: 31).

SMMEs are the main instruments of poverty alleviation and job creation. However, this is not happening as expected in South Africa as attested by Rogerson (2004: 765), who states that "SMME economy exhibits only weak contribution in regards to employment creation because most SMMEs do not grow". Rogerson (2004) further states that existing government SMME programmes have been biased towards groups of small and medium-sized enterprises and have bypassed micro enterprises and the informal economy.

Rogerson (2004) continues, stating that government focus is more on formal small and medium enterprises with a relative neglect of survivalist informal enterprises. With the policy and support emphasis on issues of maximising growth and competitiveness, Rogerson (2004: 765–766) argues that as a result of policy objectives for the SMME economy, the opportunities and potential for supporting poverty alleviation have been overlooked (Rogerson, 2004). This argument of Rogerson's (2004) is in spite of all the government efforts in promoting SMMEs through different agencies such as Ntsika, NAMAC and recently under the integrated support of SEDA. Government has also made some policy shifts from the first economy to the second economy (informal economy) appreciating the contribution of the sector for South Africa (Seda, 2007/2008).

The contribution of SMMEs in changing the lives of people starting from the daily basic needs to contributing to the overall development of a country is clearly understood at individual and government level. However, there are a lot of challenges faced by this sector, which makes it difficult for the sector to contribute as expected.

### **3.6.3 Challenges faced by SMMEs**

#### **3.6.3.1 Business survival challenges**

Apart from their contribution to job creation, GDP growth and poverty alleviation, SMMEs face a lot of problems and challenges in regard to sustainability. Although the New Industrial Policy of South Africa Framework describes SMMEs as an important economic growth path, the failure rate among small businesses remains as high as 80% (Business in Africa, 2001). Research carried out in South Africa blames the failure rate on the absence of “managerial know how”, environmental factors including AIDS, crime, globalisation, inflation and high interest rates (Business in Africa, 2001). It is indicated in Business in Africa (2001) that SMMEs will face growing competition as South Africa is increasingly integrated into the global and the electronic economy. According to Maytham (in *Enterprise* 2004: 65), one of the key challenges for SMMEs is the minimisation of new business failures. At the moment South Africa’s failure rate is the highest among its peer countries. “Unfortunately in South Africa a large number of Small, Medium and Micro Enterprises fail during their early years of operation” according to Merwe (in Nieman *et al.*, 2003: 32). It is also stated (Merwe in Nieman *et al.*, 2003) that the largest percentage of small businesses failed during the first two years of existence due to cash flow problems that arise because they could not manage growth.

The South African Statistical Service (2000) has given a clear figure on failure rates of South African new ventures. It is indicated that 40% of new ventures fail in their first year, 60% in their second year and 90% in their 10 years of operation (Central Statistics Service, 2000). The failure rate is worse for South Africa according to Godisa (2004) reports where it is estimated that 8 in 10 SMMEs fail within the first two years of operation (Godisa Trust, 2004; SEDA Technology Report, 2006/2007). One of the objectives of the Small Enterprise Development Agency (SEDA) is turning these eight failures into eight successes as depicted in Figure 3.3 below.

**Current position:**



**Desired position:**



**FIGURE 3.3: TURNING 8 IN 10 BUSINESS FAILURES INTO 8 IN 10 BUSINESS SUCCESSES**

The 2006 GEM Report summarises the number of liquidations and insolvencies in 2000 and 2006. This is shown in Tables 3.7 and 3.8 respectively.

**TABLE 3.7: TOTAL NUMBER OF LIQUIDATIONS, 2000–2006**

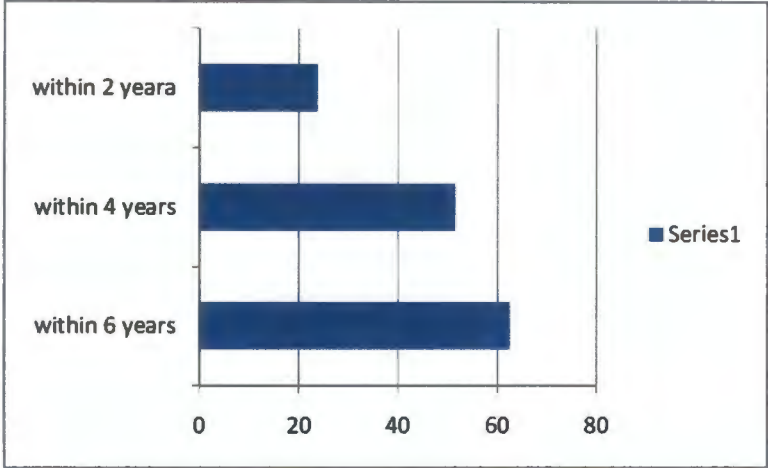
Total number of liquidations 2000–2006							
Month	2000	2001	2002	2003	2004	2005	2006
Total	3804	4156	3911	4086	3510	3225	2228
Companies	1626	1671	1858	2110	1532	1604	1100
Close corporations	2179	2485	2053	1976	1978	1621	1128

**TABLE 3.8: TOTAL NUMBER OF INSOLVENCIES, 2000–2006**

Total number of insolvencies 2000–2006							
Month	2000	2001	2002	2003	2004	2005	2006
Total	4693	3935	3043	2639	1947	1567	879

The problem of business survival is a daunting trend even for developed countries such as the USA. Dun and Bradstreet (in Wagner, 1997: 9), in their study on business failure and bankruptcy, found that the majority of the failure rates occurred in the first two to five years. Their finding is illustrated in Figure 3.4 below (Wagner, 1997: 9). Figure 3.4 below shows about 24% of businesses failed within the first two years of operation,

more than half (52%) failed within four years and 63% within the first six years. Other statistics from the US Small Business Association study show that just two-thirds of new small businesses survive at least two years and only 44% survive at least four years (Field, 2007).



**FIGURE 3.4:** GENERAL BUSINESS FAILURE RATES

**Source:** Wagner (1997: 9)

The US Department of Commerce ([www.sba.org](http://www.sba.org)) gives an estimate of the firms which started operation and closed in the same year as follows:

**TABLE 3.9:** START AND CLOSURE OF FIRMS IN THE US, 2003–2007

Category	2003	2004	2005	2006	2007
New firms	612,296	628,917	644,122	640,800	637,100
Closures	540,658	541,047	565,745	587,800	560,300
Bankruptcies	35,037	34,317	39,201	19,695	28,322

Statistics on business failure from Canada show “two in three new ventures survive past the fifth year, and by the tenth year, four in five are out of business” (Statistics Canada, 2006). The Godisa Trust (2004) summarises the survival rates of SMMEs by referring to the research conducted by the European Union as follows:

With the widely accepted estimation that 9 in 10 SMMEs in South Africa fail within the first two years of operation, it is no wonder the South African government has been considering different strategies for improving the survival rate of SMMEs whilst at the same time improving productivity, access to technology, and the overall strengthening of SMMEs within the South African economy (Godisa Trust, 2004: 5).

This situation of failure is slightly different to Shepherd's (2003) definition of business failure as given in Chapter 1. His definition of business failure is when there is a fall in revenue and rise in expenses which force the members to quit operation under the current ownership or management (Shepherd, 2003: 318). This implies the business is a failure even when it is sold or transferred to another ownership but still in operation. This is in contrary to the definition of failure in this study and the common understanding of failure in African context. In an interview with an entrepreneur Malama (2009), who once experienced such small business failure, argues against the premise and states that a failed business in the so-called 'African context' will often not even have the potential of being handed over to another management or owner. He argues that most small businesses will collapse and go into virtual oblivion, "they die; and no one wants to buy or take over a dead thing. Unfortunately in most of these circumstances, the death of such small businesses means the death of a consummate idea or ideas that if harnessed would have developed into something holistic and sustainable" (Malama, 2009).

The problem of survival stems from many challenges which businesses are facing such as access to start-up and expansion finance, access to markets, access to appropriate technology and access to resources (especially human resources). The former president of South Africa, Thabo Mbeki, in the State of the Nation Address (2005) outlined the main challenges for the SMME sector in general. The main challenges for the SMME sector are discussed under the following sub-topics.

### **3.6.3.2 Financial challenges**

Access to appropriate finance is a major constraint on the successful development of SMMEs in South Africa. Too many creative ideas are not developed into viable new ventures due to lack of finance. The government of South Africa has designed incentives, subsidies and schemes that have improved SMME access to finance through the DTI and Khula Enterprise Finance (Nieman *et al.*, 2003: 32). However, a significant number of SMMEs are still not able to access affordable start-up and expansion finance. The reasons for such problems are summarised as follows:

- Risk aversion of the banking sector towards SMMEs. SMMEs are traditionally seen as high-risk borrowers. The high number of SMME business failures exacerbates this view.
- There is a decline in micro finance institutions (MFI). Only a few are providing finance to SMMEs.
- Inadequate funding proposals and business plans. Proposals and business plans are not researched, prepared and presented properly.
- Poor ideas that cannot be translated into feasible business opportunities.

Lack of finance is a major problem in many small businesses. The GEM report (2006) revealed that the highest number, 32.1% of businesses that participated in the study closed their business because of financial reasons. Financing the start-up cost of a business is one major challenge. This is because during the start-up phase, money should be available from other sources if not available from the owner. As the business grows, finance is also very important. The availability of enough finance will help the business run smoothly in terms of working capital and cash flow challenges. Jones (2009) outlines the importance of finance to small businesses. She further states that “it is not solely a question of access to finance by SMMEs, but lack of finance to support growth” (Jones, 2009: 3).

### **3.6.3.3 Marketing challenges**

The other major challenge facing SMMEs is the absence of sustainable markets for their products and services. They produce and offer services that do not have ready markets. SMMEs also lack marketing skills when the right product and market is available. Most entrepreneurs especially the previously disadvantaged, start with other people's concepts and tend to follow the majority (Nieman *et al.*, 2004: 33). Entrepreneurs have a tendency of thinking one idea that worked in the past will also work for them. This means they do not give priority to marketing in their overall business. They do not segment their markets, analyse customer demand, know their competition or interpret trends (Nieman, 2008).

### **3.6.3.4 Management challenges**

According to Longenecker, Moore and Petty (2003), small business owners face challenges which differ from those of corporate executives. Most entrepreneurs are very good in creativity, innovation, risk taking and starting a business, but lack professionalism. These entrepreneurs tend to rely largely on past experience, rules of thumb and personal whims in giving direction to their business. Founders of new businesses are not always good organisational members and fail to appreciate the value of good management practices. Their orientation frequently differs from that of professional managers. Although some large corporations experience poor management, small businesses in particular are vulnerable to this weakness. As small businesses expand their management problems will increase. "The failure of many American firms is attributed to lack of professional management" (Longenecker *et al.*, 2003: 463).

The reality is that there are constraints that hamper management in the small business. A small firm often lacks money that can be used for market research and to employ the adequate number of employees. Small firms typically lack amply specialised professional staff (Longenecker *et al.*, 2003). These authors further distinguish entrepreneurs to managers as follows:

Most small business managers are generalists. They will normally lack the support of experienced specialists in areas such as market research, financial analysis, advertising and human resource management. Entrepreneurs are better doers than they are managers. Outside assistance can supplement the managers' personal knowledge. A typical entrepreneur not only is deficient in managerial skills but also lacks the opportunity to share ideas with peers (Longenecker *et al.*, 2003: 463).

#### **3.6.3.5 Skills and human resources challenges**

Nieman and Bennett (in Nieman *et al.*, 2003) consider human resource as the other important challenge faced by most SMMEs is the lack of appropriate manpower for their business. Human resource is widely acknowledged as being the most precious asset of any business. Issues revolving around human resource management challenges include addressing the skills, attitudes and expectations of employees and of the entrepreneurs themselves. It is the entrepreneur who has to gather and mobilise the other production resources to create a new business venture or to change the direction of an existing firm (Nieman and Bennett, in Nieman *et al.*, 2003: 34).

The success of any business or SMME revolves around the entrepreneur himself/herself. One of the tiers in Standard Bank's Corporate Social responsibility strategies is to actually try and address some of the challenges that hinder enterprise development. The bank adopted a community centred approach to build and improve people's lives through projects such as health, education, and enterprises development. The head of CSI at Standard Bank mentions the failure of businesses as a great challenge than making finance available for the business. Masuk (2007/2008), head of CSI at Standard Bank, South Africa, said that "[a]lthough available finance is invariably cited as being the greatest inhibitor of growth in enterprise development, we have found that even when given access to finance a very high percentage of small businesses fail" (Masuk, 2007/2008: 11).

### **3.6.3.6 Access to technology**

One of the main objectives of SEDA in promoting business incubators in South Africa is to use incubators as centres of nurturing and accelerating the growth of technology based small and medium enterprises (Godisa Trust, 2005/2006). Technology demonstration centres assist in transferring technology which can fill the gap between the first and second economy.

Technology plays a vital role in the livelihoods of people who are operating in the small and medium enterprises. The big question therefore is how these enterprises get access to technology and how technology can serve people especially the poor (Allen and Thomas, 2000). Panos (cited in Allen and Thomas, 2000: 415) describes the scarcity of technology among the larger population of the world. We are "in a world where 80% of the world's population has no access to reliable telecommunications and one-third have no access to electricity ... there are more internet account holders in London than the whole of Africa".

SMMEs are also faced with a challenge of using appropriate technology. It is a big challenge for SMMEs to frequently upgrade their operational and production equipment and stay competitive in the market.

In conclusion to the challenges of SMMEs discussed above (Delmar and Shane, 2006) argue that it is not easy to mention all the challenges faced by new ventures. There are many challenges which are associated with "newness" not necessarily limited to the above challenges. A better approach to the challenges of new ventures was given by Delmar and Shane (2006: 219–220). They argue new ventures lack "coordination of activities, and the social ties to key stakeholders". They further argue the challenge is also in some aspects of external environment and firm strategy including founding conditions, choice of alliance partners and entry timing (Delmar and Shane, 2006: 220). These challenges are not just related to the individual skills or financial capacity of entrepreneurs to many factors which surround the condition of "newness". However, Delmar and Shane (2006) mentioned two other important factors which affect the performance of new start-ups, the prior start up and industry experience. The prior start-

up defined as “previous creation of new organisations” exposure to “opportunity identification and evaluation”, resource acquisition and firm organisation”. Industry experience which means “previous work in the industry in which the new firm will operate” provides information about “industry rules, customer and supplier networks, and employment practices” (Delmar and Shane, 2006: 220). These experiences are assumed to overcome the challenges of newness and increase performance (Delmar and Shane, 2006: 221).

Kevin Fleischer, CEO of Blue Catalyst, says that entrepreneurs are hindered by three things: “limited commercialisation skills, insular and fragmented people networks and an absence of seed funding” (Planting, 2004: 41). The role of the innovation hub as a science park and incubator in creating a good network among technology start-ups in Gauteng, the Pretoria University and the Council for Scientific and Industrial Research (CSIR) is high. The network is made up of patron organisations, experienced entrepreneurs and business people and investors (Planting, 2004: 41).

Van Eeden, Viviers and Venter (2003), on the other hand, summarise the challenges of start-up firms as management skills and functional skills. They argue that previous business experience and knowledge of the functional areas of finance, accounting, management, marketing, strategic and long-term planning are lacking in entrepreneurs in their early stage of business life (Van Eeden *et al.*, 2003: 13).

To handle the various challenges of small businesses, the South African government has come up with so many interventions. These include government and private institutes involved in entrepreneurial and small business development activities. Institutions such as Ntsika, NAMAC, Khula, Industrial Development Cooperation, Business Partners, Commercial Banks and SEDA are involved in different financial and non-financial type of interventions. However, do these interventions bring the desired result according to the government investment and capital injection? The current financial and non-financial business support services available in South Africa can give a better picture of the level of intervention.

### **3.7 CURRENT SMALL BUSINESS SUPPORT IN SOUTH AFRICA**

All over the world it is increasingly recognised that small businesses especially those with potential to grow play a great role in the economic and social development of many countries (Craig, Jackson and Thomson, 2007: 117; Krauss, Frese, Freidrich and Unger, 2005: 316). It is from this understanding that the South African government since 1994 has strived to create a favourable environment for SMMEs as vehicles to address the challenges of job creation, poverty alleviation, economic growth and equity (South Africa. Department of Trade and Industry, 1995: vii; Rogerson, 2004: 765).

The major role played by the South African government since then has been through institutional restructuring, policy and regulatory reform that have created a favourable environment for various institutions to work together and support SMMEs within the country. Government institutions formed under the Department of Trade and Industry (DTI) work in partnership with the private sector such as commercial banks and the business community. Some of these institutions include Khula Enterprise Finance and the Small Enterprise Development Agency (SEDA). Khula Enterprise Finance facilitates SMME access to finance in commercial banks and other financial institutions through a guarantee scheme, and SEDA facilitates access of SMMEs to non-financial support such as training, mentorship, information, and business counselling through nationwide SEDA branches and business incubation centres (Bradford, 2007: 98; Rogerson, 2004: 779; SEDA, 2007/2008).

Despite the government's efforts to create an enabling environment for small businesses, recent studies concluded that the resulting government programs are not adequately targeted and well managed to support SMMEs in South Africa (Rogerson, 2004:771). This is explained by the fact that problems confronting small businesses more than ten years ago are still persisting today. For example, while acknowledging good economic climate and availability of money supply, various studies indicate that among other problems access to finance continues to be the most difficult challenge facing small business owners and entrepreneurs in the country (Bradford, 2007: 97; Mass and Herrington, 2006: 19; Rogerson, 2004: 779).

### **3.7.1 Government institutions' support**

#### **3.7.1.1 Small Enterprise Development Agency (SEDA)**

The Small Enterprise Development Agency (SEDA) was set up by the Department of Trade and Industry in terms of the National Small Business Amendment Act (NSBA, 2004). The NSBA merged three previous small enterprise agencies viz. Ntsika Enterprise Promotion Agency, NAMAC Trust and the Community Public Private Partnerships (CPPP) into a single small enterprise support agency.

The Integrated Small-Enterprise-Development Strategy of the DTI (2005: 16) indicates that this merger was a step towards countering Ntsika's negative public image as well as to increase the effectiveness of programmes by "realigning the DTI's enterprise organisation institutional framework to enhance its assistance to small businesses" (DTI, 2005: 16). SEDA is not intended to replace other role-players but rather to co-ordinate new and existing public sector programmes and to integrate financial and non-financial services for small businesses (DTI, 2005: 16). The mandate of SEDA is to design and implement a standard national delivery network that is consistent and reaches all regions of the country and integrates government funded small enterprise support across all tiers of government including business incubators.

A key function of SEDA is to provide information to small enterprises and prospective entrepreneurs that will help and encourage them to start and build sustainable businesses. This is done through a variety of channels that together aim to reach as many emerging entrepreneurs as possible with guidance and discussion on crucial business issues. The following products and services are offered by SEDA (SEDA, 2008: 23–27):

- **Information and advice:** Information and advice is given to SMMEs on various aspects of business management which include the conceptualising of business ideas, registration of business, financing, marketing and the legal framework of the business environment.

- **Business ideas:** For those lacking a business idea, assistance is given through links to a number of local and international sites that list business ideas from services related to manufacturing and home based businesses. If one has some sort of idea of what they want to do but would like a sounding board then assistance is given by exposing and evaluating these ideas through interaction with the entrepreneurs. Assistance is given in evaluating the viability of the business ideas and determining whether an opportunity is suitable for a particular personality and situation.
- **Starting a business:** SEDA provides a comprehensive start-up guide to start-up entrepreneurs. The guide covers strategies for business growth, the business plan, operations, finance and staffing as well as proposal writing and the entrepreneur's relationship with the government. The many legal requirements to operate a business legally are covered to educate the entrepreneur on forms of ownership, legal compliance and intellectual property; and protect him from experiencing huge costs or failure. The advice however is not free of charge.
- **Financing a business venture:** Three basic financing options are outlined viz. own money, loans from family and friends; and formal loans from lending institutions. SEDA will provide contact details of national and provincial financiers in order that entrepreneurs can discuss their particular financial needs. SEDA assists entrepreneurs to understand exactly what is required by the lender. SEDA has compiled a list of criteria required by the different institutions in order for entrepreneurs to qualify for any loan. The thinking behind this particular area of assistance is that smaller ventures may not have the growth potential to secure funding and this is often directly related to a lack of internal capacity (SEDA, 2006: 3).
- **Business management systems:** SEDA helps the entrepreneur with business systems to help channel demands in a direction that will have them dealt with more easily and effectively. It also gives resources that help improve

management skills, organisation and discipline by assisting the entrepreneur learn how to plan, delegate and communicate.

- **Business linkages:** SEDA helps SMMEs by way of creating business networks with entities such as Chambers of Commerce and Industry SA, National African Chamber of Commerce and Industry (NAFCOC) and Black Management Forum (BMF). Other networking provided involves entities like the Business partners branch offices, business and community support centres such as Shoshanguve Business Information Centre based in Gauteng. SEDA gives linkages through Business/Trade directories reports and economic literature. Periodic events such as export events, business fairs, and exhibitions are offered through selected service providers.
- **Access to SEDA products/services:** The role of SEDA is recognised in South Africa and other external players such as the United Nations. External role-players, for example the United Nations, view SEDA as a substantial strengthening and refinement of the South African Government's support for the Small Business Sector in South Africa (United Nations, 2005: 6).

SEDA appears to have established itself as the deliverer of a number of government's objectives in the SMME arena such as the implementation of a nationally driven but locally available and managed strategy for small business development as well as integrating different government and other programmes under one umbrella.

However, it is noted that there has been criticism of the government's big business economic development model at the expense of small businesses and the perception that SEDA has an almost impossible task of supporting the many small businesses in South Africa on its approximately R120 million budget (Terblanche, 2007). SEDA has continued to play a developmental role for SMMEs in keeping with global trends, for example the organisation is playing a central role in the governmental allocation of 85% of spending on 10 products to small enterprises, which follows similar initiatives in

countries such as India. The initiative was announced by Ranjit Alummoottil, Senior Manager at SEDA (*Business Day*, 2008).

### **3.7.1.2 National Manufacturing Advice Centre (NAMAC)**

The (NAMAC) Trust was established as a trust in 1997, and was the national coordinating office for the Manufacturing Advisory Centres which was to bear overall and coordinating responsibility for the MAC (Manufacturing Advice Centres), BRAIN (Business Referral and Information Network) and FRAIN (Franchise Advice and Information Network) Programmes. NAMAC was to be responsible to the Department of Trade and Industry with which it signed a Memorandum of Understanding (MoU) in February 2000. The primary aim of the NAMAC was to drive and to boost specifically the manufacturing segment of the SMME sector in SA, because the sector contributes more than 35% of the country's GDP, providing some 55% of job opportunities ([Bulletinonline.co.za](http://Bulletinonline.co.za)).

NAMAC's programmes were aligned with national priorities such as SMME development, Black Economic Empowerment, Job creation, Competitiveness, Geographic outreach (rural focus). During the period January 2000 to November 2002 the NAMAC programme was rolled out to South Africa's nine provinces as a national SMME support programme of the DTI ([www.thedti.gov.za/thedti/namac](http://www.thedti.gov.za/thedti/namac)).

At the time of its inception, NAMAC was widely acclaimed as the most successful SMME development and support agency in South Africa. NAMAC was an SMME-support agency within the DTI group (the Department of Trade and Industry), and is widely recognised as one of the most successful SMME development and support agencies in South Africa ([www.thedti.gov.za/thedti/namac](http://www.thedti.gov.za/thedti/namac)).

In 2005, Ntsika and the NAMAC were incorporated into the SEDA. This merger was designed by the Minister of Trade and Industry as a way to more effectively aid small business development and play a more direct and active role in the support of SMMEs, namely as a retail model. Government will be actively involved from the local to the provincial and to the national level, and that it would create one agency to act

seamlessly from national to local level through the merger (ANC Daily News Briefing, December, 2004).

The implicit finding following the merger of Ntsika and NAMAC suggests that the two institutions had actually failed to give the necessary support that government had envisaged. This can be cited in the areas of lack of efficiency and failing to reach the targeted entrepreneurs due to lack of follow-ups and proper monitoring.

### **3.7.1.3 Umsobomvu Youth Fund (UYF)**

Umsobomvu Youth Fund (UYF) was initiated by government in 2001 tasked with job creation, skills development and transfer among young South Africans between the ages of 18 and 35. The purpose of the UYF was the creation of effective youth programmes and to give young people what they needed to create their own sustainable livelihoods.

Through a process of consultation and planning Umsobomvu has identified five programmes including:

- contact information and counselling
- skills development and transfer
- youth entrepreneurship
- enhancing the mainstreaming of youth into the economy through the provision of business development services and financing
- job shadowing youth in community service and relevant occupations

Umsobomvu is uniquely positioned to facilitate partnerships that promote the effective delivery of opportunities to young people while giving them a strong voice in the conceptualisation and execution of its mandate.

Umsobomvu does not run programmes directly but relies on selected consultants and services providers. Umsobomvu's role is to pull together existing resources and invest them in strategies that work. Umsobomvu has created partnership with the National Youth Commission (NYC), an institution established by Parliament to develop a

comprehensive strategy to address the challenges that young people in South Africa are facing.

The UYF offers products and services that can be grouped into the following three categories: training, financing, and information and counselling.

UYF has established a number of funds, namely, the SME Fund, the UYF Business Partners Franchise Fund and the UYF-FNB Progress Fund, which offer finance to young entrepreneurs and include micro-loans as well as funds to expand, buy into or buy out existing businesses, or start new businesses. Partnerships established with the private sector are leading to the establishment of dedicated funds for target groups. To date UYF (2009) has issued loans to the value of R176 million representing funding for 5,796 enterprises and the creation of 8,103 jobs.

#### **3.7.1.4 Khula Enterprise Finance Ltd**

Khula Enterprise Finance Limited assists businesses that generally do not qualify for loans due to lack of or inadequate collateral. To assist the small business owner, the government's small business finance agency, Khula, offers a credit scheme that provides an indemnity to the bank should the business fail to repay the loan. The business itself is not involved in the application to Khula for this indemnity; rather, banks will facilitate this while the business merely applies to the bank for finance in the normal way by drawing up a business plan or other ways of application. The amount of collateral required for a loan differs from case to case and depends on a number of factors.

To qualify for a Khula-supported loan, the sole proprietor or majority shareholder, member or partner must be willing among other things to make his/her contribution to the business depending on the size of the loan. This contribution can be either cash or equipment that will be used in the intended business. The entrepreneurs must be a full-time employee of the business, a South African Citizen or living in South Africa, which must also be the business's principal place of operation. A Khula indemnity can be applied to all businesses, with lending up to R3 million, regardless of their ownership

status, even white-owned businesses and start-up, existing or expanding businesses can qualify.

### **3.7.2 Banking institutions' support**

Schumpeter (1934: 70) believes the importance of credit in the growth of economies. The capitalistic credit system is needed for the financing of new innovations and combinations of businesses. While there are several sources of funding for small businesses such as family, personal savings, and venture capitalists, banks remain the primary financing vehicles in South Africa like many other countries (Behr and Güttler, 2007: 194).

The primary role of a bank in small business development is to provide credit to entrepreneurs to exploit new business opportunities. Banks nearly always finance via debt financing. Where loans are given at a set interest rate and stipulated monthly payments terms are used. Unfortunately for most nascent entrepreneurs or current small business owners they very seldom have loans approved unless sufficient collateral is provided by the lender. A common practice among many entrepreneurs is to finance their business via home loans or access bonds.

#### **3.7.2.1 Nedbank**

Nedbank acknowledges that the economy of South Africa was historically dominated by large corporations but the trend has changed since the small and medium-sized businesses are exploiting new markets, products and ways of doing business (Nedbank, 2008).

It can be observed from their target market that they do not specifically single out entrepreneurship ventures. They seem not to draw a clear line of difference between a small business and an entrepreneurial venture (Nedbank, 2008).

Nedbank offers financial services to the small business owners. The latter are defined by the bank as businesses with annual turnover of between R150,000 and R5 million and employs fewer than 25 people. The services include among others overdraft,

business banking loans, vehicle finance options, plant and machinery finance, home loans and property finance. The critical question however is with regard to the ease with which these services can be accessed by a small remote business owner. There is a strong feeling that some of these offerings are very difficult to reach the intended consumer on the ground (Nedbank, 2008).

It should be noted that Nedbank is a public company with a primary goal of generating profit *not* supporting small business and all activities that involve the supporting of small business will have some form of profit motive behind them.

Nedbank has a number of different initiatives to help entrepreneurs improve their business skills. They provide a number of small business seminars held on an annual basis. As well partner with Sizanani Advisory Services which offer a 12-month mentoring programme. Nedbank offer a wealth of free information which gives guidance on developing different skills such as writing business plans, marketing and management skills.

The importance of business skills and entrepreneurship skills has been well documented in the academic literature (Timmons and Spinelli, 2007: 598). Nedbank's partnerships, mentoring and seminars offer an important business development service to small businesses.

Nedbank also offers non-financial assistance through their association with Business Partners and Sizanani Advisory Services. The assistance is in the form of business expertise, skills and wisdom of a range of mentors. Nedbank also sponsors the Business Women's Association (BWA) which is currently the largest association of Business Women in South Africa. The association offers an environment which women may network. The Association also offers mentoring programmes, seminars on business skills and workshops (Nedbank, 2008).

Batjargal (2003: 535) confirms that an entrepreneur's social network and financial performance of their firm are related. Initiatives such as Nedbank's BWA are an

important Business Development Services (BDS) in encouraging small business success.

According to Nieman *et al.* (2003: 1), the entrepreneurial orientation of a nation is an important factor in small business development. Entrepreneurial orientation refers to the value system and beliefs of a culture around entrepreneurship. A country with high entrepreneurial orientation would celebrate and admire the profession of entrepreneurship and look up to successful entrepreneurs as role models. A country with a low entrepreneurial orientation will look down on their entrepreneurs or the profession of entrepreneurship. Nedbank has contributed in this field through a number of awards that honour leading businessmen and women.

Nedbank has provided business support and guidance with information on the following: business structures such as partnership and sole proprietor or buying an existing business and franchising. Nedbank has also assisted with guidance on issues of business planning, training, staff issues and business finance. This is a very comprehensive guide providing a background for small business owner with start-up issues as well as other management issues.

### **3.7.2.2 Amalgamated Banks of South Africa (ABSA)**

ABSA plays a role in the promotion of entrepreneurship as well as the development of small business. This promotion is done in various ways, that is, memorandum of understanding with interested parties, the staging of Small Business Inspiration Awards, training under the brand of i-Learning and the establishment and management of the Absa Small Enterprise Provident Fund.

ABSA also provides finance and support services to established small businesses and aspiring entrepreneurs in small business. The bank has designed an ABSA Small Business Toolbox. The toolbox comprises fourteen booklets. The booklets are compiled from ideas/contributions from business owners. Each of the booklets deals with critical areas of a small business and is intended to equip the aspirant business with various

aspects in the field of small business. As a precursor to the fourteen booklets, but still part of the Toolbox, is a package on start-up basics.

In addition to the Toolbox, business loans are provided. These were supplemented with the launch, during 2005, of a R30 million fund to help emerging entrepreneurs (ABSA launched a R30 million fund to help emerging entrepreneurs).

ABSA suggests that an aspirant small business person should think carefully about what he intends to do and achieve. The result of his thoughts should form the basis for a business plan. During the development of the business plan, pitfalls will emerge as well as other, probably better ideas. The business plan then becomes the tool to raise capital.

To assist aspirant entrepreneurs in their thinking and vision, ABSA lists a variety of frequently asked questions with possible solutions. The questions cover areas such as the attributes of the intending entrepreneur, his planning and organising abilities, why small businesses fail, and the meanings of creativity and innovation.

ABSA provides a New Enterprise Banking package under which the core of the service is support programmes dealing with mentorship, assistance with business crises management, after-care, and a credit guarantee scheme. Mentorship is introduced at the beginning of the business relationship with small business entrepreneurs. The programme is ABSA accredited and is intended to give guidance to the entrepreneur as long as the business relationship lasts. The guidance includes entrepreneurial support and development by means of skills training, information acquisition and sharing, assisting with the completion of a business plan, and assistance with the completion of the application for finance.

In the case of an entrepreneur who is unable to provide security for a loan, the New Enterprise Banking may, on behalf of such entrepreneur, apply to Khula Enterprise Finance Ltd (Khula) for credit guarantee.

### **3.7.2.3 First National Bank (FNB)**

FNB provides a supportive environment in terms of financial and non-financial support. FNB finances entrepreneurs and small businesses through a special unit dealing with SME development services. The SME unit provides a wide range of financial and non-financial solutions to cater for the needs of the entrepreneurs. Maasdorp and Van Vuuren (in Nieuwenhuizen, 2003: 13) regard financing as one of decisive factors in a supportive environment, which is in line with the role played by the FNB.

The FNB banking group has structured their business support from the perpetual start-up, growing the business and survival. What seems clear is that FNB is endeavouring to provide support for the small business owner. More importantly FNB has gone so far as creating an environment where the business starter can work through the phases of business planning and create a comprehensive understanding of what can be expected.

FNB's core function is the provision of financial products and services ranging from banking services such as the Progress Fund, intended for previously disadvantaged individuals between the ages of 18 and 35 who want to start a business, expand or buy an existing business. Khula guaranteed overdraft and loans, asset based finance, flexi business loans, enterprise solutions, Enablis Khula loan fund, commercial property funds, various types of business bank accounts, and assistance in establishing businesses (First National Bank, 2007).

In an interview conducted with Mr T Venter, Relationship Manager of FNB in Centurion on 19 March 2008, he mentioned that on first entry an entrepreneur is assessed regarding any form of security which is then attached by the bank first, and if further security is required the bank on behalf of the entrepreneur will route the loan through Khula Enterprise Finance.

FNB has worked in collaboration with the Shelf Company Warehouse to facilitate the processes for entrepreneurs who are interested in establishing companies or close corporations. Shelf Company Warehouse is a large provider of off-the-shelf companies and shelf close corporations. A shelf company or close corporation is a business entity

that is pre-registered. These shelf companies/shelf close corporations have no assets or liabilities and have never conducted business. They are rather registered for the sole purpose of being sold to interested entrepreneurs from Shelf Company Warehouse.

Other non-financial services offered include consultancy services (advisory services) to SMME customers, assistance in developing or formulating a business plan and new ideas.

Of note is the fact that the Relationship Manager continuously referred to the FNB website for assistance. Stating time constraints and work overload he stated that FNB generally refers entrepreneurs to the website where they will find a Business plan builder, Cash Flow projection tool and Articles and advice on the FNB resource centre. If the entrepreneur requires assistance with regard to completing a business plan they are referred to the website for details of an Umsobomvu Business Development Services Agent in the entrepreneur's area. The assistance offered by FNB Relationship Managers culminates once the initial evaluation is completed.

Once a loan has been granted, the Relationship Manager manages the accounts but once again due to resource constraints they do not visit the entrepreneur and only if there is a problem with the account they request monthly financial updates. It was apparent that the Relationship Manager ends up actually becoming a sales person for FNB and focuses more on selling services such as insurance (FNB Insurance Brokers, Financial Planners) and becomes extremely prone to sell a package that is too expensive for the needs of an entrepreneur. It is thus imperative that the entrepreneur assesses the package offering before signing the bottom line and should not feel intimidated to accept a package for the sake of securing a loan. FNB has used external consultants such as of Biznetwork, a Business Mentor SA to offer business mentor programme services to FNB entrepreneurial customers. Entrepreneurs submit applications to Biznetwork and on approval two free mentoring sessions are offered. Thereafter the entrepreneur resumes full payment to Business Mentor SA although the entrepreneur is entitled to two free sessions per annum. The programme provides various programmes on practical and business coaching, business mentoring, business

advice and individually structured programmes for companies (First National Bank, 2006: 7).

FNB has introduced an 'interactive business gym'. This allows entrepreneurs to test where their businesses are and whether they have taken account of the most predominant issues and challenges that their company will be faced with. Although not an entirely new concept as this concept was already adopted by the DTI for export evaluation, FNB is the first bank to introduce such a scorecard to help business people.

There is a definite focus towards assisting SMMEs with a significant amount of information in this regard. To FNB's credit a lot of information is made available with the use of their interactive initiative. FNB provides a platform for business forums and initial reviews of business plans and provides a platform where the business owner can get in touch with mentors that will help throughout the business through advisory services (First National Bank, 2006: 7).

#### **3.7.2.4 Standard Bank**

Standard Bank offers expert advice and provides business bankers at all local branches across the country. These business bankers will assist in evaluating the business plans, setting up accounts, arrange finance and provides the link to support staff and analysts who will ensure that entrepreneurs get the best banking services available. Bruns Volker of the Jonkoping International Business School (JIPS) in Sweden is of the opinion that limited access to debt capital is a major factor hampering small business growth. Owing to information asymmetry and risk aversion, banks are reluctant to lend to small firms that plan large investments for new growth opportunities.

The most likely source of credit or financing for small businesses offered by Standard Bank is through overdrafts and business loans. Minimum and maximum loan amounts, repayment periods, terms and conditions and value-adding features differ from bank to bank. Standard Bank requires a business plan and cash flow projections in order to evaluate the viability of the business for which the loan is required. Other financing includes Contract Finance where the bank enters into a cash flow lending agreement on

the strength of the customer's contract. The contract might be awarded to a small business to do a particular job. As the business performs on the contract, so the bank pays regulated amounts into a controlled account.

Standard Bank also offers Khula-guaranteed loans for small businesses that do not have enough assets to put up as collateral for a bank loan. Other financial assistance are in the form of vehicle and asset finance, commercial property finance term loan, business mortgage, debtor finance; a form of finance to obtain the working capital needed for a growing business. Lastly, the entrepreneurs can obtain guarantees given by the bank. A banker's guarantee is a written undertaking in which Standard Bank agrees to make stipulated payments on behalf of the customer's failure to fulfil or carry out specified terms of a contract.

### **3.7.3 Private initiative support for SMMEs**

#### **3.7.3.1 Business Partners**

Notable under the private initiative is the Business Partners (formally Small Business Development Corporation) which was founded in 1981 as a public company (not a statutory body) in a joint public-private sector venture so as to harness the power of entrepreneurship in order to build a prosperous South Africa (Small Business Development Corporation, 1991: 10).

The Small Business Development Corporation (1991: 15) was founded on the premise that "[s]mall business is a valuable source of creativity and renewal: It creates income that contributes to the greater distribution of wealth and quality of life and promotes competition through the supply of a wider choice of products and services".

Business Partners (2007: 5) is an unlisted public company with assets of more than R2 billion. It invested R268 million in small and medium enterprises (SMEs) in 2007. Since its founding it has invested more than R4.6 billion thereby facilitating the creation of 500,000 jobs in the economy (Business Partners, 2007:1).

Business Partners invests in viable small and medium businesses in the commercial, manufacturing and service sectors of the economy. The investment ranges from R150,000 to R15 million. The decisive criteria for assessing whether it will invest, is the viability of the business (Adams, 2003: 173). To qualify for investment finance, the business must be viable. Viability is evaluated in two ways, namely, the business and the entrepreneur. The evaluation criteria for the business include market size, stage of development, location and profit potential. For the entrepreneur, on the other hand, initiative aspects are considered such as drive and ability to run the business successfully.

Business Partners (2008) has developed customised investment solutions for clients, which it has branded in the form of a "Partner" product. The different products are as follows: Equity Partner, which is a method of financing designed for the entrepreneur who has an established, profitable venture and requires capital for expansion. Usually this is done by taking up a shareholder's loan with an equity component. The Risk Partner caters for the needs of the entrepreneur who has a viable lifestyle business, but limited capital to contribute to the venture and limited security for either a start-up or expansion phase. The Royalty Partner is meant for the smaller high-risk ventures. The Property Risk Partner caters for the needs of the entrepreneur with a viable business who wants to purchase own premises, but who has limited capital to contribute, limited security or who does not wish to compromise the business's cash resources or entrepreneurs who are unable to raise the deposit required by other financial institutions. Lastly, the Property Equity Partner, which is designed for the entrepreneur with an exceptionally viable multi-tenant property investment opportunity that offers an above average, expected return on investment.

A Specialist Investment Funds has been established (Business Partners, 2007:17) where joint ventures with the Umsobomvu Youth Fund and Khula Enterprise Finance Ltd. The UYF Business Partners Franchise Fund is a R125 million Funds aimed at young entrepreneurs from previously disadvantaged communities, aged between 18 and 35 who wish to start or expand a franchise. The Business Partners-Khula Start-up

Fund is R150 million Funds aimed at new businesses being founded by either a first-time or an established entrepreneur from a historically disadvantaged community.

### **3.8 SUMMARY TO SMALL BUSINESS SUPPORT IN SOUTH AFRICA**

The question that comes to mind after reading all these support programmes by local banks and institutions that are currently in place, is whether all these support programmes accommodate all conditions which one entrepreneur is influenced by in exploiting a business opportunity? It seems most interventions and support programmes emphasis on finance, as if money alone could solve all problems. Most business support programmes have failed to provide all issues of intervention for any entrepreneur. According to GEM Report (2006: 13), there are many factors which influence entrepreneurship. These are referred to as entrepreneurial framework conditions. The conditions apply to nine major factors, namely, access to finance; government policies; government programmes education and training; transfer of research and development; the commercial, legal and financial infrastructure; the openness of the domestic market, access to physical infrastructure and the extent to which cultural and social norms support the choice of starting a business as a career option. The areas of intervention are many which might even be difficult for a single institution or government to deal with or to provide necessary support for entrepreneurs.

It might be so difficult for the local banks and other support institutions of South Africa to claim that the support programme are balanced and holistic to address all the nine factors explained above. It seems very difficult to make sure that all business support programmes address possible intervention areas. The complexity of the challenges forces government to come up with new methods of business support such as the business incubation model. The question remains why does South Africa need the business incubation model of business support? What additional values will be added by the incubation model compared to the other support programmes previously available? Does business incubation provide better approach to address these factors? The researcher has made an effort to get answers for such questions from national and

international business incubation professionals and related literature. In the following, the business incubation model, the processes followed and the critical evaluation and comparison of business incubation and other business support strategies is reviewed.

### **3.9 BUSINESS INCUBATION AS A BUSINESS SUPPORT MODEL**

The business incubation model encompasses integrated financial and non-financial support services. According to Albert, Bernasconi and Gaynor (2004):

Incubators are places of communication and synergy, making them effective in numerous environments. They enable public and private stakeholders to gather around a common interest. They often are at the crossroads of important networks. They are also places of collective learning not only for the entrepreneurs but also for external stakeholders who come to appreciate the entrepreneurial reality better.

The United Kingdom Business Incubation (UKBI), a body responsible for business incubation in the UK, defines business incubation as “the physical manifestation of ... the process aimed at encouraging people to start and grow businesses, providing them with the resources to do so successfully, and creating an environment in which their businesses can flourish” (UKBI, 2003). In its website, the UKBI gives a detailed definition of business incubation as “a unique and highly flexible combination of business development process, infrastructure and people designed to nurture new and small businesses by helping them to survive and grow through the difficult and vulnerable early stages of development” ([www.ukbi.co.uk](http://www.ukbi.co.uk)).

There are many definitions of business incubation including the National Business Incubation Association given in Chapter 1. The common understanding of the definitions, however, seems limited to business incubators providing both space and value shared services. The provision of physical facilities below market rent is taken as an integral part of the incubation support programme. The presence of physical facilities such as buildings has made it possible to keep firms in a specific place and monitor their progress in addition to the financial relief. However, the concept of space and physical facilities does not include incubator services provided virtually (virtual

incubators). Malan (in Voisey, Gornall, Jones and Thomas, 2004: 3) argues that “incubation is a process, not a place”. Therefore, business incubation is not only about the space rather the valuable services provided with incubation experts without necessarily keeping incubatees in a specific place. As technology advances, there are more virtual incubators specifically in the Information Communication Technology Sector. In the following section, the processes of business incubation are discussed followed by its contribution as a business support programme.

### **3.9.1 *Incubator client selection and screening***

Client selection is a process of choosing the right entrepreneurs for a specific business incubator. It is the process of matching incubator resources to client needs (Erlewine and Gerl, 2006). Business incubators has their own criteria of selection of applicants who need their services inside or outside incubation centres. This brings up questions such as why should there be any selection; why a selection criterion is used; who are involved in the selection process and how difficult is the whole selection process.

Erlewine and Gerl (2006: 122) believe in the idea of selection of clients for an incubator “to ensure a steady flow of promising client companies and a steady outflow of successful graduates”. They argue the screening process can help attract those entrepreneurs with enthusiasm, drive and skills creating synergies within the incubator. Erlewine and Gerl (2006: 122) further emphasise the importance of screening relating to the ultimate objective of an incubator. “Ultimately the role of an incubator’s selection process is to determine whether there is a good match between an entrepreneur’s business and needs with the incubator’s programmes, mission and resources”. This indicates that the selection process is not only required to benefit the incubator, but also benefit the incubatees. It seems quite important to align the needs of one entrepreneur and the availability of resources in the incubator to satisfy the needs of a specific entrepreneur. The resources include physical facility as well as availability of experience and skilled staff or outside mentors for a specific applicant. This may appear to be an important part of the selection process. The needs analysis will assist to align the applicants’ needs to the availability of resources in the incubator. This will prevent the

condition where applicants end up wasting their time and money in the incubator without receiving any valuable assistance or interventions.

In order to help incubators in the selection process, incubators normally have a set of the selection criteria before-hand. The selection criteria may include a company's business plan. However, if an incubator is looking for a specific quality of entrepreneur for a specific purpose, the selection process is all about "to look for a match" according to Donovan (in Erlewine and Gerl, 2006: 122).

In most incubators the process of selecting starts with an application followed by interviews. Erlewine and Gerl (2006) mention an informal survey which involved more than 150 incubation managers conducted by the National Business Incubation Association of which 84% of the managers required entrepreneurs to submit applications for selection. The application process is accompanied by or follows an interview with each applicant as this process allows the incubator the opportunity to know more about the applicant's personality and goals. From the same study conducted by NBIA, 94% of the incubation managers have used interviews as a screening process. Interviews give incubation manager the opportunity to know the applicants. The question and answer session is an excellent way of gathering the required information needed to grade an applicant. During the interview the manager is able to gather matters that would otherwise be concealed by the applicant such as personality and attitude (Erlewine and Gerl, 2006: 124).

Another important selection consideration is the determination of who should be involved in the selection process itself. This deals with whether the incubation manager will handle the selection on his or her own or whether he or she will involve other experts to assist with the process. The survey conducted by the NBIA concluded that 88% of incubators used incubation managers only; 14% involved advisory boards; 24% used boards specifically intended for client screening; 24% used a combination of staff, board and community members to select clients (Erlewine and Gerl, 2006).



A good example concerning the use of a board for selection was given by Erlewine and Gerl (2006) who comment on the Bio Square Incubator who have worked in conjunction with Boston University Medical Centre. The incubator formed a scientific advisory board which included university experts. The mandate of the board includes the review of specific company products and thereafter providing recommendation to the incubator manager. The incubator also has a financial advisory board made up of members of the community. The selection process which involves board members or experts tends to assist incubator managers who themselves may not be experts or necessarily possess the required skills. It is therefore expected that the use of a wider board will have the advantage of having a diversity of selection skills and knowledge which will invariably assist in the successful selection of clients (Erlewine and Gerl, 2006).

The Associate Vice President at Bio Square, Boston, in Massachusetts further emphasised the importance of using interviews as a means of screening incubation applicants. "You get the importance of interviewing by just watching and listening whether they're (applicants) really serious." The president added that "[p]ersistence and attitude make businesses successful, and your gut instinct is one of the few things that can examine that" (Erlewine and Gerl, 2006: 120).

Wolfe, Adkins and Sherman (2001) offer a different perspective to the screening of clients and state that in the first three years of operation, incubators may lack the credibility needed to attract the best clients and therefore may not show their true worth. Entrepreneurs tend to go to incubators where they believe such incubators have the ability to add value to the entrepreneur's business or venture. The entire process to see the true value and expected impact on other entrepreneurs may take time to be seen. This can pose a challenge for incubators. Wolfe *et al.* (2001: 61–66) mention a few characteristics of the selection process which include the following:

- Incubators should accept a diverse range of clients to increase synergy and diminish market competition.

- Applicants should fall within a broad definition of a for-profit venture producing product and service that can be commercialised by the time permitted by the incubator.
- Applicants should be identified within the technology or other clusters supported by the incubator.
- The applicant should be in the early stage – generally within the first two years of business operations – not profitable and still growing.
- Applicants desiring access to an affiliate institution such as a university, federal laboratory or other strategic partner should meet the basic requirements of the partner.
- Applicants must show ability to pay rents and fees charged by incubators while developing positive cash flow.
- Applicants should present a management team that is capable of handling the technical aspect of the business or understand how to obtain needed technical assistance.
- Applicants should identify products, technologies or services that can benefit from added value provided by the incubator and its resource network.
- Applicants should provide economic benefits in the form of job creation or new business opportunities for community vendors or contract agencies.
- The applicant should not be in direct competition with another incubator start-up.

One of the entry criteria used for the selection of applicants is the objective of a specific incubator. For instance incubators aimed at high tech wealth creation vary from those aimed at low tech job creation targets. The targets to the latter case include not only unemployed business start-ups but also “developed businesses” that have job creation potential and positive influence on the entrepreneurial spirit of the region (UNDP, 2001).

Most incubators tend to agree on the importance of carefully selecting proper clients. However, this brings about the argument which points to the fact that most incubators will tend to select the good clients who are already strong and are bound to succeed in their businesses even without the intervention of any incubator. Apart from the positive

contribution of business incubators, there is a criticism about the selection of applicants for incubators. According to Silva (2008), business incubation is not about selecting the weak and turning them into neither successful venture nor it is the selection of the strong businesses and making them stronger and successful. It is the selection of entrepreneurs with a strong potential for growth. "The argument rests on whether a new business that is weak but shows promise of a high probability of growing into successful ventures can be identified at an early stage of a venture and helped" (Statistics Canada, 2006: 123).

One will therefore ask whether business incubation is about the selection of the strong candidates and claiming success or selecting the weak and making them successful? Is the success of the incubatees coming from the incubators so that incubatees succeed when they are weak or the incubators select only those who will succeed? This dilemma is also shared by Bearse (1998). Silva (2008), one of the experts in business incubation from Brazil, has a different connotation to this aspect of query. His perspective is contained in an interview he gave to the writer during a conference held in Sandton Convention Centre, South Africa where he said that "[b]usiness incubation is not the selection of the strong and the good or the winners, rather it is selecting the ones with a strong potential for growth whom without the assistance of an incubator may not accomplish that potential". According to Silva (2008), there are many entrepreneurs who have excellent ideas, products or services but fail to reach high standard owing to the lack of technical, business skills and financial and non-financial support. The intervention of an incubator assists entrepreneurs to fill such gaps in the process.

Silva (2008) further argues that business incubation is not therefore the selection of the best and the winners but assisting those entrepreneurs with a strong potential for growth. It seems most incubators in international and South Africa agree on the same context of selection. However, the difficulty and flaw of this selection procedure is how easy is it to select the ones with strong potential? What is their base for incubation managers to conclude one entrepreneur has a better possibility of growth than others? The writer argues that the decision to label one entrepreneur as strong or weak should

be more on the internal than external factors. The look should rather shift to the personal strength such as experience, skill, type of opportunity than external factors such as infrastructure and financial strength of the business owner. This is an approach capitalising on the strength of an entrepreneur than identifying weakness and trying to help improve that specific weakness. If one entrepreneur is assisted to be successful based on his strength, there can be more result than working to fill weakness.

### **3.9.2 Serving client companies and business incubation interventions**

The proper selection of client companies creates a favourable opportunity to provide the best service each client needs throughout their stay under the supervision of incubators. Incubators provide necessary support to clients with their available resources.

The business support offered by incubators normally provides remedies or interventions such as financial support, networking, mentoring, coaching and infrastructure support (Albert *et al.*, 2004). Some of the interventions of business incubators are mentioned as follows:

- **Financial intervention:** Start-up firms need finance for seed capital, renting and other operational expenses related to the business. Usually the main source of finance is from banks or from the “three Fs” that is from family, friends and fools. However, with regards to banking financial support, normally banks will deal with scepticism when dealing with a new business. This is because of the lack of trust to lend start-up businesses. This lack of trust will emanate from the repayment failure risk associated with these start ups. The start-up’s absence of collateral is another cause of concern with banks. This situation will lead to many start-up business plan applications being declined (Nieman *et al.*, 2003).

Once start-up businesses are inside incubator centres banks and funding companies will have a higher degree of trust for these small businesses involved in the incubation programmes (Sawers, 2008). Furthermore, start-up businesses under the support of incubators will be exposed to venture capitalists and angel

investors through the networking created by incubation centres (Wagner, 1997). In actual fact, most of the start-up businesses involved in the incubator programmes will normally end up being financially relieved from some cash strains owing to free or especially affordable rent, and shared services provided by incubators.

- **Networking intervention:** Carrying out business is all about networking and communication. Creating relationships with different business people increases a business' chances of selling idea, product or service. Scott (2007) argues that networking and relationships in modern business determine the success or failure of businesses.

Incubators have networking and other social events which creates a good opportunity for incubator tenants to link to experts, consultants, angel capitalists, marketers and the academia. This is the greatest asset which cannot be measured in monetary terms. Experienced people in a specific industry share their experience, challenges, success and current trends. This allows incubator tenants to learn from other experts in order not to repeat the same mistakes. This is one of the incubation traits that can facilitate or accelerate the growth of businesses which have been assisted by incubators. The controlled and continuous advice and experience sharing is very important. Incubators create an environment where experts in the field will directly meet with incubator tenants. These are not just experts but successful professionals and business people. This would otherwise be impossible if it had not been for the facilitation of the incubators. These are the intangible or immeasurable benefits that incubators give to their tenants. This exceeds even the low rent or financial assistance provided by incubators (Albert *et al.*, 2004; Silva, 2008; Erlewine and Gerl, 2006; Adkins *et al.*, 2001; NBIA, 2001).

- **Mentoring and coaching:** According to Colbert (2009), the true value of coaching comes when the incubator staff can facilitate the use of specialised resources or instruct the clients on how to do something in such a manner that

they can then complete the task themselves. The other aspect of coaching and mentoring include serving as a sounding board and cheerleader for client businesses as they face the many challenges associated with starting a new venture and continuing to identify needs before issues become urgent or problematic. In fulfilling this role the incubator staff must make a fine line between coaching someone through an issue and solving it for them. Staff must resist the temptation to complete tasks for clients. This can undermine the entrepreneur's ownership of the business and diminish the entrepreneurial spirit and drive needed to successfully launch a new venture (Colbert, 2009).

All the integrated financial and non-financial support makes clients to grow in to a certain level of performance that can make clients to operate independently in the market place. The support will be partially or fully terminated when clients exit or graduate from the incubation programme.

### ***3.9.3 Incubator graduates and graduation***

The main objective of business incubators is producing entrepreneurs who can run their own business independently after being under the controlled support of the incubation programme. At some stage incubator clients should leave incubation centres if they are residing in incubator premises. If they are non-resident, the support will also be minimised or terminated, depending on the nature of the business and industry. This is the process normally called graduation in the incubation concept. To reach the graduation stage, clients should pass a series of mile stones and bench marks. These milestones or benchmarks are set between the client and the incubation manager. Clients graduate when there is sufficient evidence that a specific business can run without the support of incubation centres and their experts.

In an instance where a business is failing and needs to leave the premises, can that constitute graduation? Or when a company does not appear to fit the incubator model any longer, and is asked to leave, is that graduation? Graduation is not just leaving an incubation centre or premises based on reasons related to client's failure to fit in the

incubation model and requested to leave. Tederman (2009), Executive Director of a Mixed Use Incubator in Omaha, Nebraska, USA expounds this by saying

... we consider a graduation the successful completion of the requirements of the incubator program which indicates the business is ready to continue their business without our assistance. We have done our job; anything less than that would be considered a business simply leaving the program either by their decision or at our request (Tederman, 2009).

This was further emphasised by Dinah Adkins (2009), President and CEO, of the National Business Incubation Association commenting on the concept of graduation; "I would argue that any company that has not met progress benchmarks and does not grow and leave the incubator as a self-sufficient business is not a graduate. Failed businesses and those that do not meet the incubator specifications cannot be said to be successful graduates of a program". Adams (2009), Director of Mississippi e-Centre Innovation Centre, refers to such companies as "drop-outs" rather than graduates. "Unless they meet the standards and criteria as set forth in your incubator as to the growth of their business or have met the required benchmarks and have grown their business to a level of self sustainability, then they are not graduates but may be drop-outs" (Adams, 2009). Adams argues that there are companies that come and go that cannot be counted as successful.

The researcher, however, argues that a company that exits the premises of incubators for any reason cannot be regarded as graduate. It also cannot be considered a failure. Companies might exit an incubator for many reasons, including the following:

- problems of selection
- inability to fulfil minimum financial obligation
- some market changes
- other external factors

Most of the incubators have a common graduation period of between two to three years. There are no specific periods for graduation. In contrast, the decision to exit should be

based upon the actual progress of a specific client in accordance with set milestones and performance targets. Failure to measure this by incubation managers will only result in clients staying in incubation centres for unnecessarily longer periods. This will be tantamount to the misuse of tax payers' money. This is the money which should be made available to other entrepreneurs who have not yet had a chance for the some resources or intervention through incubation. The foregoing scenario currently is applicable to many South African business incubators that do not have documented criteria for graduation and exit.

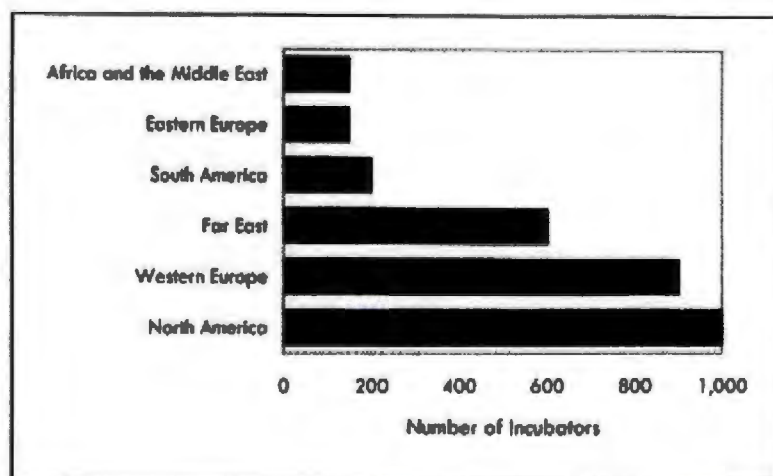
### **3.10 IS BUSINESS INCUBATION A BETTER SUPPORT MODEL?**

Most of the challenges of small businesses mentioned earlier in this chapter can be partially overcome by using outside management assistance and business incubators (Longenecker *et al.*, 2003). A business incubator is an organisation that offers both space and managerial and clerical services to new businesses. Most of them involve the participation of governmental agencies, universities, and some have been launched purely as private endeavours. Many countries have adopted the concept of business incubation as one of the preferred support interventions for entrepreneurs.

The Incubation model has gradually established itself on the economic landscape as an integrated mechanism for company creation (Albert *et al.*, 2004: 77). These authors have also put credence to the existence of incubators in almost all developed countries and in a significant number of emerging economies. "Nearly all European countries have relaunched public programmes for the creation of incubators" (Albert *et al.*, 2004: 77). The small business service of the DTI in the UK has identified business incubation as "a powerful tool in overcoming the pitfalls of starting and growing businesses both in the high tech and wider range of small businesses" (Voisey *et al.*, 2004: 3). The United Kingdom Business Incubation puts business incubation as a better support model than other business support programmes. It is argued that business incubation provides a 'complete', 'tailored', and 'hands-on' support environment ([www.ukbi.co.uk](http://www.ukbi.co.uk)). In addition business incubation is better because it makes available resources from inside and outside ([www.ukbi.co.uk](http://www.ukbi.co.uk)). This argument refers to the

provision of resources inside and outside incubation centres. Incubators create an environment to bring in external resources such as expertise and skill to the beneficiaries. Incubation makes available people and other resources which would have been impossible for clients themselves. The high tech and expensive machineries and facilities which are unaffordable for incubator clients are made available because of incubation centres.

The geographical distribution of incubators around the world is illustrated in Figure 3.5 below:



**FIGURE 3.5:** DISTRIBUTIONS OF INCUBATORS WORLDWIDE

Significant advances and successes have been noted in the area of Business Incubation mainly in four industrialised countries namely, the USA, the UK, France and Germany (Albert *et al.*, 2004). The success has been attributed to the superior strategies and dedication attached to the intervention. Incubators in the foregoing countries have had success because of a powerful concept characterised by the following attributes (Albert *et al.*, 2004: 77):

- Incubator profitability and effectiveness where averages of 85–90% of companies graduating from incubators are still in business five years later.
- Incubators have proven their flexibility and adaptability in a wide range of contexts.

- Incubators are a place of communication and synergy.
- Incubators are places of observation allowing evolution to be captured and they are ideal places to test new ideas or policies.
- Incubators are becoming centres of international interaction and net work for entrepreneurs.
- Incubators are symbolic places, bearers of the entrepreneurial image.

Albert *et al.* (2004) went even further and ranked the incubation concept as “a Powerful Concept”. Their argument is not because incubators make entrepreneurs or create resource abundantly “an incubator is nothing more than a tool to gather and orchestrate existing forces to facilitate company creation. It does not create the sound; it makes the music! An entrepreneur located in a poor entrepreneurial environment be it a town, university, or company will have little impact” (Albert *et al.*, 2004: 78).

Business incubators have also got the attention of policy makers as they are solving a number of debates and challenges pertaining to economic development. These economic and social challenges include job creation and regional economic development. Albert *et al.* (2004) argue that with regard to job creation, incubators are seen as effective tools for self employment opportunities and enhanced business growth. In this regard incubators are considered for the following purposes:

- develop innovation, transfer technology and import an entrepreneurial spirit
- spurring of regional economic development and establishing industry clusters as they are for revitalising urban environment and industries
- develop international net works of small and medium sized enterprises

The contribution of business incubation needless to say has a special position in many countries as can be seen by the foregoing attributes mentioned in this review. Much support has been advanced by numerous scholars (Albert *et al.*, 2004; Silva, 2008; Erlewine and Gerl, 2006; Adkins *et al.*, 2001) on the effectiveness of the Business Incubation model. However, this assumption raises the question as to why the model of Business Incubation is really considered as a better business support or intervention model in comparison to other models. What are the critical values added through

Business Incubation? David Terry, an Executive Director, Texas University Enterprise Centre in an interview by the researcher in April 2009, in Kansas City, USA comments:

In Business Incubation you are not alone. Loneliness is one reason of business failure. In an Incubator you have people surrounding you". He further explains that in an Incubation Centre there is commitment to serve; there is professional and business accountability. People with a servant/leader mindset can contribute a lot. Therefore, the success of Incubators is about the people and not necessarily about the facilities.

Smilor and Feeser (1991) further argue that business incubators are remedies for most SMME challenges specifically in shortening the development process and solving SMME problems faster compared to other interventions. They argue that incubators can significantly reduce or facilitate the learning process based on experience of mentors and other experts available through the network of incubators. This gives a competitive edge to SMMEs under incubators support to solve their problems better and faster compared to their competitors.

In a statement made in *Big News* (2009), one of the South African newspapers for start up businesses, Julia Fourie, the CEO of Here be Dragons, HBD, one of the companies belonging to Mark Shuttleworth, advises business owners on the main challenges for success. Fourie in *Big News* (2009: 3) states that businesses fail because of lack of guidance, funding and an expert knowledge. She shares Terry's (2009) idea about the challenges of being alone in business and states that "companies often try to grow or to go to the road alone" (*Big News*, 2009:3). This refers to the importance of partnering and networking with other experts.

Albert *et al.* (2004: 78) argue that incubators add value because they provide

- services that are not standardised but nevertheless are very useful such as space, shared offices, administrative services and operational support
- training
- individual coaching and mentoring

- strategic and technical advice
- access to networks
- a break from isolation and membership in a community of peers

### **3.11 BUSINESS INCUBATION IMPACT (INTERNATIONAL)**

The general impact of business incubation can only be appreciated after determining the role it is meant for. The main function of business incubation is to promote the regional economic development by supporting the creation of growth of start-ups through various means. Owing to its significant economic and social impacts, the concept of business incubation has been widely accepted. Several business incubation systems have been established in both developed and developing countries during the last decades (Yan, 2004: 56).

An evaluation of the effect of incubators to spur economic growth especially in rural regions is very important. This is because in rural regions “investment capital is scarce and the region lacks the forward and backward linkages of larger metropolitan regions” (Lewis, 2001: 19). This is a point of debate for many nations regarding where to invest in science and technology. The debate is centred on whether investment should be in urban areas that have “strength to capitalize on relatively larger economic multipliers and then giving a greater return to public investment” or should investment be in “more rural areas seeking long-term returns and increased diversification of economic activities in rural locations?” (Lewis, 2001: 20). Technology Incubators can function as an “economic catalyst that serve as a focal point for a broad array of policies that can help establish a new economic cluster in the region or support an existing cluster” (Lewis, 2001: 19). The author disclosed, however, that this positive effect needs a long-term commitment from the community especially in less diverse regions as profitability needs several years of operations unlike developed regions where an incubator can accelerate growth through improving the success rates of new ventures (Lewis, 2001: 22).

Research conducted by the European Union (1999) has concluded that one of the leading strategies to enhance the overall survival rates of SMMEs is by means of

Business Incubation. The study commissioned by the European Union (1999) indicated that “the survival rate of firms reared in an incubator environment was significantly higher than the business success rate amongst the wider SME community” (OECD, 1999: 71). In fact the research further indicated that “the effectiveness regarding incubation in Organisation for Economic Cooperation and Development (OECD) countries, the survival rate of incubated firms range from approximately 80% to 85%” (OECD: 1999). The research also indicated that approximately 90 % of all start-ups set inside a business incubator are still active three years later, and the public cost of creating jobs inside incubators was low compared with other public means and programmes. The study further revealed that the survival rate is high, and tends to rank above 85%, in countries with strong support from the government and tight links with the university/tertiary systems (OECD, 1999).

Hans Lofsten and Peter Lindelof (1996) from Chalmers University of Technology in Sweden did detailed research in Science Parks. Their study included 273 New Technology Based Firms (NTBFs) in and out of Science Parks during 1996-1998. The researchers were interested in identifying any element of added value which the Science Parks programme provide for new technology based firms. Value added refers to “those specific ways that an incubator programme enhances the ability of its tenants to survive and grow in business” (Lofsten and Lindelof, 2003: 51–64). Their study showed:

- a general trend in sales growth in (NTBFs on Science Parks: yearly averages from 1994-1996:45.6% and NTBFs off park: 12.93%)
- employment growth (on park: 27.95% and off park: 10.17%).
- profitability (on park: 4.70% and off park: 9.63%)

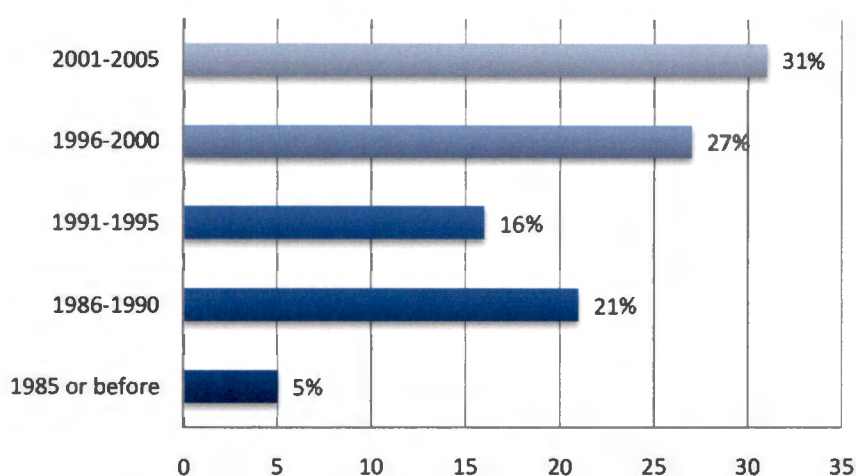
The collected data covered all three years of operational life of NTBFs. The findings suggest that Parks appear to have positive impact on their firms’ growth as measured in terms of sales and jobs. However, there was no evidence of a direct relationship between Science Park location and profitability. However, Science parks may not necessary mean incubators but science parks play the role of incubators and terms are used some times interchangeably. The OECD Report (1999) on evaluation of business

and technology incubators shows a positive impact on firm survival. According to the report the failure rate among incubated tenants was 8% compared to the national average of 32%. The OECD Report (1999) further confirms findings of U.K Enterprise panel on incubator performance. The panel concluded that “business incubators do improve survival rates, as well as facilitating technology transfer and innovation and generating jobs and local economic development” (OECD, 1999:25). The report pointed out the difficulties in evaluating business incubators. The difficulty identified concerned the fact that “the success may be attributable to inherent characteristics other than the effect of the incubator and conducting the assessment using a control group is a costly and complex process” (OECD, 1999: 25). Lewis (2001: vii) found out that the “survival rate of incubated firms is roughly three times that of the general population of new enterprises”. Lewis (2001) also found out that the public sector cost per direct job created by investments of incubators (specifically in general and technology incubators), is relatively low ranging from \$3,000 to \$12,000 per job. However, Lewis (2001) has mixed evidence regarding the long-term effects of incubators on graduates and the local economy. He is of the opinion that the “economic contribution of business incubation is still murky” (Lewis, 2001: 13). Allen and McClusky (in Lewis, 2001: 13) argue that sponsored organisations and government may not see the effect of business incubators soon. Using a multiple regression analysis on data from 127 incubators they concluded that the most important variables in new firm formation and job creation are age and size of the incubator (Allen and McClusky in Lewis, 2001). While firm survival and employment growth are important, these measures fail to capture the long run effect of business incubators. Graduation rates and job creation do not account for what happens to firms after they leave the incubator and stop receiving subsidised benefits (Allen and McClusky, in Lewis, 2001: 13).

A study in the USA on the state of the incubation industry (SOI) by Knopp (2006) indicated that new incubators continue to open their doors each year, but a number of programmes have track records that are quite long. In 2006, approximately 5% of State of the Incubation Industry (SOI) respondents worked at incubation programmes that had been in operation since 1985 or earlier (the oldest opening in 1980). Another 21%

worked at programmes that opened their doors between 1986 and 1990. At the other end of the spectrum, nearly one-third of respondents (31%) were from programmes that had opened since 2001. On average, incubation programmes responding to the SOI had been in operation for about 10 years in 2006; in both 1998 and 2002, responding incubation programmes had been operating for an average of seven years (Knopp, 2006).

### Year of Client Acceptance



**FIGURE 3.6:** YEAR INCUBATION PROGRAMME BEGAN ACCEPTING CLIENTS

Source: NBIA (2006)

The other impact study in the USA (NBIA, 1997) on incubators, conducted under a grant from Economic Development, was considered the most comprehensive study at the time and was conducted by the University of Michigan, National Business Incubation Association, Ohio University and Southern Technology Council.

A combination of surveys, focus groups, stakeholder panels and regional macro economic analysis was used in the study (NBIA, 1997). The study revealed the following:

- Businesses incubators support other businesses to create jobs. In 1996 firms that were assisted by incubation created 408 direct jobs and a total of 702 jobs.

- Business incubation programmes created new jobs for a low subsidy cost and a substantial return on investment.
- Incubator companies experienced very healthy growth.
- Business incubation programmes produced graduates with high survival rates of up to 87% of all graduates still in business.
- Most businesses that graduated from business incubators remained in their local communities with an average of up to 84%.
- Most incubator firms provided employee benefits.
- Incubating programmes contributed to their client companies' success and expanded community entrepreneur resources.
- Business incubation programmes improved local community image.

The study (NBIA, 1997) showed that incubators did indeed contribute to the creation of jobs and improved revenue generation by the firms involved in the incubation programme. However, the results also revealed that the impact varied by the type of incubator program. The differences seem to be related to the mission of the incubation programme. Incubation programmes should be compared only with others of similar type and mission. Each type of incubator is established to address specific local needs and challenges. The impacts, therefore, are expected to relate to the nature and type of the incubators' missions and the needs being addressed (NBIA, 1997: 21). This is shown in Figure 3.7 below.

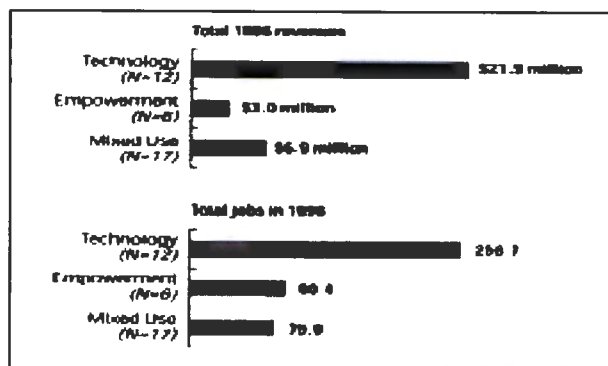


FIGURE 3.7: INCUBATOR MANAGER REPORT ON CURRENT TENANT AND AFFILIATE FINANCIAL AND JOB DATA (AVERAGE PER INCUBATOR)

Source: NBIA (1997)

The National Business Incubation Association (NBIA) in the 2006 State of the Business Incubation Industry report estimates that North American incubators assisted more than 27,000 start-up companies that provided full-time employment for more than 100,000 workers and generated annual revenue of more than 17 billion US dollars (NBIA, 2006).

The NBIA (1997) contained excerpts that indicated that quoting many incubation managers who viewed their programmes as important development tools, ranking job creation, entrepreneurship support, accelerating the growth of local industry and other businesses development goals as high priority (NBIA, 1997: 22).

Business incubators in the USA played a major role in the creation of jobs in their local communities according to State of the Business Incubation Industry reports (Knopp, 2006). On average, resident and affiliate clients of SOI respondents employed 97 full-time workers in 2006, up from 86 in 2002. Average part-time employment among resident and affiliate clients in 2006 was 24 (Knopp, 2006).

The UN Report (2000) accepts contribution of business incubators but warns over expectations. In spite of all the positive impacts that business incubators are making, business incubators are overenthusiastically seen as a remedy for acute crises, which they most certainly are not. The UN Report (2000) further emphasised that support

services in different incubators are needed for a variety of needs; from job creation to nursing and the commercialisation of research results, or helping start-ups Get on their feet. On the other hand, instead of being regarded simply as a facility offering office and production space for start-up entrepreneurs, incubators may be considered as a complex of services placed at the disposal of entrepreneurs to improve the enterprise's chance to succeed (United Nations, 2000).

In Australia the objectives of the incubation concept has been reversed away from the primary focus of job creation and economic development towards that of business development. It is argued that this is not to disregard job creation or economic development and that albeit those being vital objectives, their objectives can best be achieved through good business outcome (OECD, 1999: 32).

According to Yan (2004), China's first business incubator, Wuhan Donghu Pioneers Centre, was formally established in June 1987. Since then, business incubators have sprung up in the country. In contrast to the USA incubation models, incubators in China take a lot of social responsibility as they can create job opportunities. According to the statistics in 2001, the 280 business incubators across China had a total of 12,583 tenants and they employed 263,596 people. In addition, 3,994 graduate companies employed 195,502 people. In other words, the incubators directly created 459,097 jobs across a broad spectrum of industries (Yan, 2004: 57).

International case studies on the impact of United Kingdom Business Incubation Centres (OECD, 1999) revealed that business incubation centres have a direct part to play in job creation, diversification of the economy, strengthening of a local economic base, business growth and technology transfer. Business incubation centres also have an impact on property development and more importantly improve the survival rate of small businesses. With over 220 incubation 'environments' in the UK, the survival rate (measured after three years of business operation) for incubated firms was 75% (OECD, 1999: 118). Apart from the contribution on business survival, the study didn't reveal whether the survival rate is in house or out house, for graduates or clients. The explanation needs more clarification whether the performance of the three years

survival was in-house (as a client); out-house (graduate) or a combination of the two. The in-house and out-house does not necessarily mean all clients are resident. There are clients who are not situated in a specific place. However, it means they were once accepted as a client or had exited from the services respectively.

### **3.12 BUSINESS INCUBATION IMPACT ON SOUTH AFRICAN SMMEs**

According to Wyeth, the CEO of Godisa Trust (2004), business incubation proved to be the perfect platform where stakeholders could network and liaise on a very direct level. "In the end, we all have the same objectives, and that is to create an environment where emerging enterprises are supported to become sustainable and profitable businesses. These businesses then go on to have a very positive impact on their communities and the country as a whole" (Godisa, 2004: 5)

Since the incubation concept is embraced in South Africa, incubation centres have been assisting SMMEs. The SEDA 2007/8 report states that there have so far been 59 SMMEs who have graduated from the incubation programs after the normal period of three years. The contribution of business incubation to South African SMMEs was further attested by the CEO of SEDA Technology Programme in the speech during the Global Incubation Day at the DTI Campus on 8 December 2008. In his speech, the acceleration of business growth, business survival and job creation was emphasised. He further stated that about 6000 to 7000 business incubators currently available in the world are highly contributing to SMME challenges. The USA comprises almost half of all these incubators with fast spreading to other countries such as China, Malaysia and Thailand. Referring to his recent visit to these countries, Wyeth (2008) added that only China had a budget actually allocated to business incubation as big as 15 billion dollars per annum. He retorted that South Africa ought to make a significant policy shift in this regard and that the time to do this was now. The importance of investing in the home grown SMMEs as opposed to foreign multinationals companies was also underlined in the speech.

On the other hand, Potgieter (2008), the Chief Director of Innovation and Technology, Department of Trade and Industry emphasised the importance of business incubation

concept to SMMEs for South Africa with regards to business growth, SMME support, equity and gender issues. He further explained that business incubation falls in line with the "Industrial Policy Document" of South Africa. According to him, business incubation is the provision of business support services under a controlled environment. He agrees that business incubation creates the sharing of business premises, financial support, commercialisation, research and diversification of the local economic phase. He emphasised that support on its own is not the creation of dependency at all, but that it must be seen as the provision of value added services to entrepreneurs (Potgieter (2008).

Potgieter (2008) mentioned the success rate of business incubation in South Africa stating the survival rate as close to 80%, though he was quick to also state that this survival rate was actually achieved inside incubation centres. He stressed the need for having the same survival rates for out house (graduates). He attributes this success to the control and supervision rendered to clients and tenants by incubator managers and the sharing of premises and related facilities with incubators. Upon graduation of the client/tenant the support rendered declines or ceases totally. In most cases graduates run their own businesses independently. It is at this stage when the businesses are most vulnerable and their survival rate becomes critical. Therefore according to Potgieter (2008) the success rate of incubatees after leaving the environment of the incubator has not yet been researched in South Africa. He cautioned that it may not yet be time to celebrate the successful impact of the concept of business incubation without the relevant empirical data of success at hand. The writer is in agreement with Potgieter (2008) about the survival of SMMEs. As Potgieter (2008) noted previously, in-house survival reports (SEDA, 2006; SEDA, 2007; SEDA, 2008) do not give much confidence on the impact of business incubators. The survival rate of clients when they are under controlled supervision from experts and other supports such as finance does not give a total sign of independence or success. The highest success would be when such survival report is out house, after exiting incubation centres. This is the time when one can see if businesses can continue trading independently making use of the skill and resource obtained from incubation centres. This is the time when all support is declined

and entrepreneurs show their competence in the outside market. Therefore the survival reports which are based on clients may not be a true measure of success (Potgieter, 2008).

### **3.12.1 Impact statistics from annual reports**

The other sources of impact information about South African Business and Technology Incubators are annual reports previously published by Godisa and recently by SEDA. These impacts include creation of new businesses, business survival and job creation as indicated in the following sections. The (2003/4) Godisa Annual Report on business and technology concluded the following:

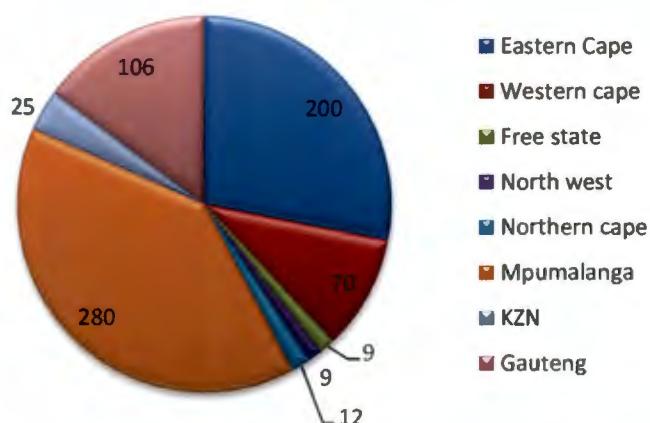
- 428 small businesses were created during the period under review. The highest number of small businesses created was by far in the Mining sector which accounted for 400 businesses. Thirteen businesses were created in the Agro-processing sector; eight and seven were created in the Life Sciences and Chemical sectors respectively.
- 1012 SMMEs were provided with support and services. The highest number (500) supported were from the Mining sector followed by Information Communication Technology and Electronics (ICT& E) with 430. Other sectors Agro-processing and Life Sciences, 23 entrepreneurs from each industry were supported; and in the Chemical sector 16 entrepreneurs were supported. Other incubators accounted for only seven SMMEs created.
- 1812 sustainable direct jobs were created. The majority of the direct jobs (1700) were created in the mining sector. This was followed by jobs created in the ICT&E where 43 jobs were created; 35 jobs were created in the Life Science; 21 jobs were created in the chemical sector and only 13 in the Agro-processing sector. Concern ought to be noted about the low number of direct jobs created in the Agro-processing sector, considering the large proportion of Agro-processing SMMEs created.
- 1058 indirect jobs were created. The highest number of indirect jobs created (500) was in the Mining sector, followed by the ICT&E sector which employed 300. The Chemical sector employed 250, while the Life and Science sectors and

the Agro-processing sector employed 35 and 23 indirect employees respectively. Again the low number of jobs created in the Agro-processing sector is of concern.

- Godisa centres facilitated access to “business opportunities” for clients amount to the value of R110,000,000.
- Godisa centres facilitated access to funding of up to R117,000,000 being for incubatees during commercialisation and the further development of new technologies and or products.
- Godisa centres delivered business mentoring and coaching plus general business support to 2015 entrepreneurs.

The other impact report was found from the Godisa Trust Annual Report (2004/5). The report revealed that there were eight Godisa supported Technology Business Centres (TBC). The eight TBCs under review collectively had a survival rate of 83.9%. This contributed to supporting the theory attributed to a high business survival rate for businesses that had undergone incubation. Prior to this, there were no clear reports with regards to the survival of businesses under the Godisa programme. The CEO and members of the Godisa Trust managed to come up with measurable results comparing the survival rate of business with incubation support and those without the support of incubation. The point of comparison was that the failure rate of SMMEs in their first two years of operation in certain sectors is close to 80% (Godisa, 2004; SEDA, 2007/2008). This general business failure report is taken as a reference in business incubation survival statistics in South Africa (Godisa, 2004). The study conducted by the Trust showed that the incubation intervention has made a significant impact on the survival rate of technology based small enterprises in South Africa. Further, according to the Annual report of 2004/5 Godisa Centres provided an array of infrastructure support and related services to 159 small enterprises. The Godisa Centres managed to support another 121 Innovators and entrepreneurs in turning their ideas into new businesses. In addition a total of up to 82 new businesses were created during the period under review. The report further states that a total of 280 incubatees/clients were supported in South Africa by the Godisa centres during the period of review.

The Godisa (2003/2004) report further stated that the incubatees/clients were differentiated from SMMEs in that some of the enterprises were not yet registered as formal businesses at the time. These businesses formed the flow of future small enterprises in the pipeline of small enterprise creation by the centres. The report also cited the contribution of the centres with regards to job creation. The incubatees support resulted in the creation of 711 direct and indirect jobs. Refer to Figure 3.8 below.



**FIGURE 3.8: NUMBER OF JOBS CREATED PER PROVINCE**

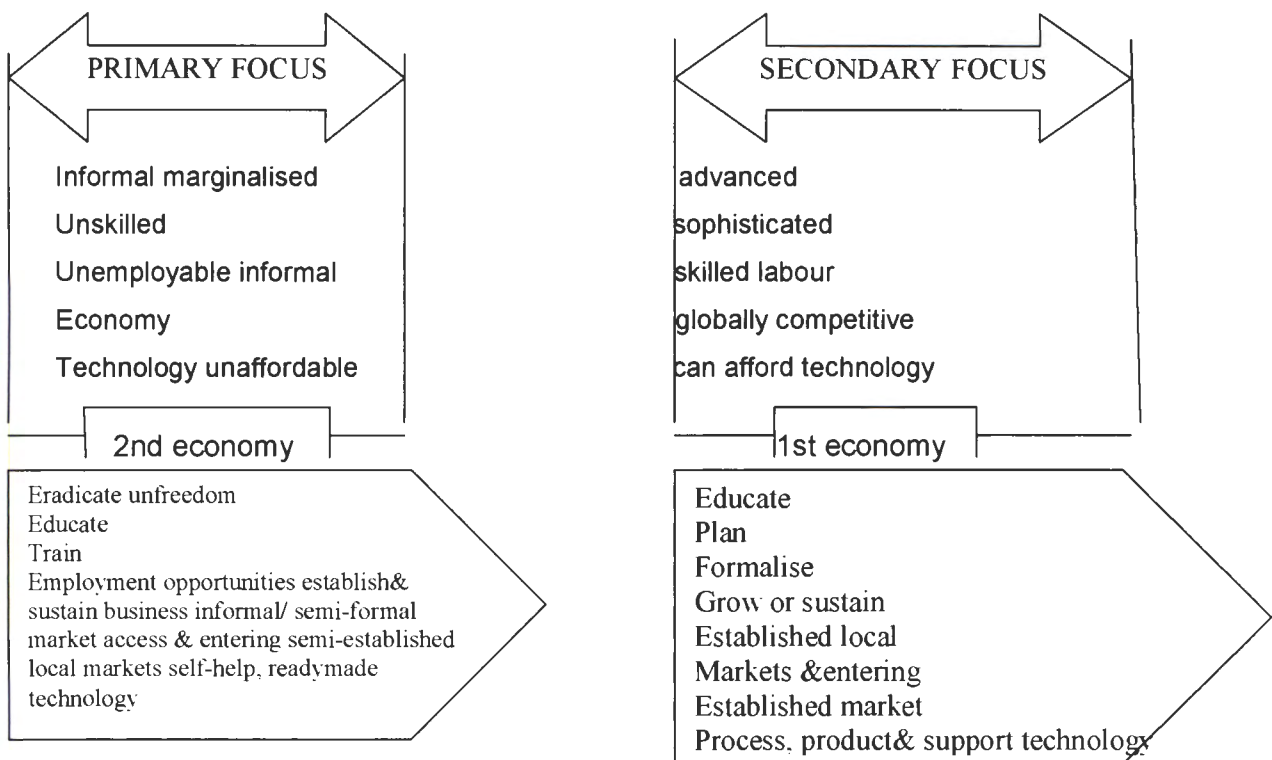
Source: Godisa Annual Report (2003/2004)

It was also noted that Godisa centres assisted SMMEs raise a total amount of R93,313,000 during the period 2004/5. The 2004/5 Annual Report was important in having alluded to the support required by the second economy of South Africa made up of businesses that operate in the informal marginalised sectors of the economy. Albeit the ultimate objective of the Godisa Trust being that of wealth creation through the support of small enterprises, mainly in the high technology sector, the Trust also provides a significant amount of support to entrepreneurs in the marginalised communities and in the relatively low technology arenas.

According to The Godisa 2004/2005 Annual Report the impact of business incubators was not limited to formal but also to informal businesses which are referred to as “second economy” in South Africa. South Africa is made up of a dual economy being

that of the first and the second economies (Paton, 2004: 23). The first economy boasts of high technology; facilities and infrastructure whereas the second economy is characterised by low technology, low skills and is marginalised (South Africa. Department of Trade and Industry, 2007: 19). The second economy or informal economy is that which is “excluded from the economic mainstream” (South Africa. Department of Trade and Industry, 2007: 10).

A strong economy is a positive attribute considering that this will allow assistance of the informal economy by way of technology transfer, infrastructure sharing and the enhancement of rural enterprises.



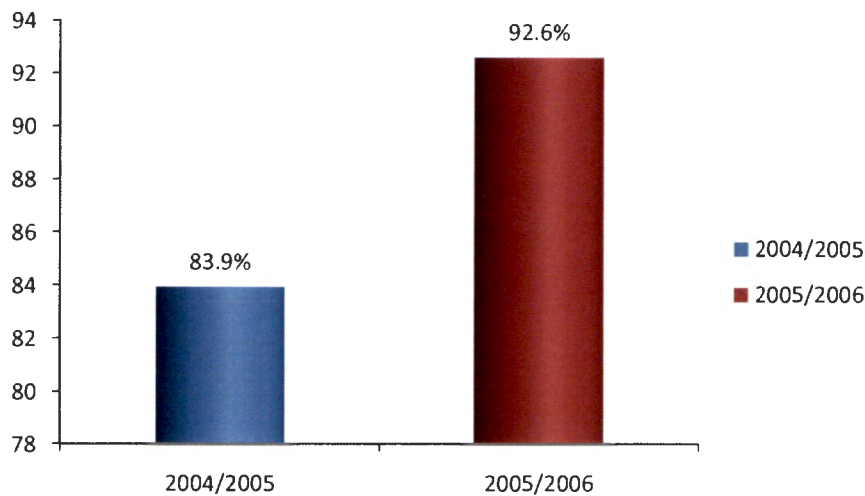
**FIGURE 3.9:** Economic phase – 2nd through to the 1st economy

Source: SEDA Annual Report (2006/2007)

A good example of support of incubators to the second economy is the case of Timbali Technology Incubator. The 2004/5 Godisa Report points out how the Timbali

Technology Incubator went on to increase the income of a rural unskilled woman from R875 per month to R11,000 per month. This was attributed to the assistance rendered by the Timbali incubator plus the effort of other government organisations, but more so due to the women's positive will to perform and work hard. This contribution to job creation by Timbali in the agricultural sector is purely in the lower skill category. The agriculture and agro processing sector is the most labour intensive sector in the South African economy (NIPF, 2007: 26). Another example cited is that of the support which was given by Zenzele Technology Demonstration Centre to a group of local miners in the Northern Cape. Through the support of the incubator the group managed to improve the quality of the copper extracted and processing. The improved product through superior technology, training and skills led to the sky-rocket of earnings from a meagre R50 per ton to R200,000 per ton.

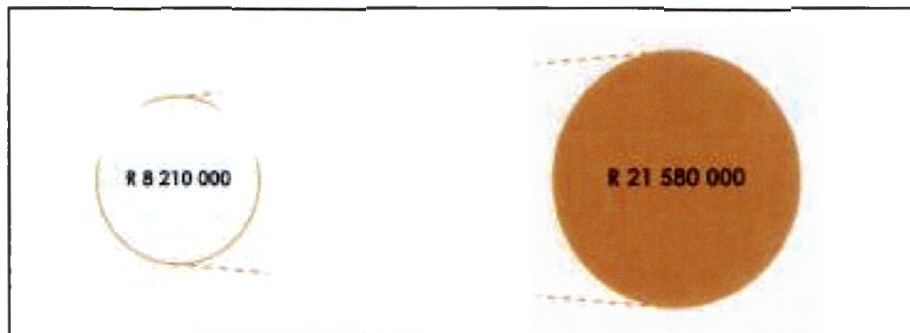
The Godisa Annual report (2005/6) in South Africa indicated that there were 11 support centres created under the Godisa Trust. Plans were under way to create another centre that would bring the total number of incubators in South Africa to twenty three. An important factor mentioned in the report concerns the Key Performance Indicators (KPIs), which continues to augment the survival rate of enterprises supported by incubators. During the 2005/2006 financial year, the survival of SMMEs supported by the programme in their first year of operation was an average of 93% (Godisa Trust, 2005/2006). Refer to Figure 3.10.



**FIGURE 3.10: AVERAGE SURVIVAL RATES OF INCUBATED SMMEs**

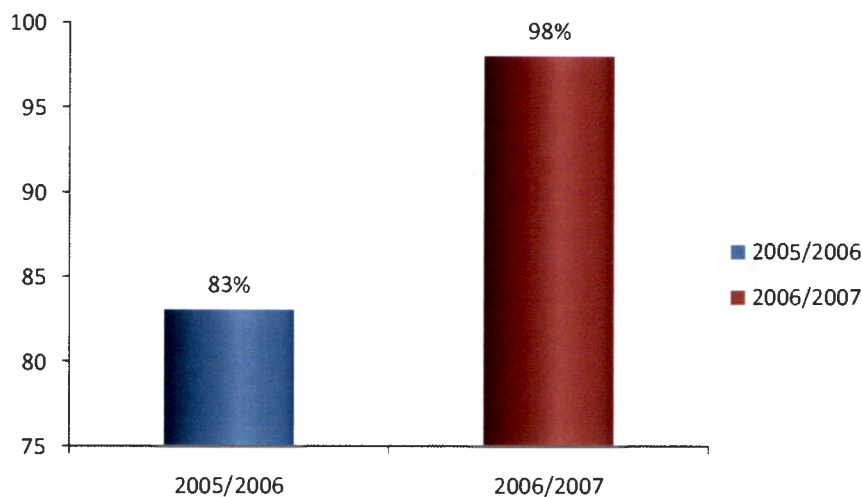
The Godisa Trust (2005/2006) further states that in their second year the survival rate percentage was 83%. It was believed that improvement in the survival rate of SMMEs was being made considering that South Africa generally has a very high failure rate for start-up small enterprises, which are mostly expected to go under in the first or second year of operation. During the 2005/6 financial year, 197 small enterprises got various infrastructure and business support services. A total of 52 new small enterprises were formed which resulted in the creation of 824 jobs.

On 1 April 2006, Seda Technology Programme (STP) was created through the merger of the activities of the GODISA Trust and the National Technology Transfer Centre (NTTC) and the DTI Technology Advisory Centre (TAC) (SEDA Annual Report, 2006/7). Included in the mandate of the new organ was the responsibility for technology transfer and incubation services and support for small enterprises. Executive Manager, Wyeth, in his remarks contained in the SEDA (2006/7) Annual report, stated that the various incubators or Technology Business Centres were able to increase the turnover of businesses supported by the centres from R8.21 million to R21.58 million. This represented a 162% increase in the total turnover of the businesses supported by the programme. This has been illustrated in Figure 3.11.



**FIGURE 3.11:** GROWTH IN SMME ANNUAL REVENUE

The 2006/7 SEDA Annual Report revealed that there were a total number of 98 new SMMEs created during the 2006/7 financial year. The report showed the highest numbers of businesses were created in the Agriculture and Agro-Processing sector. The lowest numbers were recorded in the Small Scale Mining and Bio-Tech Life Sciences sectors. During the financial year the average survival rate for small enterprises in the first year of operation/trading was a staggering 98%. In a country such as South Africa where as much as 80% of all start-ups fail in their first two years of establishment, this is phenomenal. SEDA Technology Programme attributes this rate, which is 15% up from the previous year, when only 83% survived their first year, to improvements in the incubatee selection process of centres as well as tighter control on the provision of services to those small enterprises (SEDA, 2006/7). Refer to Figure 3.12.

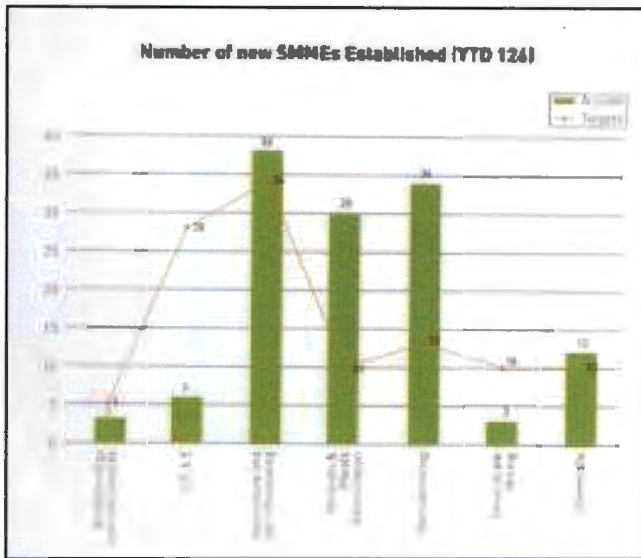


**FIGURE 3.12: SURVIVAL RATE FOR SMMEs ESTABLISHED 2006/7**

Business incubation is one of many instruments in government’s “toolbox” for fighting poverty and addressing the challenges of unemployment (SEDA Annual Report, 2006/7). It was estimated that over 146 new jobs were created during the 2006/7 financial year. The highest number of jobs was created in the Agriculture and Agro-Processing sector whilst the lowest number of jobs created was recorded in the Small Scale Mining and Bio-Tech and Life Sciences sectors of South African Incubators.

The collective turnover of all SMMEs directly supported by the TBCs significantly increased from R67,889,751 to R105,206,118. This represented a 55% growth in turnover. This was mainly driven by the construction incubator, while at least 10% of the turnover of certain SMMEs amounting to R10,576,388 was from exports mainly to the UK and Mozambique.

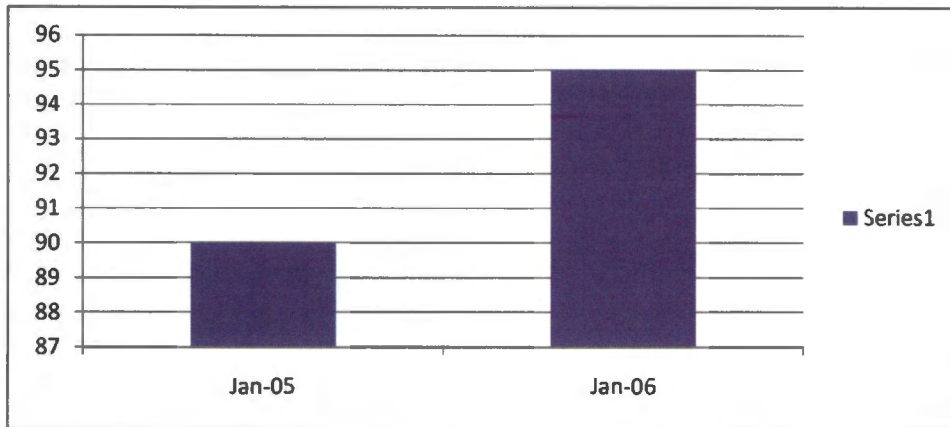
During the 2007/8 Financial Year, 642 clients (mainly SMMEs) were assisted. Seventy-four percent of all SMMEs supported by the STP survived their first year of operations, and 83% survived their second year (SEDA, 2007/8). The highest number of jobs created was in the Agriculture and Agro-Processing sector. A remarkable increase in the number of new SMMEs was also recorded in the Manufacturing sector and the Minerals and Metals Beneficiation during the 2007/8 period. Refer to Figure 3.13 extracted from the SEDA 2007/8 Annual Report.



**FIGURE 3.13: NUMBER OF SMMEs ESTABLISHED IN 2007/8**

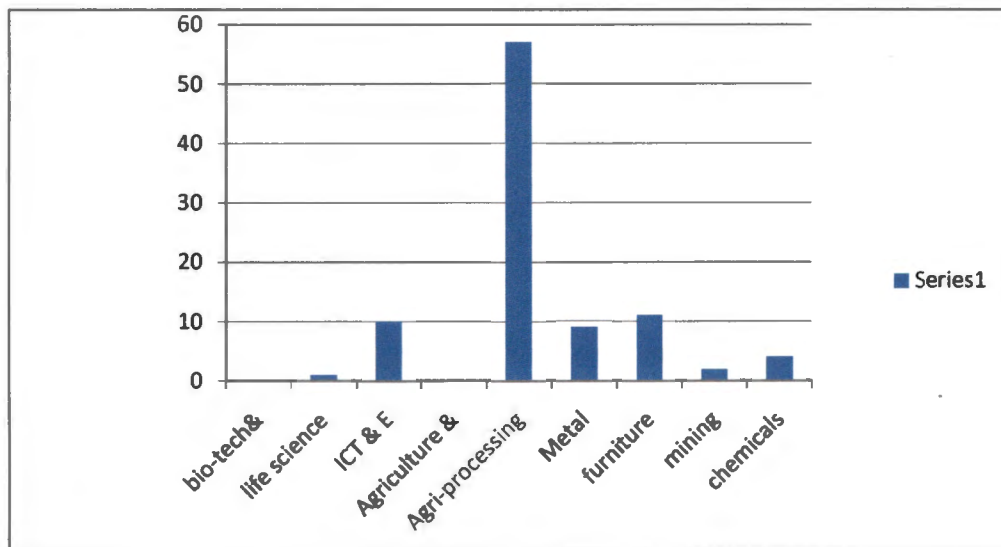
It was reported in the SEDA 2007/8 annual report that through the incubation centres there were 6,115 jobs created during the 2007/8 financial year. The highest number of jobs created was recorded in the Agriculture and Agro-Processing Sector, which accounted for 3,855 jobs. This was followed by the Construction (Building and Civil) sector, which accounted for 1,622 jobs.

The latest survival report and job creation from SEDA shows successes as high as 90 to 95% as the graphs below show (Figures 3.14 and 3.15).



**FIGURE 3.14: SURVIVAL RATES FOR SMMEs**

**Source:** SEDA Annual Report (2006/2007: 23)



**FIGURE 3.15: TOTAL NUMBER OF JOBS CREATED PER SECTOR IN 2006/2007**

**Source:** SEDA Annual Report (2006/2007: 23)

### **3.13 CONCLUSION**

In this chapter the basic concepts of entrepreneurship and SMME were discussed. The discussion was based on the common SMME terms on which most entrepreneurial activities are expressed. These included classification, economic contribution and challenges. SMME have both financial and non-financial challenges which normally impede their full growth potential. These challenges have a deterring effect especially for start-ups and new ventures. Start-up companies enter into a market with little or no experience and resources which make them to be less competitive and forces them to exit the market. There seems a common understanding in government on the role of support and intervention programmes which can augment such experience and resource gaps in start up companies. As a result there are many financial and non-financial targeted business support programmes available in many countries, including South Africa. All these support programmes are aimed at filling specific gap in small businesses. However, the outcome of assisting SMMEs in South Africa is not to the expected level. The challenges and failure of SMMEs is still high in many countries including South Africa. The recent support intervention programme is the incubation model which most countries have now accepted as an integrated support programme with a controlled environment. There have been positive results recorded in many countries especially in developed countries such as the USA, UK and Germany. There have also been some positive results of the same incubation model in South Africa since its introduction about seven years ago. Annual reports from the Small Enterprise Development Agency (SEDA) have shown encouraging results as discussed in the last part of this review.

The next chapter (Chapter 4) will give a comprehensive account of the problem being studied with emphasis on business failure and the intervention provided by business incubation. The research questions, hypotheses and rationale to the problem will also be covered.

## CHAPTER 4

### PROBLEM STATEMENT, RESEARCH QUESTIONS AND HYPOTHESIS FORMULATION

#### 4.1 INTRODUCTION

The research problem will be discussed in this chapter. This will give readers an understanding of how the research problem was picked and how it relates to the current business sector of South Africa. The rationale for the research and the hypothesis formulation will also be revisited in depth.

#### 4.2 PROBLEM STATEMENT

SMMEs are considered economic engines for both developing and developed countries in generating GDP, job creation, poverty alleviation and income distribution (Nieman *et al.*, 2003; Longenecker *et al.*, 2003; Tesfayohannes, 1998; World Bank Report, 2001).

Albeit SMME contribution, they face mounted challenges with regards to sustainability. It is estimated that 8 in 10 SMMEs in South Africa fail within the first two years of operation (Godisa Trust, 2004, SEDA Technology Report, 2006/2007). A study by Van Eeden *et al.* (2003: 13) from the University of Port Elisabeth on their comparative study of selected SMME problems in South Africa estimates the failure rate of SMMEs as being from 70 to 80%. Barrow *et al.* (2005) in their study in the USA on start-up businesses indicate that only 28% of all start-ups involved in the study survived as independent entities. "Over half of all independently owned ventures will have ceased trading within five years of starting up" (Barrow *et al.*, 2005: 11). In the year 2001 alone, 12,457 businesses ceased operation in the USA (Shepherd, 2003: 318). Nearly one-third of firms in Europe and the USA cease to trade in the first three years increasing to nearly two-thirds within 10 years (Barrow *et al.*, 2005: 111). Despite the amount of research done on small enterprise failure, the challenges faced by SMMEs remain enormous and unabated, especially in developing countries.

According to research conducted by GEM, support for early stage entrepreneurial activities in South Africa which covers start-up businesses and other businesses established from three to five years, is not sufficient to sustain the growth rates the country (South Africa) requires to fuel its Accelerated Growth and Development Plan (ASGI-SA). The GEM report was released by the University of Cape Town, Graduate School of Business (GSB). Under the Total Early Stage Entrepreneurship Activity (TEA) of the year 2007, South Africa was ranked 30th out of 42 countries, with just 5.29% of its population being involved in economic activities. The economically active population dropped from 9.4% in 2001, the first year that South Africa took part in the survey (*Enterprise*, 2007: 26–27).

The study commissioned by the European Union (1999) indicated that “the survival rate of firms reared in an incubator environment was significantly higher than the business success rate amongst the wider SME community” (OECD, 1999: 71). In fact the research further indicated that “the effectiveness regarding incubation in Organisation for Economic Cooperation and Development (OECD) countries, the survival rate of incubated firms range from approximately 80% to 85%” (OECD, 1999:71). The research also indicated that approximately 90% of all start-ups set inside a business incubator are still active three years later, and the public cost of creating jobs inside incubators was low compared with other public means and programmes. The study further revealed that the survival rate is high, and tends to rank above 85%, in countries with strong support from the government and tight links with the university/tertiary systems (OECD, 1999). The formations of business incubators are some initiatives undertaken in the world to promote and support the development of small to medium enterprises.

This incubation concept is also widely accepted in South Africa. Business and Technology Incubation Centres have been established with objectives such as transferring technology, increasing business survival and job creation. The question of the role played by business incubation centres in South Africa is raised in the context of these problems in the SMMEs sector. This study therefore seeks to find out the role that

incubation centres play with regards to the increase in the number of new business entrants into the economy, business survival and job creation for South African SMMEs.

The challenge goes further if the incubation concept can be applied for the lower level of the economy (second economy) such as the informal sector, rural and marginalised where most of the economies of developing countries are based. South Africa has a strong first economy (Godisa, 2006). "South Africa has a relatively sophisticated infrastructure including an extensive transport network, information and communications infrastructure and a highly advanced financial and banking system" (South Africa. Department of Trade and Industry, 2007: 19). How this strong base can be used to the rural community where the skill level is very low is an important question. Strong first economy linked with SMMEs and informal sector can contribute for sustainable development and poverty alleviation. If incubation cannot go further to SMMEs, informal economy and rural community, where there is low skill level, its advantage will be very minimal for developing countries. Therefore how incubation can assist in transferring technology and business skills to the rural entrepreneurs is worth to be studied.

#### **4.3 RATIONALE FOR THE PROBLEM**

Business ventures are either created by proper opportunity identification or as necessity ventures. Opportunity entrepreneurs identify a certain gap in the market. They clearly check any product or service which is not served by the current market. Ventures of this nature have a great potential for growth. These ventures do not remain small rather grow. However, they can start small and grow big though some authors such as Nieman (2008) argues that small businesses are not entrepreneurial and never grow. This is because they see small businesses not growing in terms of finance, strategy, and infrastructure unlike entrepreneurial ventures. However, every business can start small and grow. If one business does not grow, it shows there are problems such as opportunity identification, resources, innovation and the business model in general. In the current competitive market, businesses do not have as much creativity and innovation to keep them competitive in the long run. In such cases small businesses can be termed as not entrepreneurial. These are businesses that initially started to

satisfy a certain necessity (necessity entrepreneurs). Whatever the argument, both entrepreneurial and necessity ventures contribute to the economic development of any country. The small business sector has a great potential of income distribution, job creation and poverty alleviation. As discussed in the literature review, the small business sector is an economic engine for both developed and developing countries. The Department of Trade and Industry has put strategies in place “to increase the number of new ventures ... and create an enabling environment to ensure the survival and growth of SMMEs in South Africa” (Van Eeden *et al.*, 2003:13). Despite all the efforts made, the desired objectives have not been met by the DTI. The DTI has admitted its failure in providing necessary support in South Africa (Van Eeden *et al.*, 2003: 13). As a result, it still encourages the introduction of new business support strategies such as the business incubation model (Potgieter, 2008). The success of the incubation model is still under question in South Africa. This is an indication that it is still important to engage in more research to come up with better support strategies to address the challenges of SMMEs.

The challenges faced by small businesses have been acknowledged by the South African government and private sector. Many initiatives have been put forth by the South African government to assist SMMEs. Organisations such as SEDA, Khula Finance Guarantee, Business Partners, Independent Development Cooperation (IDC), Umsombovu Youth Fund (UYF) are some of the many initiatives. Private banks also assist businesses in different ways. In general support programmes such as financial assistance, training, mentoring and coaching, preparation of business tool kits, software and support desks contribute a lot in the South African small businesses arena. All these interventions assist SMMEs and other businesses tackle their varied challenges.

The incubation concept appears to be contributing a lot towards start up challenges of most businesses in many countries. The impact of such integrated support in infrastructure and expert advice has been helpful in both developing and developed countries.

South Africa has accepted the same international business incubation model and resources have been made available for the establishment of incubation centres in different industries in most of the provinces since 1999/2000 (SEDA Annual Report 2006-2008). The first incubation centre, Softstart Incubation Centre was established in 2001. Softstart targets businesses in the IT sector. Since 2001, other incubation centres have been set up (approximately 23) in industries such as agriculture, mining, manufacturing, life sciences, chemicals and bio-fuels. Similar to other countries there are reports of success in terms of better survival, direct and indirect job creation, wealth creation and poverty alleviation. However, there has not been any scientific research done on the impact of incubation centres in South Africa. This research will be a pioneer contribution to the body of knowledge not in proving the contribution of business incubation model in terms of business survival or job creation in the world, but rather by ascertaining empirical evidence on the impact of business incubation in an African context (developing countries) specifically in South Africa.

According to Mr Ravjee, Senior Manager, SEDA Technology Programme, business incubation in South Africa is in its infant stage, being not more than seven to eight years old. Government bodies and business support agencies such as the DTI and SEDA need to know if the incubation model is really working for South Africa. Studies which can reveal positive and negative impacts are very important at this time. Other lessons which can be revealed from such studies will also give direction to the whole incubation process and application such as type of industries, mentors and coach selection, client screening, client services and graduation policies, continuous subsidies and financial support. This is the right time policy makers need information about the impact of incubation centres. According to the 2006/2007 Annual Report of SEDA, there was R16,840,713 total committed funds for the establishment of projects and SMMEs. In 2007/2008, a total of R14,000,000 was made available and R12,838,038 was approved to finance 34 different projects. For the year ended March 2008 alone, the SEDA Technology Programme (STP) spent a total of R69,567,037. Financial figures such as these will raise questions such as; should government continue using public (taxpayers) money for the incubation programmes? Is the investment worthwhile? Is the cost

analysis, such as cost-per-job created effective? Can government use this money elsewhere and bring better benefits to the public? Are there any lessons learned so far which can be guidelines for other upcoming incubation centres in South Africa? These questions will clearly indicate if the SEDA technology programme is delivering according to the mandate given from the DTI on small business development specifically the role of business incubators.

In addition studies like this will also provide information on whether business incubation is a better business support model compared to other existing models in South Africa, and if so; why? Currently South Africa is engaged in the establishment of more incubation centres with a vision for each region and municipality to launch incubation centres. This is consideration of the current entrepreneurial culture, aspiration for community development and poverty levels. Many provinces have included the establishment of incubation centres in their Local Economic Development (LED) strategies. The study, contained in this research, will be good reference for provincial authorities of South Africa and other developing countries in Africa.

#### **4.4 RESEARCH PROBLEM, RESEARCH QUESTIONS AND HYPOTHESES**

##### **4.4.1 Primary problem**

The primary problem of this research is the high failure rate of SMMEs in South Africa. This failure mostly occurs in the first two years of operation, introduction phase of the business life cycle. These failures are not similar to bankruptcy or decline which a business faces later after the introduction and growth phases of a business lifecycle. The later challenges are common if businesses that do not focus on continuous innovation to exploit opportunities and fail to be competitive. The failure concept which is discussed in this study is mainly linked to lack of resources (financial and non-financial) which start-up businesses face during their early stages of operation.

The approach is therefore to come up with strategies of overcoming the resources shortage and reduce the failure rate or increase business survival. Can any intervention or support improve the survival rate of businesses? Can any financial or non-financial

assistance contribute to the continuous successful trading of start-up businesses? Is it possible to increase the business life of companies beyond two years to three and more years? These are the real questions of survival which need to be addressed as the primary objective of this study. The objectives related to the primary problem are outlined below.

#### **4.4.1.1 Objectives related to the primary problem**

- To analyse the rate of business survival in incubated firms in South Africa.
- To investigate if incubated firms survive beyond the first two years of operation.
- To investigate if business incubation is a better support model than other government support services and schemes.
- To investigate what makes business incubation a better business support model than other government support services and schemes.
- To reveal good incubation practices learned from other countries in South Africa, specifically in the North West province and in other African countries.
- To ascertain whether the concept of business incubation is internationally and nationally a viable concept.

#### **4.4.1.2 Research questions related to the primary problem**

- What is the rate of business survival in incubated firms?
- Do incubated firms survive beyond the first two years of operation?
- Is business incubation a better business support model than other business support models such as government support services and schemes?
- What makes business incubation a better business support model than other business support models such as government support services and schemes?

#### **4.4.2 Secondary problem**

As a secondary objective the study aims to ascertain the performance of SMMEs which attribute their survival to the incubation support model. This is beyond survival. For instance how are these businesses performing in terms of job creation and growth of annual revenue? A business can just survive with no apparent growth in terms of the number of employees and revenue or profit. A business can remain “a one man show” and be considered surviving. The apparent question posed will be whether such businesses are just surviving and not thriving. Applegate and Harreld (2009: 3–4) from the Harvard Business School vividly state this by saying; “Don’t just survive – Thrive” Therefore the following objectives are set as secondary objectives:

##### **4.4.2.1 Objectives related to the secondary problem**

- To investigate how incubated firms contributed to job creation as compared to prior joining the incubation centres.
- To explore how incubated firms performed in terms of annual revenues as compared to prior joining the incubation centres.

From the above secondary problem the following hypotheses are formulated.

##### **4.4.2.2 Hypotheses**

###### **Hypothesis 1:**

**H<sub>0</sub>:** There is no difference between the number of jobs created in incubated firms before and after joining incubation centres.

**H<sub>a</sub>:** There is a difference between the number of jobs created in incubated firms before and after joining incubation centres.

###### **Hypothesis 2**

**H<sub>0</sub>:** There is no difference between the gross revenue in incubated firms before and after joining incubation centres

**Ha:** There is a difference between the gross revenue in incubated firms before and after joining incubation centres

#### **4.5 CONCLUSION**

The high failure rate of SMMEs is the main problem of this research. Increasing the survival rate of these SMMEs is crucial. By increasing the survival, it is also important to see businesses growing in terms of strategy, finance and infrastructure. Business incubators' intervention in SMMEs is expected to bring such growth in their life cycle. Therefore, in this chapter hypothesis and research questions related to the role of incubation centres in assisting SMMEs is dealt. The rationale and objectives of the study are also discussed. In the next chapter, the research methodology will be discussed.

## CHAPTER 5

### RESEARCH METHODOLOGY AND DESIGN

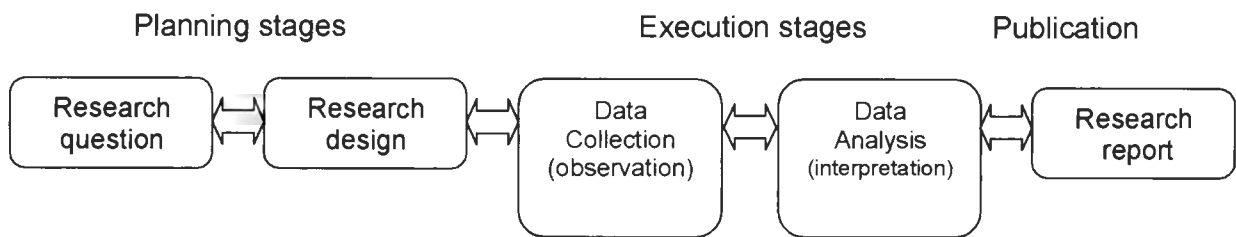
#### 5.1 INTRODUCTION

The major part of this study is business incubation and its contribution for business survival and job creation, which was also recounted in the literature review chapter. The last part of the literature review, further narrated the major impacts of business incubation by examining secondary sources from international and South African incubation players. These sources included research series and annual reports. The second empirical evidence will be from primary sources. In order to collect data from primary sources, certain research designs and procedures were followed. This chapter gives all steps and procedures followed to collect primary data. The primary data is collected from incubation professionals (international) and incubation centre managers, incubator clients, incubator graduates and other officials involved in government incubation programmes such as SEDA Technology of the Department of Trade and Industry (South Africa). The different methods and designs used in this study are explained in the following sections.

#### 5.2 RESEARCH DESIGN

Sellitz, Jahoda, Deutsch and Cook (in Blanche, Durrheim and Painter, 2006: 34) define a research design as “the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure”. Research design is a “strategic framework for action that serves as a bridge between research questions and the execution or implementation of a research” (Blanche *et al.*, 2006: 34). Other scholars (Bickman, Rog and Hendrick in Blanche *et al.*, 2006: 35) relate research design as “architectural blue prints” which are fixed in advance to lead the whole construction of a building. Although research designs are like blue prints, they argue one can make changes in research designs in the process unlike architectural blue prints. They further argue that the research can be a flexible and non-sequential approach. This is especially true in a qualitative type of research (Blanche *et*

*al.*, 2006: 34). The research process is shown in a diagram illustrated in Figure 5.1 below.

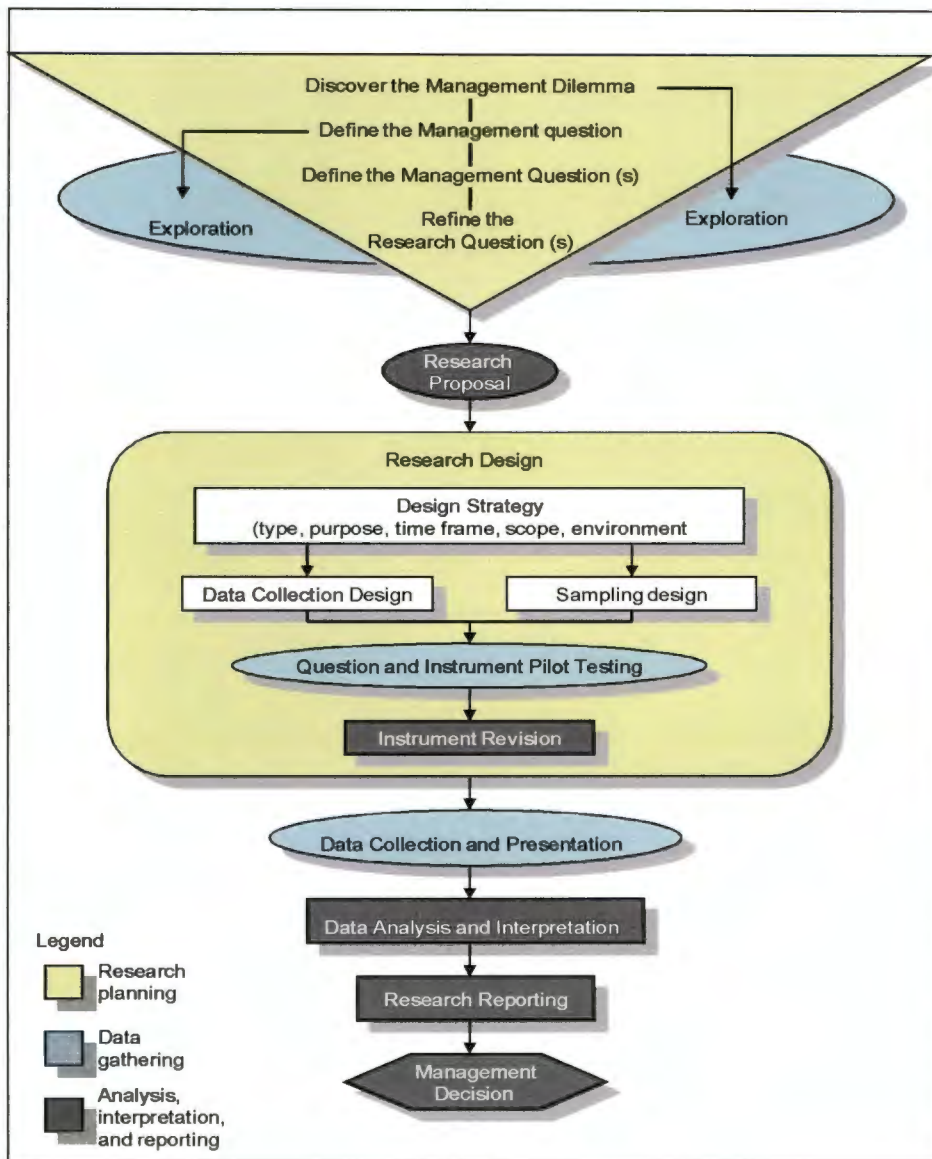


**FIGURE 5.1:** THE RESEARCH PROCESS

Cooper and Schindler (2004: 134) summarise a research design with the following points:

- an activity and time-based plan
- always based on research questions
- includes the selection of sources and type of information
- is a framework for specifying the relationships among the study's variables
- outlines procedures for every research activity

Cooper and Schindler (2004) give a more vivid explanation of the research process which has been followed by the writer in this study (refer to Figure 5.2).



**FIGURE 5.2: THE RESEARCH PROCESS**

**Source:** Cooper and Schindler (2004: 61)

Descriptors in research design tell the nature and type of design used in a specific research (Cooper and Schindler, 2004). Table 5.1 shows the descriptors of research design.

**TABLE 5.1: DESCRIPTORS OF RESEARCH DESIGN**

<b>Category</b>	<b>Options</b>
The degree to which the research question has been crystallised	<ul style="list-style-type: none"> <li>• Exploratory study</li> <li>• Formal study</li> </ul>
The method of data collection	<ul style="list-style-type: none"> <li>• Monitoring</li> <li>• Interrogation/communication</li> </ul>
The power of the researcher to produce effects in the variables under study	<ul style="list-style-type: none"> <li>• Experimental</li> <li>• Ex post facto</li> </ul>
The purpose of the study	<ul style="list-style-type: none"> <li>• Descriptive</li> <li>• Causal</li> </ul>
The time dimension	<ul style="list-style-type: none"> <li>• cross-sectional</li> <li>• longitudinal</li> </ul>
The topical scope, breadth and depth of the study	<ul style="list-style-type: none"> <li>• case</li> <li>• statistical study</li> </ul>
The research environment	<ul style="list-style-type: none"> <li>• field setting</li> <li>• laboratory research</li> <li>• simulation</li> </ul>
The subjects' perception of research activity	<ul style="list-style-type: none"> <li>• actual routine</li> <li>• modified routine</li> </ul>

**Source:** Cooper and Schindler (2004: 135)

This study is clearly formal as “it begins with a hypothesis/research question and involves precise procedures ... and finally to test the hypothesis or answer the research questions” (Cooper and Schindler, 2004: 134), unlike exploratory studies which aim to develop hypothesis or questions for further research. The research needed full communication or interrogation of respondents in the process of data collection with a

cross sectional time limit (refer to the research descriptors in Table 5.1 above). The longitudinal type of study seems more feasible. However, due to time and cost constraints, the benefits of the longitudinal study are assured by asking incubation managers, clients and graduates about their past performance in terms of the number of employees and gross income (Cooper and Schindler, 2004: 137). The researcher is convinced that people can remember the differences of their business performance in terms of their employees and annual gross income before and after joining incubation centres. Business owners can easily declare whether the number of their employees and gross income is decreasing or increasing even where they fail, to remember or keep records of the exact amount of their gross income or number of employees before and after joining incubation centres. These are not peoples' attitudes that can change in a moment and be forgotten after some time. Cooper and Schindler (2004:137) still argue it is possible even to get previous attitudes of people in a cross sectional study and reap the benefits of longitudinal study as explained above. Therefore cross-sectional type of research design is used in this study.

### **5.3 TARGET POPULATION**

Blanche *et al.* (2006: 133) define population as “the total collection of elements about which we wish to make some inferences. The population is the universe, the larger pool from which samples can be drawn and generalisations be made from findings”. Theoretically speaking, the population encompasses all the elements that make up our unit of analysis” Blanche *et al.* (2006: 133). The population is an abstract category in some instances especially when the population is sizeable. This is because it is not all the members of a population that will be accessible to a researcher for instance. From the total population, the members which a researcher can reach are referred to as a sampling frame. On the other hand, if the population is small, it is easy to select sampling elements. For instance “all students registered in North-west University in 2009”.

In this study, there are three categories of respondents. The first category is international respondents which included incubation professionals and managers. The

second category included all 23 South African incubation centre managers under SEDA programme. The third category included all SMMEs which have undergone / undergoing the incubation programme from any of the 23 incubation centres in South Africa since business incubation started in South Africa (2001) and currently running under SEDA Technology Programme which included:

- incubator graduates that have been under a controlled assistance programme for a certain period by the incubation centres and exited the incubation programme
- incubator clients (resident and non-resident), which are currently getting assistance from incubators

Apart from the beneficiaries of incubation (graduates and clients), the study will try to understand the perceptions of the service providers and incubation managers, (the representatives from the incubation centres as well as government officials from the Department of Trade and Industry specifically SEDA Technology Section.

### **5.3.1 Selection of international respondents**

International respondents which included economic development professionals and incubation managers from about 35 countries gathered for the National Business Incubation Association conference held in Kansas City, USA from 19–22 April 2009. The actual number of conference attendees was not exactly known though it was estimated by the organisers that there were about 400 attendees. There was no selection of specific respondents from the conference attendees. Conference attendees who were available and convenient to the researcher participated in this study. On top of that there were few incubation professionals such as the CEO of the national business incubation association selected for interview.

### **5.3.2 Selection of incubation centres/incubation centre managers (South Africa)**

Incubation centre managers are the second category of respondents in this study. It is proposed to gather information from the entire target population of incubation centres that are currently functioning in South Africa under SEDA. Currently there are 23

incubation centres until the questionnaire were sent out in May 2009. Data were collected from all units of the target population (census) and therefore sampling is not done. The advantage of use of census over the use of sampling in this research can be justified because

- the population size is small, and
- there is high variability within the population

Cooper and Schindler (2004: 164) confirm that “when the population is small and variable, any sample we draw may not be representative of the population from which it is drawn”. The researcher’s choice in the South African incubator situation therefore dictates a census is appropriate because incubators are in different industries, geographical area and set up. The industries include Agriculture, Chemicals, ICT & Electronics, Life Sciences, Mining, Construction and Manufacturing. These incubators are located in various regions of South Africa with different economic, geographic and demographic outlooks. Therefore, all 23 incubators (incubation centre managers) are the subject of this study though incubators which started operation prior to 2006/2007 give more information especially on graduate survival compared to the newly established incubators which can only reveal client survival, sometimes referred as ‘in house’.

### **5.3.3 Selection of incubatees/SMMEs (South Africa)**

The third group involved in the data collection were South African incubator clients and graduates. The updated information on the number of individuals and businesses (SMMEs) which have been under incubation programmes since incubation started in South Africa is not readily available. The number of surviving SMMEs and those that have failed is not well accounted for. It means the total number of clients and graduates of South African incubators, which are the subject of this study, are not known. As a result non-probability sampling was used in the selection of clients and graduates. Without clear information about the total number of the population, it is difficult to estimate the sampling interval. An attempt was made to reduce the bias due to non-probability sampling by distributing the questionnaires to all incubation managers of the

23 incubation centres located throughout South Africa. These Centre managers contacted clients and graduates at their convenience (convenience sampling). The managers and the researcher distributed questionnaires for those reachable by email and fax and training sessions. Many other graduates were not contacted due to lack of address changes and communication gaps.

Another reason to use non-probability over probability sampling is cost and time. "Probability sampling clearly calls for more planning ...to ensure each selected sample is contacted, which is an expensive activity". "Carefully controlled non-probability samplings often seem to give acceptable results" (Cooper and Schindler 2004: 191). Although these authors express the superiority of probability sampling, they did not hide the 'breakdowns' in its application. "Carefully stated random sampling procedures may be subject to careless application of the people involved" (Cooper and Schindler, 2004: 191). They further justify the application of non-probability sampling when "the total population is not available for study in certain cases" (Cooper and Schindler, 2004: 191).

In addition to distributing questionnaires to centre managers, the researcher visited some incubation centres as part of data collection. During the day(s) of visit to each of the incubation centres, same questionnaires for the SMMEs were distributed to all those participating SMMEs in the incubation centre, and data were collected. Some of the participants in the incubation centres had been operational for more than two years, and some were new. The data collected through this method assisted in ensuring that enough of responses were collected. The inclusion of new clients gave the researcher a chance to understand the issues of newly joined incubates, even though the detailed study was conducted only for those SMMEs who received some assistance from incubation centres for more than two years. The inclusion of the newly admitted clients gave the researcher an opportunity to see a trend with regards to the increase or decrease in the number of clients since the inception of the South African incubation programme to date. The result gives an indication on whether incubation centres had grown or vice versa in number and size.

#### **5.4 MEASUREMENT/INDICATORS**

Measuring instruments such as questionnaire, semi-structured and un-structured interviews and observation were used in this study to understand the dynamics of survival and job creation of SMMEs. Carefully planned and properly designed measuring instruments were used for the collection of the required data and completed/filled by the target respondents.

#### **5.5 DATA COLLECTION**

Cooper and Schindler (2004: 135) classify data collection as a monitoring and communication process. In monitoring the researcher does not need any response from subjects but inspects activities or nature of a material. In the interrogation/communication type of data collection, however, the researcher questions the subjects through interview or telephone conversation, self administered or self reported instruments sent though the mail. There is no simple answer to which is the best data collection instrument in a certain study. The nature and purpose of the research will just give guide to which method to use (Blankenship and Breen, 1993: 122).

In this study the communication type of data collection is proposed. This communication type of data collection includes interviews and questionnaires. This decision was made after similar studies and their data collection was analysed. The nature of the study required communicating and getting responses from incubation centre managers, clients and graduates about the impact of incubators on variables such as business survival and job creation. In this study both quantitative and qualitative types of data collection have been used.

##### **5.5.1 Quantitative methods**

Information from SMMEs that had been part of the incubation system since 2001 in South Africa was collected during the quantitative part of the research. A questionnaire with closed and open-ended questions was used in the study to gather information from

the owners of SMMEs (incubatees). The information areas included multiple-choice questions (close-ended questions) and a small number of open-ended questions. Both closed and open ended questions covered various characteristics which were deemed important from the literature, such as background details of the business; details about the founders' background and employment history; the start-up period of the business; duration of trading, assistance from incubators; details about the business now and future prospects (completed by those still trading); and problems experienced and reasons for discontinuance, if failed.

The choice of using both closed and open ended questions was based on factors such as objectives of the study, respondents' level of education, ease with which respondent communicated and amount of information presumed held by the respondents. In conditions where the researcher was not clear about the frame of reference of respondents for a particular question, open ended questions were used. The open ended questions gave respondents a free choice of expression especially when deeper opinion or knowledge about a particular question was required. Though both have advantages and disadvantages, the majority of the questions are closed ended and only few questions were open ended. This is because respondents are more motivated to answer closed ended questions than open ended ones. Closed ended questions are also less costly to administer, easier to code and analyse. In addition closed ended questions reduce the variability of responses and need less skill from the interviewer's side. However, closed questions can actually be as effective as open ended questions if properly designed (Cooper and Schindler, 2004: 345–346).

The majority of the closed-ended questions are formally structured in the shape of a five point Likert Scale, complimented by appropriate guidelines regarding the procedure to be followed. A questionnaire comprising a choice of five indicators, being: Strongly Disagree, Disagree, Do not Know, Agree and Strongly Agree is utilised.

Questionnaires were distributed to the identified target group international respondents and all 23 South African incubation centre managers. Questionnaires were also distributed to clients and graduates accessed by the researcher. Respondents were

required to select their choice by marking a cross in the appropriate block. The response strategy needed for the questions in the questionnaire also included dichotomous, multiple choice, checklist, rating and ranking type questions. Dichotomous type questions need respondents to accept or reject a certain fact such as “yes” or “no” answers. Multiple choice answers are used when there are more than two alternatives or possible answers. The multiple choice answers gave respondents more preference to choose from. However, it is very difficult to include all possible choices for a question. In such cases the choices available may not be exhaustive which forces respondents to choose only from the list. The researcher tried to find out the major choices that should be included for each question from pre-testing and other similar studies. In each choice, there is a category “other (please specify) added in multiple choice type of questions. This gives respondents “an acceptable alternative” (Cooper and Schindler, 2004: 348–349). Apart from dichotomous and multiple-choice questions, checklist, rating and ranking type of questions were used:

- **Checklist:** In the questionnaires multiple responses for a single question were provided. In such cases respondents answered all that apply (Cooper and Schindler, 2004).
- **Rating response strategy:** This is asking respondents to scale each factor given in a question. Respondents can scale a factor whether it is important, less important, influential or non-influential at all or whether they strongly agree or strongly disagree with the factor or statement in question (Cooper and Schindler, 2004).
- **Ranking strategy:** respondents were given alternative perspectives to rank according to importance, degree of influence or other factors. This strategy was included in the questionnaire in order to determine the respondents’ factor most important among the given choices with a view to generate ordinal data (Cooper and Schindler, 2004).

The study used three different types of questionnaire, each targeted at incubation professionals from other countries (international), South African incubator managers and South African incubator clients and graduates.

#### **5.5.1.1 *International component of the study***

The first type of questionnaire was used to collect information from countries other than South Africa. This assisted to get valuable information about the impact of business incubation in many countries and their current perception about the business incubation model. The questionnaire assisted to a great extent in obtaining valuable data from countries with rich incubation experience such as USA, Canada and Mexico.

A properly designed questionnaire was distributed to incubation professionals who gathered from more than 35 countries for the National Business Incubation Association conference held in Kansas City, USA from 19–22 April 2009. Most of the attendees were directly involved in incubation activities such as incubation managers. Others were economic development professionals working with incubators in different countries. The distribution was not a systematic selection. Respondents were selected whenever there was access (convenience) to meet and voluntarily participation. At some stage, questionnaires were also placed in training rooms where conference participants picked and voluntarily completed the questionnaires. The questionnaire was first given to the National Business Incubation staff to check the type of questions or if there were any ethical concerns of the association. Upon receiving permission and feedback on the content, hard copies of the questionnaires were distributed. Respondents completed questionnaires and responded as it suited them. Most of them handed in the questionnaires directly to the researcher on the spot and others during the course of the conference.

Most of the conference participants were busy with more than 60 sessions to attend. As it was practically impossible to get hold of all participants during the conference, it was necessary to email the questionnaire using addresses obtained from attendees list after the conference. The questionnaire and a covering letter were attached to the attendees. An additional note to the email made people aware not to fill in this questionnaire if they

already filled one during the conference. The researcher was able to distribute about 60 questionnaires during the conference. From that, 43 responses (72%) were received. The researcher contacted attendees via email after the conference. Only 18 additional responses were obtained via email making a total of 61 responses.

#### **5.5.1.2 South African incubation centre managers**

The second questionnaire was used to collect information from South African incubation managers. This questionnaire was distributed to all centre managers of the 23 business incubators. Initially Dan Setsetse, the Director of Post Graduate Programme, Graduate School of Business and Government Leadership, North West University, Mafikeng Campus wrote a letter to Mr J Ravjee, Senior Manager, Technology and Business Incubation, SEDA, located in DTI Campus, Pretoria. The letter explained the intention of the researcher and requested cooperation to collect data from South African incubators. Mr Ravjee wrote a letter to all incubators under the SEDA Technology Programme for cooperation. Both letters are attached as appendices. This has created a good understanding between incubation managers and the researcher. This was very crucial to the whole communication process as responses from clients and graduates were dependent on centre managers cooperation in most instances especially centres where the researcher did not visit.

Following the letter from SEDA office, the researcher contacted all incubation managers by telephone. Some incubation centre managers did not receive the letter sent earlier to the SEDA office. It was therefore necessary to forward it to them. This at least made the communication process smooth. The researcher experienced problems getting hold of some of the centre managers via email or telephone. After many trials, questionnaires were forwarded to 20 centre managers and acting managers or representatives. Two incubator managers, Acorn Technologies Incubator and Rosslyn Automotive Incubator in Pretoria were not available to be contacted. The researcher was informed later that Acorn Technologies Incubator joined the Cape Biotech under the Department of Science and Technology in Cape Town. This made the effort to get data from the

manager and previous graduates impossible. The access to the clients/graduates was affected by access to the centre managers. The researcher was also informed that the manager for the automotive incubator in Rosslyn, Pretoria had resigned and no one could provide necessary information at that moment. Two incubation centres; Furntech Durban and Furntech White River are managed by one centre manager. The total number of centre managers was therefore 20 of the expected 23. The researcher then had to reconfirm if managers had received the questionnaires. The first questionnaire was forwarded on the 19 June, 2009. Thereafter, on average 12 telephonic calls were made to each of the various incubation centres between 19 June and 30 August, 2009. Twelve incubation centre managers responded, which represents a 60% response rate.

#### **5.5.1.3 South African incubator clients/graduates**

The third questionnaire was used to collect data from current clients and graduates of South African incubators. Incubator clients and graduates gave information regarding the impact of incubation especially on their business survival, job creation and annual revenue. Initially the researcher used incubation managers to reach clients and graduates. It was the centre managers who distributed questionnaires to their clients and graduates. This was as a result of the following reasons:

- Incubation centres are located in all provinces of South Africa and impractical for the researcher to travel to all incubation centres. The incubator clients and graduates are also dispersed like incubation centres.
- The researcher did not have direct access/contact details of clients and graduates.
- Clients and graduates would trust the communication through their centre managers than direct contact from the researcher.
- In some cases even centre managers did not have contacts of some clients and most graduates. They had to wait for opportune times like training and workshops to distribute the questionnaires.

- Though centre managers have contact details, the physical address of some clients is far dispersed as far as 70 km in farmers and construction contractors such as Mpumalanga agri skills and SEDA construction incubator in Durban.
- Some clients and graduates needed the support of centre managers and other incubator staff to understand the questionnaire because of their poor literacy levels.
- The researcher was unable to reach clients and graduates via email because of the absence of internet access in rural areas for clients such as farmers and agricultural people.

It was not exactly known how many clients and graduates were available initially. There were 62 responses from clients and graduates up until 30 August, 2009, which was meant to be the cut off date. The researcher made another attempt to increase the response rate especially from graduates. Contact details of graduates were requested from centre managers such as Softstart (35 graduates) and SEDA Platinum (4 graduates). Contact details for most graduates were not readily available from centre managers. Centre managers provided only email addresses of a few graduates rather than telephone numbers or physical address details, which would have been preferred. Some centre managers, preferred to keep the privacy of their clients and graduates. The researcher tried to contact those clients that could be reached by email. There were no responses from these emails within the last three weeks duration of data collection extended to get information from graduates.

All responses from centre managers, client and graduate were collected via email or fax. Most of the responses from centre managers were collected via email while responses from clients and graduates were collected via fax. This was because clients and graduates got hard copy questionnaires distributed directly to them by their centre managers. It was apparently easier for clients/graduates to complete hard copy questionnaires than completing them via internet.

## **5.5.2 Qualitative methods**

### **5.5.2.1 Secondary data analysis**

This research started first with data archives and reports from the Department of Trade and Industry, Department of Science and Technology and Incubation Centres. Other secondary data was collected from published documents, periodicals, annual reports, books, catalogues, subject guides and electronic indexes. This revealed an extensive amount of data and decision-making patterns; successful and unsuccessful methodologies; solutions that did not receive attention in the past due to arrayed number of reasons. The foregoing provided excellent background information and direction for the research as recommended by Cooper and Schindler (2004: 140–141).

### **5.5.2.2 Experience surveys**

In case of the qualitative survey, detailed interviews were conducted in order to understand various dimensions and issues involved in the sustainability of the business. The study utilised a detailed semi-structured and unstructured questionnaire to interview the owners of selected SMMEs, personnel in incubation centres (directors and managers of different departments, trainers and consultants, service providers), and Department of Trade and Industry officials and experts in the field.

The semi-structured research instruments were used for eliciting or drawing out the required information from the detailed interview participants. This system gave the researcher the chance to collect valuable information from international and national business incubation professionals.

### **5.5.2.3 Observation**

The researcher visited some incubation centres (USA and South Africa) as part of the data collection process. In addition, observation gave a chance for the writer to have a clear picture about the set-up, size and growth of South African incubators. Personal visiting of firms, training centres, workshops, machineries and staff that belong to incubation centres gave the writer a better understanding of the incubation industry in

and out of South Africa. This helped the writer to perceive the situation better than it would have been by mere collection through other communication methods such as questionnaires alone.

## **5.6 VALIDITY AND RELIABILITY**

### **5.6.1 Validity**

According to (Cooper and Schindler, 2004) validity refers to the extent to which a test measures what is intended to measure. Validity has two major forms, external and internal validity. External validity refers to the ability of data to be generalised across persons, settings and times while internal validity is the ability of the measuring instrument to measure what is intended to measure (Cooper and Schindler, 2004). Content validity, construct validity and criterion related validity have been checked using the researcher's judgment and other panel evaluation in the field of business incubation. The common understanding of reliability is the degree of consistency that a measuring instrument can give over time. The stability, equivalence and internal consistency are important aspects of reliability (Cooper and Schindler, 2004).

The main concerns of validity and reliability in this research such as the content validity and internal consistency issues are minimised as a standardised impact study measurement tools have been used. The main questions directly related to this research questions and hypotheses such as business survival, job creation and annual revenue, are directly taken from impact measuring instruments of the national business incubation association. The national business incubation association tool kit (NBIA, 2007) gives a standard for impact studies in the business incubation industry worldwide. Previous studies of the association (NBIA, 1997; NBIA, 2002; NBIA, 2006) utilised similar survey for studies related to business survival, job creation and annual revenue. Impact study instruments comprising incubator client survey and graduate survey which are part of the impact study tool kit are attached as annexure (Annexures B and C).

In addition the pilot testing that the researcher carried out before the actual data collection, authenticated the data collection instruments on reliability and validity.

## **5.7 TESTING OF QUESTIONNAIRE**

### **5.7.1 Pilot testing/pre-testing**

The survey instrument was initially distributed to the following sample of respondents:

- South African incubation managers (5 respondents)
- South African clients and graduates (10 respondents)
- business incubation professionals and industry advisors in USA
- National Business Incubation Association Staff
- Professor Fabio Silva, Business Incubation expert and trainer, University of Brazil
- Dr Jill Sawers, Director, Maxum Incubator, the Innovation Hub, Pretoria, South Africa
- Prof. WPJ Van Rensburg, Promoter
- Statisticians in Mafikeng Campus
- a statistician at Pretoria University (Dr Legesse Debusho)
- Mr Jayesh J Ravjee (Technology and Business Incubation, Senior Manager SEDA)

Feedback from the above bodies gave the researcher a clear direction on the crystallisation of the questionnaire for final data collection which incubation centre managers, incubator clients/graduates and other incubation professionals from other countries participated.

#### **5.7.1.1 Results and recommendations of the pilot study**

- The data collection instrument (questionnaire) for incubation managers, clients and graduates was initially mixed in one question paper. It was therefore recommended to separate the questions to avoid confusion for respondents.
- Changing confusing words such as annual turnover in to annual revenue.

- Incubation managers suggested that it would not be easy to get hold of incubator clients, more especially graduates. This was due to the fact that incubation was still new and managers did not keep records of graduates. In addition some clients were far from incubation centres; such as farmers and construction contractors in far-flung rural areas. It was therefore recommended to approach both clients and graduates through their respective centre managers than the researcher's direct contact.
- It would be very difficult to collect data from non-resident incubation clients unlike residents who the researcher or the centre managers could easily contact in the incubation facilities.
- It was recommended that the best way to reach incubator clients and graduates would be through their respective incubation managers. This was because of the difficulty of getting the addresses of all clients and graduates and the better trust and confidence the clients and graduates would have on incubation managers than the researcher.

#### **5.7.1.2 Conclusions of the pilot study**

The pilot study revealed very important information in the whole process of data collection. The researcher got to understand the main challenges the data collection would pose; the assumption of the researcher and practical data collection challenges were quite different. Clients, especially graduates change their physical addresses frequently, making it difficult to reach them using the previous addresses the researcher got from their respective centre managers. In addition entrepreneurs were reluctant to reveal information especially figures related to annual revenue and profit. The managers revealed the cause of the hesitation. The entrepreneurs suspected that the information collected would not be held in confidence and might be exposed to competition. The mistrust gave the researcher an important clue, which led to the decision of actually making field visits to some of the incubation centres. The personal contact of the researcher to clients and graduates relieved the process of getting relevant data.

In addition to the pilot test, the researcher got valuable information from incubation professionals who gathered for the National Business Incubation Association Conference held in Kansas City, USA. The researcher got more valuable information and feed back during questionnaire distribution which helped for the finalisation of the questionnaire for South African respondents. This is because questionnaires for the international and South African respondents were not exactly the same. The researcher's communication and net work with international business incubation experts gave a better understanding of the impact study in the incubation industry. It can be said that the process was part of the pilot study to refine the data collection procedure in South Africa. Incubation industry experts who had been in the industry for years in different countries gave the researcher a good understanding of the incubation industry; and data collection for impact studies.

## **5.8 DATA ANALYSIS**

### **5.8.1 Descriptive statistics**

The first section of the data analysis is descriptive in nature. Analysis of the data collected was achieved using the statistical software packages, Statistical Package for Social Sciences (SPSS) and Micro Soft Excel. In order to present the data collated from the respondents in an orderly manner, tables, graphs and charts with frequency counts and percentages have been used. Descriptive statistics has been used to present frequencies and graphs for quantitative data resulted from SPSS analysis.

### **5.8.2 Content analysis**

Content analysis is used for the qualitative part of the research. Content analysis is used to analyse the qualitative data, which includes open ended questions and interviews. The research results culminate in an appropriate discussion on the outcome of the study, which is complimented by relevant suggestions and recommendations for SMME better survival and contribution to job creation in South Africa. The content analysis is mainly used for the qualitative questions which the researcher collected from international and South African respondents specifically views about business

incubation as a support model and what makes it a better support model compared to others.

### 5.8.3 Hypothesis testing

Hypothesis testing is the "evaluation of the accuracy of hypotheses by determining the statistical likelihood that the data reveal true differences not random sampling error" (Cooper and Schindler, 2004: 486). It is also the "evaluation of the importance of a statistically significance difference by weighing the practical significance of any change measured" (Cooper and Schindler, 2004:486). It is a process by which decisions are made concerning the values of parameters (Howell, 1995: 115). A t-test is used as the samples are paired and related.

### 5.8.4 Correlation analysis

Correlation coefficients indicate the relationships between variables. The degree of the relationship can be expressed in the magnitude of relationship in the same or opposite direction. Positive relationships indicate that if there is an increase in one variable, the other also increases. A negative relationship indicates as one variable increase, the other decreases. This is direct and inverse relationship respectively.

Cooper and Schindler (2004: 540) further argue that "a correlation coefficient of any magnitude or sign, whatever its statistical significance, does not imply causation". There is no evidence of cause and effect in a correlation coefficient. This might mean one variable can be a cause of the other, or that specific variable is activated by one or more variables or each variable influence each reciprocally. According to Cohen (in Dessie, 2009: 111), the magnitude of the relationship varies from small to medium and large effect. The Spearman correlation coefficient ( $r_s$ ) *in the following range shows the magnitude of the relationships among variables.*

- *Small effect:*  $|r_s| = 0.1$
- *Medium effect*  $|r_s| = 0.3$
- *Large effect*  $|r_s| = 0.5$

The researcher has endeavoured to measure correlations between two variables.

## **5.9 PRESENTATION OF RESULTS**

Data are displayed and presented using frequency tables, bar and pie charts, histograms and box plots. Proper presentation techniques have been implemented according to the type of data collected such as nominal, ordinal, interval or ratio. For instance a frequency table is used to display nominal data with columns for percent and values. In cases where frequency table is not appropriate, histograms are used. Other ranking data are displayed in percentages from the highest to the lowest percentage of ranking. The same data presented in a table is also displayed using graphs and charts which makes the values and percentages to be more readily understood by the reader.

Other qualitative data are displayed in a table format with main themes and sub themes summarised so that it is easier to understand all the views of respondents.

## **5.10 ETHICAL CONSIDERATIONS**

This research concerns the performance of incubators in South Africa. Incubation managers, clients and graduates were enquired about the success of incubations in terms of business survival, job creation and annual gross income. As mentioned previously, it ought not to be construed that the performance of incubators can only be measured by these variables. It stands to also state that there are many different incubator objectives; the impact of different incubators can accordingly also be different. In any instance where any specific incubator failed to excel in relation to these variables, centre managers need not necessarily feel concerned or guilty. The foregoing context of the impact of incubation has been communicated to incubation managers. In addition, respondents were assured the utmost privacy and confidentiality. The report is in aggregate and categorised in terms of business survival, job creation and gross income. This aggregate presentation of reports prevents unnecessary fears or misunderstanding among incubation managers and other people from outside which are reading reports. All respondents have been assured by written consent from the researcher that any statistics obtained would be treated in confidence. The information would be treated for statistical or research purposes only.

### **5.11 LIMITATIONS**

- The nascent nature of the incubation industry in South Africa. The available literature is more on the international incubation scenario than South Africa.
- Failure of incubation experts to compile reliable data on graduates. This is because South African incubators lack a standardised performance measure of impacts. The majority of the respondents were from current South African incubator clients not from graduates. As a result, there was limited information on graduate survival (out house).The standardised performance bench marking can help to record ongoing impact information about clients and graduates.
- Variables influencing start up businesses are infinitive. This creates difficulties in having control groups. The variables for start up businesses especially non-incubated firms are many which make it difficult for comparative studies. In addition there are no data available for non-incubated firms which can be used as a basis for comparison.
- The impact and effectiveness of incubators is measured in terms of the performance of SMMEs. If supported SMMEs are not performing as expected, it is concluded that incubators did not perform which may not necessarily be the case.
- The study is limited to economic and financial performances such as job creation and sales growth in South African SMMEs that fail to provide a broader impact of incubators.

### **5.12 CONCLUSION**

This chapter began by providing an overview of both qualitative and quantitative methods specifically data collection instruments, analysis and presentation of data.

Detailed information is given on why and how the target population was selected for the research. Pilot testing procedures and limitations have also been stated. All empirical findings will be reported in Chapter 6.

## **CHAPTER 6**

### **ANALYSIS, INTERPRETATION AND PRESENTATION OF RESULTS**

#### **6.1 INTRODUCTION**

This chapter presents the results of empirical data collected from international incubation experts and South African incubation managers and clients/graduates using the methodology discussed in Chapter 5. The data collected is presented in graphs and tables and other descriptions according to the nature of the questions posed and responses received. Firstly data from international respondents is presented followed by South African incubation managers and clients/graduates. In both international and South African responses some portion of the quantitative data is displayed using descriptive statistics where research questions were used. This is followed by qualitative data such as open ended questions and interviews with a thematic summary using content analysis. Other ranking types of responses are given from highest to lowest percentages followed by interpretations and discussions. Correlations analysis has been applied for some variables which the writer thought might have some relationships. Hypothesis testing has also been done to check the significance of the differences.

#### **6.2 DESCRIPTION OF RESPONDENTS PARTICIPATING IN THE SURVEY**

##### **6.2.1 International respondents**

International respondents consisted of business incubation professionals and economic development experts from more than 35 countries gathered for the 24th National Business Incubation Association conference held in Kansas City, USA from 19–22 April 2009. There were about 400 participants from the USA, Europe, South America, Central America, Asia, Africa and the Caribbean region.

### **6.2.2 South African incubation managers**

The South African Incubation Managers were current managers for the 23 incubation centres country wide. The number of managers was 20 as some managers were responsible for more than one incubation centre and others were not available due to resigning.

### **6.2.3 South African incubator clients/graduates**

South African incubator clients/graduates consisted of entrepreneurs who were either in different incubation centres of South Africa during the data collection or who had already exited incubation centres after getting support from incubation centres and were running their businesses independently or quit business completely. The total number of incubator graduates, current clients and entrepreneurs who quit business is not available. As a result, convenience sampling is used for all current clients and incubator graduates from South African incubators in the data collection process. As some incubation centres started tracking the number and progress of their clients long after they started operation, it was difficult to get the exact number of all clients and incubator graduates. In recent times, however almost all incubation centres keep track record of clients and graduates since admission. This is partly because government and other sponsors are interested to know the impact that incubators have made on local economy. The researcher realised in some centres that agreement of filling progress report is part of the admission process between clients and centre managers. This hopefully relieves difficulties of data collection in the future.

## **6.3 PRESENTATION OF RESULTS**

As an impact study, data from incubation experts (international), South African incubation managers, South African clients and graduates were collected and are presented in this chapter. This has been done because findings from clients and graduates alone may not give the full point of view regarding the impact of incubators. International incubation experts' data analysis has been presented first. This has been

followed by data from South African incubation managers, incubator clients and graduates. Each section of responses has a conclusion of the main investigation.

### 6.3.1 Presentation of results for international respondents

#### 6.3.1.1 International representation of respondents

The international respondents gave their views on business incubation and its impact in their respective countries on issues such as job creation, business survival, revenue generation, community revitalisation and poverty alleviation. These are some of the primary objectives and targets of business incubators in many countries. Respondents who participated in the international survey (conducted through a questionnaire) carried out by the researcher were part of the attendants of the Conference on Incubation held in Kansas City, USA, in April 2009. The highest response 44 (73.3%) was received from American nationals. This was followed by responses from Europe attendants (7 or 11.7%). The remainder of the responses (9 or 15.8%) were received from other attendants from countries covering all other continents. The results are shown in Table 6.1.

**TABLE 6.1: INTERNATIONAL REPRESENTATION OF RESPONDENTS**

International representation			
		Frequency	Percentage (%)
Valid	USA	44	73.3
	Central America	2	3.3
	Canada	1	1.7
	South America	1	1.7
	Europe	7	11.7
	Asia	1	1.7
	Africa	1	1.7
	Other	3	5.0
	Total	60	100.0

### 6.3.1.2 Designation of international respondents' position in incubators

The researcher was interested in knowing the current designation for all the respondents so as to understand their relationship to their incubators. Most of the respondents (37 or 62.7%) stated they have a position of a manager in an incubator. This was followed by 14 (23.8%) who stated their designation as 'Incubation Staff'. The remainder of the respondents (8 or 13.6%) held the position of 'Incubator Advisor'. As the conference attendees are closely linked to the core activities of incubation centres, it is assumed valuable data would be collected. Their designation is depicted in Figure 6.1 below.

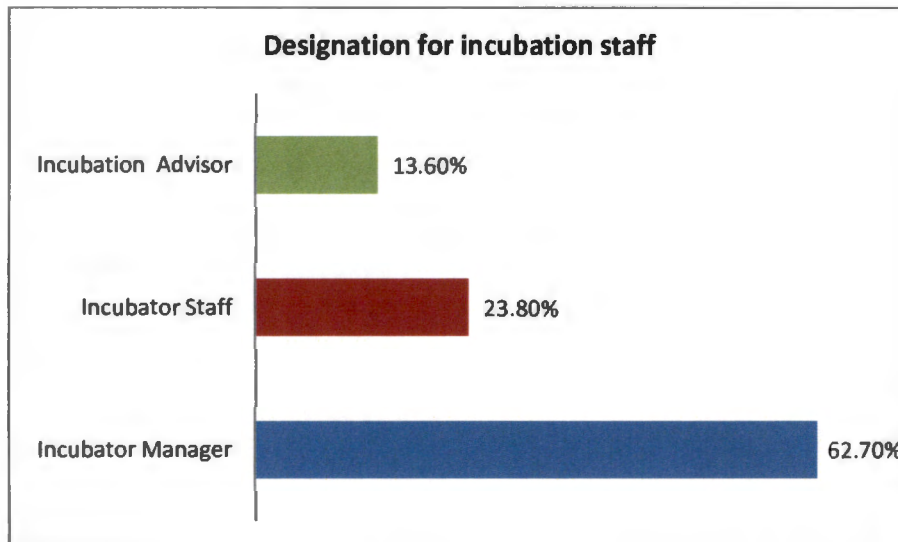


FIGURE 6.1: DESIGNATION FOR INTERNATIONAL RESPONDENTS' POSITION

### 6.3.1.3 Incubator objectives

As revealed in Table 6.2 more than half of the respondents took job creation for their community as priority for their incubation centres. This percentage was higher when compared to South African business incubator objectives who rated job creation at 33.3% (Table 6.9). The creation of jobs is not only an important factor for a middle

income country like South Africa but also for developed countries like the USA. This is because the majority of the respondents (44 or 73.3%) were from the USA. The remaining 16 (26.7%) respondents are from other countries as depicted in Table 6.1. It is also interesting to note that commercialising technologies was one of the main objectives of incubation centres, while in other countries such as South Africa commercialisation of technology was not even considered as an objective. The researcher expected that the majority of the incubators may have opted for wealth creation rather than poverty alleviation. However, the results in Table 6.2 show that both objectives were the least considered with 5.1% and 3.4% respectively. The responses have been ranked according to the respondent's incubation centre priorities. These do not necessarily add up to 100%.

**TABLE 6.2: INCUBATOR OBJECTIVES**

Objectives	Number of respondents	Percentage (%)
Creating jobs for community	34	57.6
Commercialising technologies	20	33.9
Fostering community entrepreneurial culture	17	28.8
Wealth creation	14	23.7
Poverty alleviation	3	5.1
Retaining business in the community	2	3.4

#### **6.3.1.4 Incubator client selection criteria**

International respondents were asked which was considered to be the most pertinent client selection component of incubators. The highest number of respondents, 63.8% rated 'Potential for growth of the client' as the most pertinent; against odds that business incubators selected the 'strong' and 'winners' and not businesses with high potential for growth as the result shows. This was followed by 58.6% of the respondents

who were of the opinion that an 'Excellent business opportunity' was pertinent. 'Availability of finance' and 'Availability of skilled staff' were rated the least supported by 20.7% and 13.7% of the respondents respectively. Both the international respondents and the South African managers rated availability of skilled staff the least important. However, there was a disparity concerning which they considered most pertinent. While the 'potential for growth' was third in the ranking for the South African managers, this was the most vital for the international respondents. Figure 6.2 below summarise these findings.

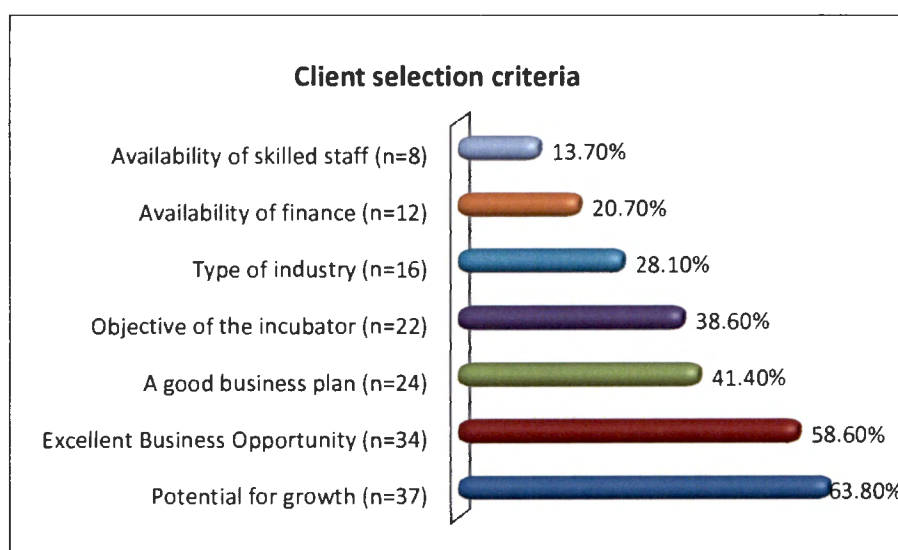


FIGURE 6.2: CLIENT SELECTION CRITERIA

### 6.3.1.5 Contribution of business incubation to better survival

The results in Table 6.3 depict that 35 (58.3%) of the international respondents strongly agreed that business incubation contributed to better survival of firms as compared to non-incubated ones. This response was followed by 31.7% who 'Agree'. This means that 90% of the respondents agreed with this statement. Only one (1.7%) disagreed and 3.3% strongly disagreed business incubation contributed to better business survival than non-incubated firms. Whereas both the international respondents and the South

African managers consented to business incubation contributing to better survival of firms, all South African managers interviewed responded affirmatively.

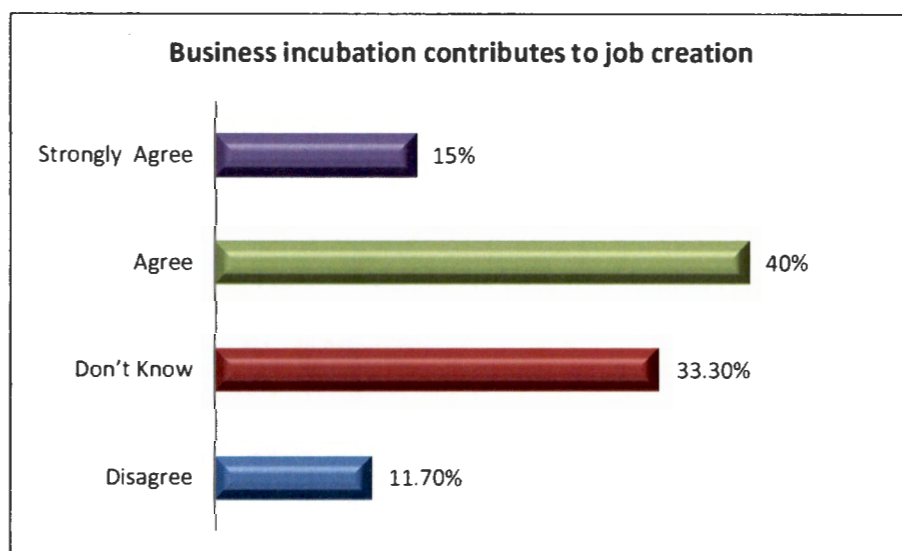
**TABLE 6.3: BUSINESS INCUBATION CONTRIBUTES TO BETTER SURVIVAL OF FIRMS/BUSINESSES THAN NON-INCUBATED FIRMS/BUSINESSES**

Business incubation contributes to better survival of firms			
		Frequency	Percentage (%)
Valid	Strongly disagree	2	3.3
	Disagree	1	1.7
	Don't know	3	5
	Agree	19	31.7
	Strongly agree	35	58.3
	Total	60	100



**6.3.1.6 Contribution of business incubation to job creation**

The results in Figure 6.3 revealed that the majority (33 or 55%) agree/strongly agreed that incubated firms create more jobs than non-incubated firms. The other 33.3% responded that they did not know if incubated firms really create more jobs than non-incubated forms. The remaining 11.7% disagreed with the statement that incubated firms create more jobs than non-incubated ones.



**FIGURE 6.3:** BUSINESS INCUBATION CONTRIBUTES TO JOB CREATION

**6.3.1.7 Do incubated firms record better gross revenue than non-incubated firms?**

International respondents were asked if incubated firms recorded better annual revenues than non-incubated firms. The majority, 50.9%, replied that they did not know about the proposition, while 7% disagreed totally on the statement that incubated firms recorded better gross revenue than non-incubated ones. The remaining 42.1% agreed and strongly agreed that business incubation assisted incubated firms to record better annual revenues. This has been shown in Table 6.4 below.

**TABLE 6.4:** INCUBATED FIRMS AND THEIR GROSS REVENUE

Incubated firms and gross revenue			
		Frequency	Percentage (%)
Valid	Disagree	4	7
	Don't know	29	50.9
	Agree	18	31.6
	Strongly agree	6	10.5
	Total	57	100
	Missing	5	
	Total	60	

### 6.3.1.8 *Is business incubation a proper use of public money?*

The researcher wanted to ascertain the perception of international incubation professionals whether the incubation model is considered to be proper use of tax payers' money. This is because of the perception of some scholars (Lewis, 2001) who suggest the cost per job created in an incubation model is far greater compared to injecting money directly to business owners. Surprisingly, all 60 (100%) of the respondents agreed that the business incubation concept is considered to be proper use of public money. The results are shown in Figure 6.3 below.

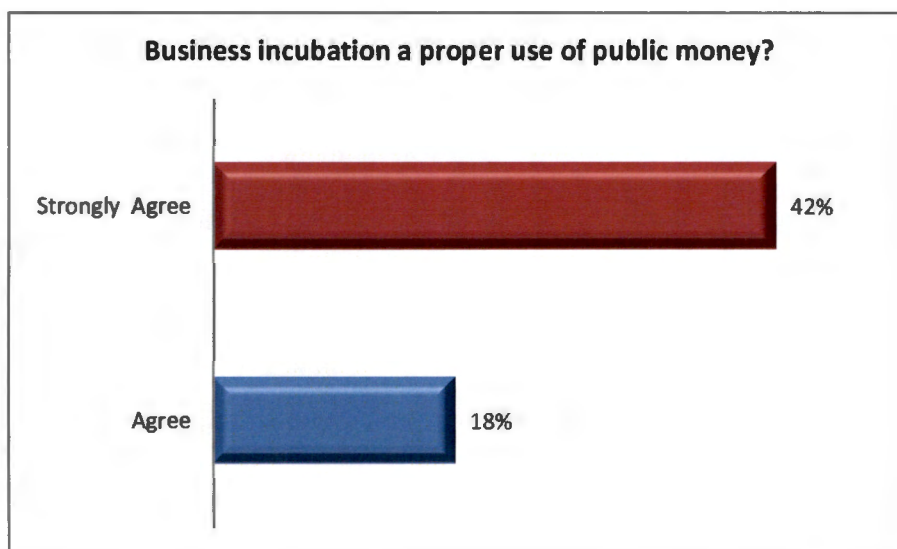


FIGURE 6.4: BUSINESS INCUBATION A PROPER USE OF PUBLIC MONEY?

### 6.3.1.9 *Is continuous feedback from incubator graduates a difficult exercise?*

The researcher wanted to know whether keeping contact with incubator graduates and obtaining continuous feedback from them had been a difficult exercise. Most of the respondents (33 or 55%) as revealed in Figure 6.5, were of the view that keeping

contact and getting feedback from graduates was a difficult task. Keeping contact with incubator graduates was considered one of the challenges to follow up the impacts and contributions of incubators.

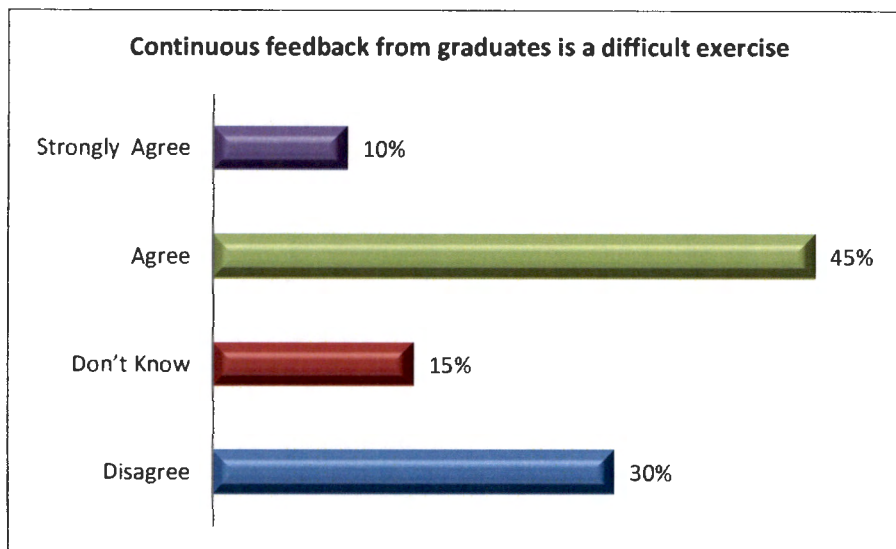


FIGURE 6.5: CONTINUOUS FEEDBACK FROM GRADUATES A DIFFICULT EXERCISE

### 6.3.1.10 *Is business incubation a better than other business support models?*

The dilemma of using business incubation as a business support model especially for small and medium enterprises still lingers in many minds given the recent introduction of the incubation industry in many countries. The research intended to determine whether such perceptions from incubation professionals do exist or not. The results in Table 6.5 below show that the majority (51 or 85%) of respondents, agreed and strongly agreed that business incubation is a better support model while the other 9 (15 %) answered 'Do not know' and 3.3% disagreed. This difference in perception shows how the business incubation model is accepted by the majority. These respondents gave reasons why business incubation is a better support model while others who disagreed failed to supply any reasons except one who said "business incubation was only another option for economic development".

**TABLE 6.5: IS BUSINESS INCUBATION A BETTER MODEL THAN OTHER BUSINESS SUPPORT MODELS?**

Business incubation a better model than other business models			
		Frequency	Percentage (%)
Valid	Disagree	2	3.3
	Don't know	7	11.7
	Agree	21	35
	Strongly agree	30	50
	Total	60	100

The main reasons given from respondents who strongly agreed/agreed that business incubation is a better support model are summarised in Table 6.6 below. The responses for this question have been organised in themes and sub-themes.

### 6.3.1.11 QUALITATIVE ANALYSIS (INTERNATIONAL)

TABLE 6.6: CONTENT ANALYSIS OF OPEN-ENDED QUESTIONS (INTERNATIONAL)

Theme	Sub-themes
Best use of money	<ul style="list-style-type: none"> <li>• money directed where it is needed</li> <li>• accountability</li> <li>• less money needed than other methods</li> <li>• investment in local community</li> <li>• less money needed than other methods</li> <li>• high return on investment</li> <li>• less money needed than other methods</li> <li>• centralised</li> </ul>
Tangible and direct Solution	<ul style="list-style-type: none"> <li>• customisable; greater responsibility over clients</li> <li>• direct support; one-on-one tangible solution</li> <li>• consistency in monitoring and measuring milestones</li> <li>• highly organised and structured</li> <li>• quantifiable solution</li> <li>• direct and focused</li> </ul>
Most effective job creator	<ul style="list-style-type: none"> <li>• develops jobs and technology</li> <li>• leads to greater business development success and job creation</li> <li>• cost per job is much lower ,ROI to government is much better</li> </ul>
Sustainable solution	<ul style="list-style-type: none"> <li>• higher economic impact</li> <li>• strong structured support system</li> <li>• consistent solution making difference in client development and survival/success</li> </ul>
Expert oriented	<ul style="list-style-type: none"> <li>• serviced and administered by knowledgeable staff</li> <li>• administered by experienced entrepreneurs</li> <li>• use of expert staff from business world which other agencies usually do not have</li> </ul>

A study was conducted through the use of a questionnaire on the global perception concerning the business incubation concept. A further analysis of the international respondents' global perception on incubation as a support model was undertaken. In the questionnaire international respondents were requested to state whether business incubation was a better support model than other business support models such as government support services and schemes and give justifications for their responses. A content analysis of the qualitative responses was done and summarised below:

**Best use of money:** Most of the international respondents who "Strongly agreed" were of the view that the use of business incubation as a support strategy gave the best return on investment (ROI) by government. It was also noted that in the incubator support services money was invested directly where it was needed as compared to other support services that do not always reach the intended target. As a result less money is needed for incubation services or programmes whereas other support services would require relatively high amounts of government investment.

**Tangible and direct solutions:** Many international respondents were of the view that business incubators services are a tangible business solution. They felt that incubators offered direct support services to clients than the services offered under the other forms of support services. Incubators offered solutions which were strongly structured, that were practical and not merely ironical or theoretical as in the other support services. It was observed that solutions offered in incubators were fostered on a platform of respect, trust and synergistic creation that is not fostered in short-term government support. Incubators invariably selected the best business solutions that were strong and well structured. Whereas solutions in the other government support services tended to be lacklustre. Many respondents were of the view that the services offered by incubators tended to be multifaceted. Services offered by incubators were not just focused on products unlike other government support services.

**Job creator:** The international respondents who "Strongly agreed" and those who "Agreed" generally were also of the view that business incubation solutions were quantifiable unlike other government solutions which could not be clearly monitored and

evaluated. As such many respondents were agreed that business incubation was consistent and offered solutions that were sustainable in that the business incubator solution developed jobs and technology among entrepreneurs. Incubators had a higher success rate of graduates, which contributed to job creation and improvement of local communities compared to other government support services.

**Sustainable:** The hands-on approach offered under incubators with constant monitoring and evaluation of milestones leads to sustainable growth of business entrepreneurs, which unlike other government services is not seen as handouts but the development of financially viable careers. This consistency displayed by incubators was seen by respondents as solutions that make the difference in successful client development and graduate survival.

**Expert orientation:** The quality of the service that incubator clients received was still noted as superior compared to that offered by other support services in terms of expert assistance rendered to the clients in the incubators, networking and peer interaction. Businesses incubators use the service of experts who actually are in the business world thereby expend valuable entrepreneurial skills to incubator clients. It was noted by many respondents that incubators gave better services than other support services designed by government, because incubators solely focused on the success of their clients whereas government was not in itself a business.

Little or no comments were received from respondents who “did not know” whether business incubation was a better support model than other business support models such as government support services and schemes. This may have arisen owing to their absolute indifference to the business incubation services as a solution or merely owing to the fact that they were of the opinion that business incubation was in fact not a better support services compared to other entrepreneurial interventions. The latter respondents can thus be combined with only two respondents who actually were of the view that business incubation was not a better support model compared with the other interventions by “Strongly disagreeing”. Only one respondent actually gave any reason

by sighting that “business incubation was only another option for economic development”.

#### **6.3.1.12 CONCLUSION AND SUMMARY OF INTERNATIONAL RESPONSES**

The majority of the international respondents were designated as incubation managers and economic development professionals who are closely linked to incubation centres and in a better position to respond on questions related to incubation centres. These international respondents are well familiar with the incubation concept and their views can be far reaching lessons for other countries where business incubation is young and not well known in African countries such as South Africa.

The fact that business incubation has been long in many countries did not change the main objectives of business incubators. Most developed countries such as the USA incubation centres have objectives of job creation as a priority. It was interesting to find that the majority (58%) of business incubators have job creation for their community as a top priority. This is a good indication for developing countries which are in the process of introducing the incubation concept for the same job creation objectives though there might be different factors from one country to the other. One significant difference from international response to South African response however was the case of commercialisation of technologies. Most developed countries use business incubation as a way of commercialising and transferring technology from the first to the second or from the formal to the informal. This critical objective is totally not considered in South Africa (Table 6.9).

There was a general consensus among international respondents on positive contribution of business incubation to business survival, job creation and increase of annual revenue. The majority 81% of international respondents agreed that business incubation contributes for better business survival followed by 55% and 51% for job creation and annual revenue respectively.

International respondents also agreed on business incubation model as a better business support model compared to other schemes. It is a good lesson for countries such as South Africa who are in the development of incubation centres to see such confirmation from incubation professionals with as far as 30 or more years in the incubation industry. It is a good indication that business incubation is still considered as a better support model even after long years of testing business incubation as a business support model. Business incubation is still considered a better model for business survival, job creation, commercialisation of technologies and others. It is interesting that such responses are also from economic development professionals in different countries and regions. One might be tempted to question the responses of business incubation managers on such questions as they are employees of government and should give positive responses but the confirmations are also from economic development professionals who can promote any model with a better success.

### **6.3.2 Presentation of results for incubation managers (South Africa)**

The following section reflects the results collected from South African incubation managers (incubation centres). There are 23 incubation centres currently available in South Africa with one incubation manager for each, except Furntech in which two centres are each run by one manager. This reduces the total incubation managers to 22. From these twenty two incubation centre managers, two were not found to participate in the survey. Questionnaires were therefore distributed to all 20 centre managers of which only 12 responded. This is a 60% response rate. This is in line with the census type of data collection discussed in the methodology section.

#### **6.3.2.1 Distribution of managers by age group**

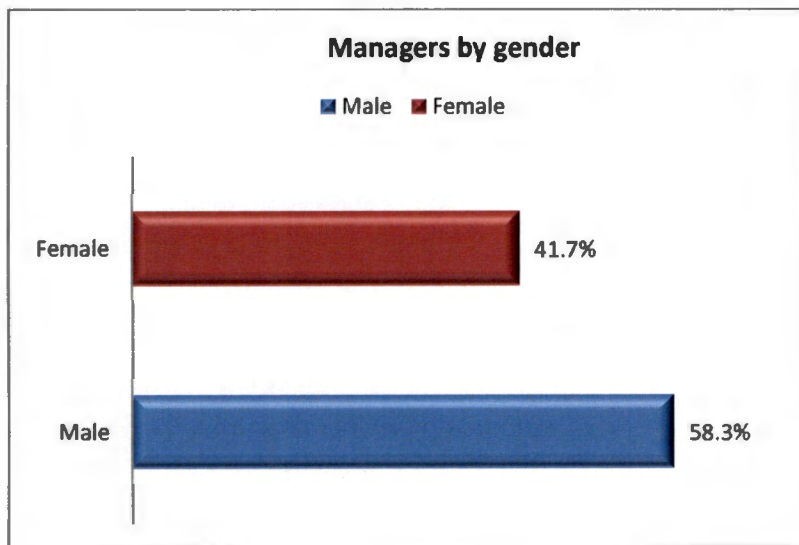
Table 6.7 reveals that the average age of most managers (5 or 41.7%) who responded was 35.5 years as shown in Table 6.5. This was followed by four (33.3%) managers whose average age was 50.5 years. The lowest number of managers (3 or 25%) averaged 30 years old. The results suggest that most of the managers are of mature age and thereby will have gained considerable experience.

**TABLE 6.7: DISTRIBUTION OF MANAGERS BY AGE GROUP**

Managers by age			
		Frequency	Percentage (%)
Valid	25–35	3	25
	36–45	5	41.7
	46–55	4	33.3
	Total	12	100

### **6.3.2.2 Distribution of managers by gender**

As the distribution of gender summarised in Figure 6.6 indicates most (7 or 58%) of the respondents were male whereas there were only five (41.7%) were female. This may suggest that there are more male managers than female managers in incubator centres in South Africa.



**FIGURE 6.6: DISTRIBUTION OF MANAGERS BY GENDER**

### 6.3.2.3 Distribution of managers by highest academic qualification

Most of the managers (4 or 33.3%), as depicted in Figure 6.7, were holders of honours degrees as depicted in Figure 6.7. This was followed by managers who were holders of master's degrees (3 or 25%). The BTech degree holders accounted for two (16.7%) of the respondents. There was only one (8.3%) manager with a doctoral degree, and one (8.3%) with Grade 12 (matric).

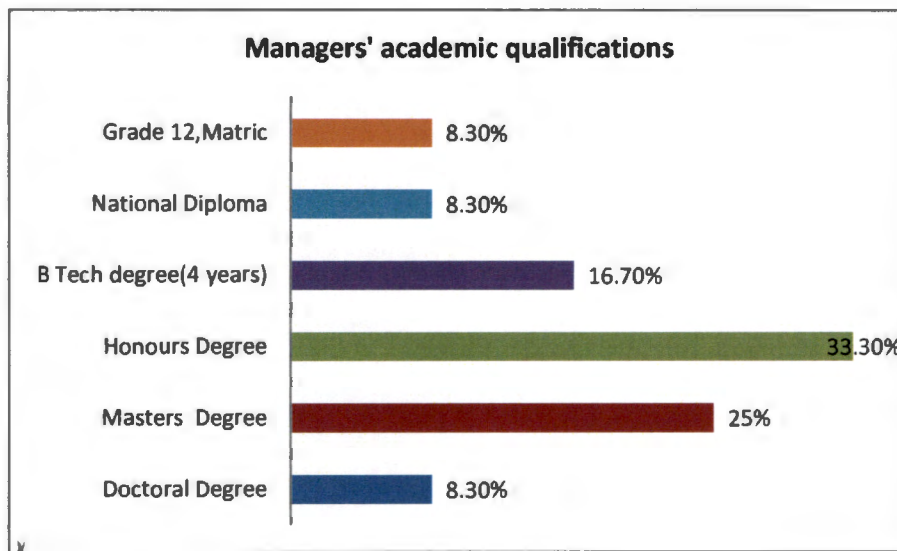
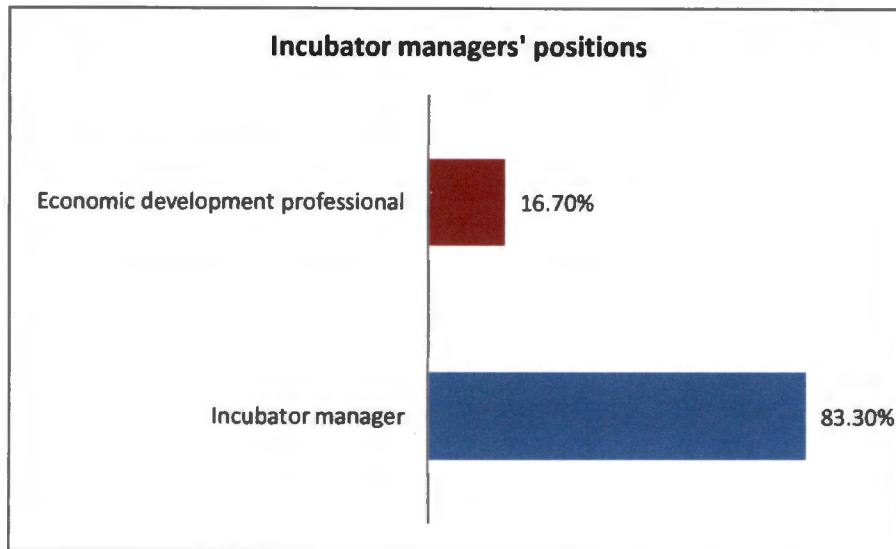


FIGURE 6.7: MANAGERS' QUALIFICATIONS

### 6.3.2.4 Designation of incubator staff positions

Figure 6.8 illustrates that the majority (10 or 83.3%) of managers were designated 'incubation managers' while two (16.7%) of the positions were designated 'economic development professionals'.



**FIGURE 6.8: INCUBATOR MANAGERS' POSITIONS**

**6.3.2.5 *Managers' duration of stay in the incubation industry***

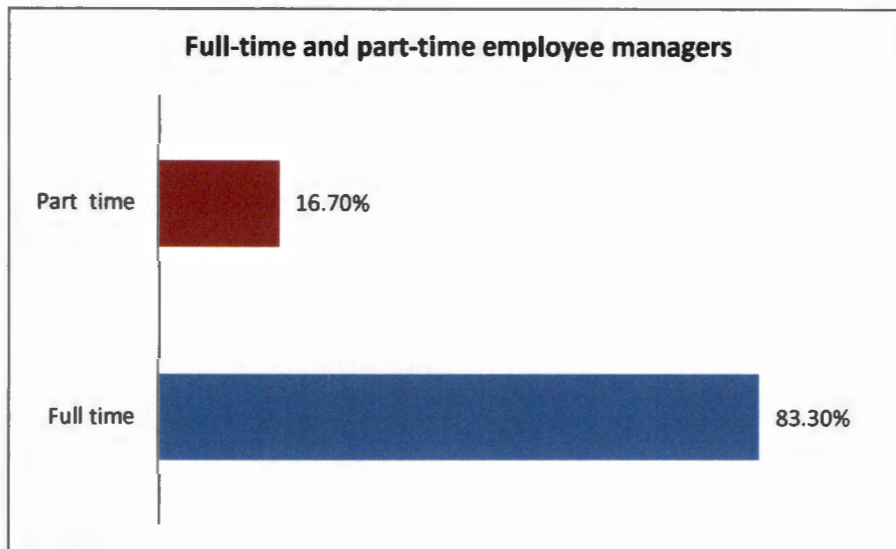
Incubator staff, more especially the incubation managers' skill and experience are very crucial for the success of clients and graduates. In order to determine the amount of experience managers had in the incubation industry, they were asked how long they had been in the industry. It was revealed (Table 6.8) that managers had as much as 9 years experience in the incubation industry while others had as little as 9 months experience.

**TABLE 6.8: MANAGERS' DURATION OF STAY IN THE INCUBATION INDUSTRY**

Managers' duration in industry			
	Duration (years)	Frequency	Percentage (%)
Valid	0.9	1	9.1
	1	2	18.2
	1.5	3	27.3
	2	1	9.1
	6	2	18.2
	7	1	9.1
	9	1	9.1
	Total	11	100
	Missing	1	
	Total	12	

#### **6.3.2.6 Full-time and part-time employee managers**

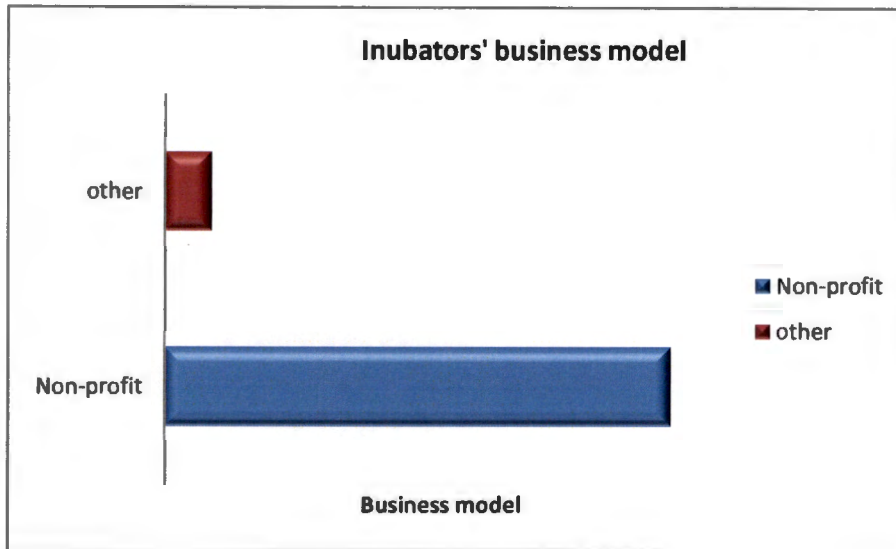
Incubation managers are one of the resources that clients can make use of as a tenant in an incubation centre. Managers' skills such as in finance, marketing or legal related have a great impact on client's success. To determine the level of total commitment managers had to incubation centres, the researcher asked how many full-time and part-time staff were employed. The results (Figure 6.9) suggested that most of the managers dedicated most of their time to incubators where the majority (10 or 83.3%) stated that they were full-time employees. Only two (16.7%) indicated that they were part-time employees.



**FIGURE 6.9:** FULL-TIME AND PART-TIME MANAGERS

### **6.3.2.7 *Types of incubator business model***

The researcher asked the managers to define the type of business model applicable to their incubators. The majority (11 or 91.7%) of the managers (Figure 6.10) stated that their incubators were not making a profit. This would imply that most of them were interested in the success of their clients and not necessarily making money. The remaining manager, one (8.3%) operated 'a service delivery model'. This respondent did not clearly state whether this was a non-profit or profit making incubator. The big question arising is whether non-profit incubators will be sustainable. The biggest challenge will be to expect subsidy from government and the failure to generate income from the incubator itself. The results were in line with most USA incubators where about 75% were non-profit oriented (Lewis, 2001). The challenge remains for developing and middle income countries to continuously inject money to support incubators with limited available resources.



**FIGURE 6.10: INCUBATOR'S BUSINESS MODEL**

### **6.3.2.8 Type of incubator industry**

The highest number of managers (4 or 33.3%) is running manufacturing incubators followed by three (25%) managers who are in the agriculture industry. The remaining managers were involved in Life sciences, ICT/Electronics, Chemicals and Mining as shown in Figure 6.11.

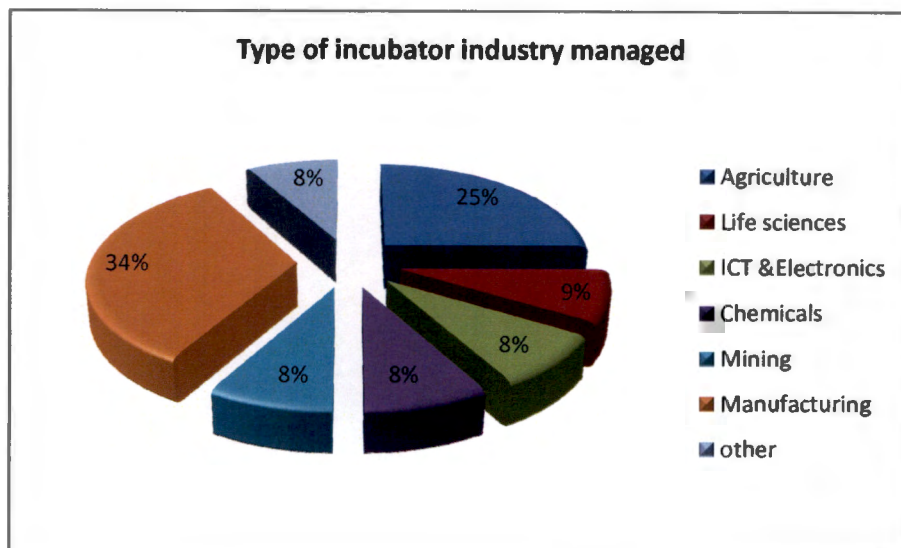


FIGURE 6.11: TYPE OF INCUBATOR INDUSTRY

### 6.3.2.9 Main objectives of incubators

One incubator is different from the other based on the objective each incubator wants to achieve. The impact or measurable results are also different according to incubator objectives. One can only talk about incubator impacts or outcomes after clearly identifying the main objectives of incubators. As shown in Table 6.9, all (100%) of the South African incubators under the SEDA programme participated in this survey, targeted poverty alleviation as number one priority. This was followed by 'retaining business in the community' (58.3%) and creating jobs for community (33.3%). All these three objectives emphasised one and the same thing, alleviating poverty through creating jobs in communities.

As illustrated in Table 6.6 some incubators (2 or 16.7%) targeted the employment of women and encouraging minority as their priority. This was true as the researcher personally experienced during a visit to Timbali Agricultural Incubator. Women with no qualification and skills were empowered to generate considerable income for themselves and their community through the support of incubators. Other incubators

(16.7%) also planned for wealth creation. One incubator manager mentioned a different objective of “supporting emerging contractors” as their main goal. The results have been tabulated in Table 6.6 below.

**TABLE 6.9: MAIN OBJECTIVES OF INCUBATORS (MULTIPLE RESPONSE)**

Objectives	Number of respondents	Percentage (%)
Poverty alleviation	12	100%
Retaining business in the community	7	58.3%
Creating jobs for local community	4	33.3%
encouraging minority/women entrepreneurship	2	16.7%
Wealth creation	2	16.7%
Other, support emerging contractors	1	8.3%

### **6.3.2.10 Source of funding for incubators**

All South African incubators are fully sponsored (subsidised) by government. The results are shown Table 6.10 below.

**TABLE 6.10: SOURCE OF FUNDING FOR INCUBATORS**

Source of funding for incubators			
		Frequency	Percentage (%)
	Government	12	100

### **6.3.2.11 Demographic groups of entrepreneurs targeted by incubators**

Table 6.11 shows the demographic groups of South African incubators targeted. The results revealed that the majority targeted black people (75%) followed by women (50%)

and coloured and Indians (41.7%). The least targeted entrepreneurs were immigrants. It was unexpected to find a South African incubator targeting immigrant and nondomestic entrepreneurs for assistance. There are incubators in the USA that specifically target immigrant entrepreneurs with the belief that such entrepreneurs contribute towards job creation and economic development (Knopp, 2006).

**TABLE 6.11: DEMOGRAPHIC GROUPS OF ENTREPRENEURS TARGETED BY INCUBATORS (MULTIPLE RESPONSES)**

Demographic groups of entrepreneurs' targeted by incubators		
Demographic focus	Number of Respondents	Percentage (%)
Blacks	9	75
Women	6	50
Coloured	5	41.7
Indians	5	41.7
Micro entrepreneurs	4	33.3
No special focus	3	25
Other ,please specify	3	25
Immigrant entrepreneurs	1	8.3

### **6.3.2.12 Type of assistance**

Incubators provide entrepreneurs with an array of services. These services range from helping with business basics to specialised and targeted assistance. As any other business support model, incubators are providing assistances in areas such as business basics, networking, marketing and access to finance. The services provided by South African incubators have been summarised in Table 6.12 below.

**TABLE 6.12: TYPE OF ASSISTANCE (MULTIPLE RESPONSES)**

Type of assistance	Number of incubators (out of 12)	Programmes offered by percentage (%)
Shared administrative or office services	12	100
Help access commercial bank loans	11	91.7
Help with business basics	10	83.3
Networking	9	75
Special equipment or facility	9	75
Help access non- bank loans	9	75
Assistance with product design and development	9	75
Help with regulatory compliance	8	66.7
Access to angel investors/venture capital investors	8	66
Marketing assistance	6	50
Internet access	6	50
Help with accounting or financial management	5	41.75
Access to mentors	5	41.7
Comprehensive business training programmes	5	41.7
International trade assistance	5	41.7
Linkages to higher education resources	4	33.3
Intellectual property management	4	33.3
Technology commercialisation assistance	2	16.7
Other, please specify	1	8.3

Business incubators hold keys to incubation centres in value addition in providing facilities and services mentioned above. As indicated in Table 6.12, all incubators (100%) are providing entrepreneurs (clients) with shared administrative or office services. It seems that incubators have identified the importance of facilities for their clients especially in their start-up phase. Business incubators create value in providing shared services and facilities for their clients. These shared services and facilities below

market rate can relieve the financial constraints where most start up businesses face. Apart from administrative and office, incubators provide clients with help in accessing of commercial bank loans. This is the second highest assistance (91.7%) provided by incubators. Apart from the assistance of incubators in the preparation of fundable business plans and all application procedures, the trust banks build as a result of incubators increase chances of getting funding. The trust of banks to direct SMME application for funding compared to applications through incubators is different.

The assistance of incubators in accessing bank loans (91.7%) is higher with regards to assistance provided in accessing angel investors/venture capital investors (66%) which is not much common in South Africa. However, this figure (66%) is almost equal to findings on incubator support services in the USA. In the 2006, the US State of the Business Incubation Industry Survey, more than two-thirds of incubators provided their clients with access to angel investors or angel networks (69%) or angel capital investors (67%) (Knopp, 2006).

Table 6.12 also illustrates that incubators offered 83.3% business basics assistance to entrepreneurs. The basics might include entrepreneurial and business skills such as idea generation, opportunity identification, managerial, accounting and marketing skills. This function appears high signifying how important the intervention is for clients especially in an environment with low entrepreneurial skill such as South Africa. The incubators have made it a priority to equip entrepreneurs with basic skills more than anything else.

The following interventions received 75% assistance each; networking; help to access non-bank loans; offer of special equipment or facility; and assistance with product design and development. The latter assistances were mainly of the non-financial nature. These were some of the interventions incubators provided as tailor-made services to clients' specific needs. Equally important was the assistance of regulatory compliance which most entrepreneurs tend to overlook. More than two-thirds of incubators assist clients to comply with regulatory procedures such as registration, tax, and licensing.

It is interesting to find that only 41.7% of incubators (Table 6.12) provide mentorship as one of their client service intervention. This seems relatively low considering the current skills gap. The linkage to higher education resources was low at 33.3%. This is despite many scholars' recommendations of linkages to institutions like universities as one of the success factors for incubation models, owing to the presence of experts and machinery which can be shared by incubator staff and clients (Mbewena, 2006: 74). One of the respondents answered 'Other' for services provided and classified this by stating "full business and technology package".

Generally speaking one can say South African incubators are providing more or less the same services which US incubators are providing (Knopp, 2006: 27). This was the national business incubation study, done in 2006 with 33 business assistance variables compared with 19 variables in this study. The major interventions/support services are almost the same with those given by South African incubators. Given the newness of the incubation concept in South Africa, it is encouraging that the majority of business incubators have identified the major gaps among SMMEs and add value in those areas.

#### **6.3.2.13 Year incubation centres started receiving clients**

Responses from incubator managers with regards to when they received their first clients show the earliest South African incubators started receiving clients in the year 2000. This is in line with the South African business incubation history available in Godisa and SEDA reports discussed in the literature. From 2000 onwards, incubators have been receiving clients with equal percentages from the year 2004 to 2008. A time line has been summarised in Table 6.13.

**TABLE 6.13: YEAR INCUBATION CENTRES STARTED RECEIVING CLIENTS**

Year incubation centre started receiving clients			
		Frequency	Percentage (%)
	2000	1	9.1
	2001	1	9.1
	2002	2	18.2
	2003	1	9.1
	2004	2	18.2
	2007	2	18.2
	2008	2	18.2
	Total	11	100
	Missing	1	
		12	

**6.3.2.14 Number of clients admitted per industry/year**

Tables 6.14 and 6.15 below show details of the number of clients admitted (input) and graduates (output) respectively, for all South African incubation centres that participated in this survey. Comparison can be made on the total number of clients admitted (769) and the total number of graduates (128) from all the industries and the specific years. An enormous difference is apparent between the number of clients received and graduates who exited incubation programmes successfully. The difference may have appeared because clients take too long to graduate. The graduation time may not be fixed, mostly dependent upon the type of industry and entrepreneur performance. A good example is in the case of Life Science incubatees who may take as long as 7 years to graduate. This was concurred from an interview with Mr Siphon, the incubation manager for eGoli Bio, one of South African life science incubators.

**TABLE 6.14: NUMBER OF CLIENTS ADMITTED PER INDUSTRY/YEAR**

Industry	No of entrants									Total
	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Agriculture (1)								30	20	<b>50</b>
Agriculture (2)				10	20	22	30	30	25	<b>137</b>
Agriculture (3)							30	21	20	<b>71</b>
Life sciences								15	21	<b>36</b>
ICT/Electronics							34	57	77	<b>168</b>
Chemicals							32	39	53	<b>124</b>
Bio-tech										<b>1</b>
Mining								1		<b>1</b>
Manufacturing(1)							12	9		<b>21</b>
Manufacturing(2)		2		4		4		3		<b>13</b>
Manufacturing(3)								11		<b>11</b>
Manufacturing(4)				4		1	3	9	4	<b>21</b>
Manufacturing(5)	10				10	10	10	10		<b>50</b>
Service								2		<b>2</b>
Mixed use										
Other, Construction							19	34	10	<b>63</b>
<b>TOTAL</b>	<b>10</b>	<b>2</b>		<b>18</b>	<b>30</b>	<b>37</b>	<b>181</b>	<b>271</b>	<b>230</b>	<b>769</b>

As reflected in Tables 6.14 and 6.15, the number of admitted clients and graduates seem to have increased from the year 2001 until 2009 except for a small decline recorded in the year 2009. This was because the data was collected in the middle of the year (June–August, 2009). The large number of entrepreneurs served by incubation centres is truly a huge success for South African incubators. Agricultural incubators

recorded the highest number of clients which totalled to 258, followed by Information Communication Technology (168); Chemicals with (124) clients; Manufacturing (117) and Construction (63). On the other hand the Mining and Services industries had the lowest number of clients with only one and two clients respectively. Table 6.15 below shows the number of graduates per year per industry during the period 2001 to 2009.

**TABLE 6.15: NUMBER OF GRADUATES PER INDUSTRY/YEAR**

Industry	No of graduates									Total graduates
	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Agriculture (1)										
Agriculture (2)								24	3	<b>27</b>
Agriculture(3)										
Life sciences						1	1			<b>2</b>
ICT/Electronics							8	6	1	<b>15</b>
Chemicals							32	39		<b>71</b>
Bio-tech										
Mining										
Manufacturing(1)								4		<b>4</b>
Manufacturing(2)			1		2		2		1	<b>6</b>
Manufacturing(3)										
Manufacturing(4)									1	<b>1</b>
Manufacturing(5)									2	<b>2</b>
Service										
Mixed Use										
Other, Construction										
<b>TOTAL</b>			<b>1</b>		<b>2</b>	<b>1</b>	<b>43</b>	<b>73</b>	<b>7</b>	<b>128</b>

### **6.3.2.15 Current number of clients served per incubator**

All the managers (12) responded over the number of clients their incubators were currently serving. This included both clients within the incubator and those operating

outside the incubators; resident and non-resident. The results (Table 6.16) revealed that business incubators serviced 593 clients. The highest number being served by an incubator was 103, while the lowest number was 11. On average each incubator served about 49 clients which was a large number compared to other similar studies in the USA, where the average number of clients was 25 (Knopp, 2006: 41). Note must be taken that the number of clients will vary according to the type of incubator or the objective of the incubator. Therefore the number of clients served will not necessarily signify the importance of an incubator from the other, nor will it signify the efficiency of one incubator from the other.

**TABLE 6.16: CURRENT NUMBER OF CLIENTS SERVED PER INCUBATOR**

Total number of clients being served by incubators			
	Number of clients	Frequency	Percentage (%)
	11	1	8.3
	25	1	8.3
	77	1	8.3
	15	1	8.3
	24	1	8.3
	25	1	8.3
	50	1	8.3
	53	1	8.3
	62	1	8.3
	71	1	8.3
	77	1	8.3
	103	1	8.3
Total	593	12	100

### **6.3.2.16 The most important factor for clients to join incubation centres**

Incubation managers were requested to provide information on factors that were most important for their clients during the admission process. The three most important factors in their order of importance were: Networking (100%), business and technical skills (91.7%) and expert advice (91%). Though this was the actual order of importance,

finance seemed to have equally been important with (90%); while 'lower rent facility' was the least important (75%). This clearly shows the significance of networking and the value of people and experts compared to other factors like finance and facility. Confirmation can somewhat be drawn on the fact that business incubation is not all about facility and building, it is about the people who are surrounding and supporting entrepreneurs and the value they add to business owners. The most important factors for clients to join the incubation centres are shown in Table 6.17.

**TABLE 6.17: MOST IMPORTANT FACTOR FOR CLIENT TO JOIN INCUBATION CENTRES**

Type of assistance	Number of Incubators	Percentage (%)
Net working	11	100
Business and technical skills	11	91.7
Expert advice	10	90.9
Finance	9	90
Lower rent facility	9	75

### **6.3.2.17 Client selection criteria**

Different incubators have different selection criteria. No one rule or selection criteria can be assigned to one incubator or the other. The researcher gave the different incubation managers a number of criterions of admission of clients based on their type of incubator. Of all criteria (Table 6.18), most managers rated 'entrepreneurs' commitment' and 'type of industry' at 100%. This was followed by the 'objective of the incubator', which was rated at 72.7%. 'Potential for growth of the client' was rated fourth with 66.7%, while the 'ability of the client to pay rent was rated fifth with 58.3% (Table 6.14). Availability of finance was fifth in the order of priority of admission. The lowest rated were 'availability of finance' and 'availability of a good business plan' at 18% and 10% respectively. Surprising to this finding was the low rating place on 'availability of

finance', as this raises the question of sustainability of incubators, owing to the fact that incubators may not be sustainable in the long run.

**TABLE 6.18: CLIENT SELECTION CRITERIA**

Client selection criteria	
	Percentage (%)
Entrepreneurs' commitment	100
Type of industry	100
Objective of the incubator	72.7
potential for growth	66.7
Ability to pay rent	58.3
Excellent business opportunity	45
Good business plan	30
Availability of finance	18
Availability of skilled staff	10

### **6.3.2.18 Challenging tasks for incubators during the client admission process**

Incubation managers were asked to report their difficulties during the initial client admission process. The researcher was interested to get information about the main challenges incubators faced especially during the opening phase of an incubator. This is the time when incubators and their worth are not fully appreciated in a specific community and by entrepreneurs. As a result incubators struggle to show their significance and their potential to contribute towards business success and community development. They even struggle to enrol applicants. As indicated in Table 6.19, credibility from prospective clients was the highest difficulty (36.4%) incubation managers experienced. Equally difficult (36.4%) was matching client needs to the incubator resources. Once incubators proved their worth, many entrepreneurs are then keen to join. There should be proper thinking to match available resources such as experts and facility or machinery to the real need of each client. Otherwise incubators fail to add value to the success of one's business and entrepreneurs remain with their challenge they had before. Failure to match such needs leads to wastage of resources.

**TABLE 6.19: CHALLENGING TASKS FOR INCUBATORS DURING CLIENT ADMISSION PROCESS**

Task	Number of Incubators	Percentage (%)
Matching client needs to incubator resources	4	36.4
Credibility from prospective tenants	4	36.4
Marketing the incubator	2	18.2
Applicants business plan review process	2	18.2
Total	11	100
Missing	1	
Total	12	

**6.3.2.19 Maximum duration client successfully stayed in an incubator**

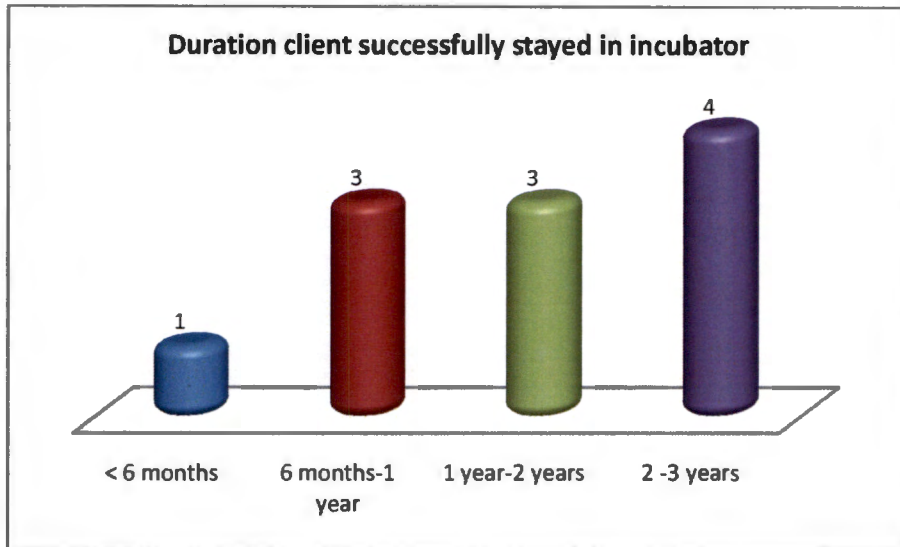
Managers were inquired on what they considered the maximum successful stay a client had in their incubator. As indicated in Table 6.20, the majority (5 or 45.5%) indicated two years as the highest duration. There were three (27.3%) managers who recorded the most successful stay at 12 months. Fewer managers stated having had clients who stayed for more than two years. These included one (9.1%) and two (18.2%) who indicated that the most successful client durations in their incubators were three and four years respectively. The results show that in some incubators the duration of stay of a client in an incubator can reach as long as four years.

**TABLE 6.20: MAXIMUM DURATION CLIENT SUCCESSFULLY STAYED IN INCUBATOR**

Maximum duration client successfully stayed in incubator			
		Frequency	Percentage (%)
	1 year	3	27.3
	2 years	5	45.5
	3 years	1	9.1
	4 years	2	18.2
	Total	11	100
	Missing	1	
	Total	12	

**6.3.2.20 Minimum duration client successfully stayed in an incubator**

Having determined the maximum successful stay a client had in an incubator, the researcher enquired on the minimum successful stay a client achieved. This was about finding the minimum duration a client stayed in an incubator and graduated successfully. It was about finding the shortest successful duration of a client. The shortest period recorded (Figure 6.12) was given by one (9.1%) manager, which was the stay of less than 6 months. It shows that clients can leave incubation within 6 months. The majority of the managers, (7 or 63.7 %) indicated that the shortest and successful period clients stayed was less than two years. The remaining four (36.4%) managers indicated from two to three years minimum duration. These results have been summarised in Figure 6.12 below:



**FIGURE 6.12: MINIMUM DURATION CLIENT STAYED IN INCUBATOR**

### **6.3.2.21 Clients who left the incubation centre before graduation**

Having assessed the successful graduation of clients, the researcher went on to inquire whether there were any clients who left incubators before graduating. The results as depicted in Table 6.20 were dismal seeing that nine (75%) managers stated that they actually had clients who had left prematurely. Only three (25%) managers stated that they had no clients who had left prematurely. With such a high rate of managers stating the significance of drop-outs, a question arises concerning the loss of time and other resources being experienced by these incubators and client's themselves. Problems like these can be rectified by careful selection procedures.

**TABLE 6.21: CLIENTS WHO LEFT THE INCUBATION CENTRE BEFORE GRADUATION**

Clients who left the incubation centre before graduation			
		Frequency	Percentage (%)
	Yes	9	75
	No	3	25
	Total	12	100

**6.3.2.22 Number of people employed by incubator clients (resident and non-resident)**

Figure 6.13 indicate the number of people employed by incubator clients at that time. The total number of people employed was 478. The highest number (238) employed was accounted for by only one (8.3%) incubator. This was followed by two (16.7%) incubators who employed 33 employees each. Referring back to the total number of 'clients/graduates served by incubators' which was 593 (Table 6.16), a question may be posed as to why so many clients/graduates employed less people (478). A rational explanation would be that not all incubator clients had reached the stage where they need to employ. For example some incubator clients might have been in the business planning phase; product/service design phase; or indeed had no need for more employees. Figure 6.13 below gives a list of the number of incubators and jobs created.

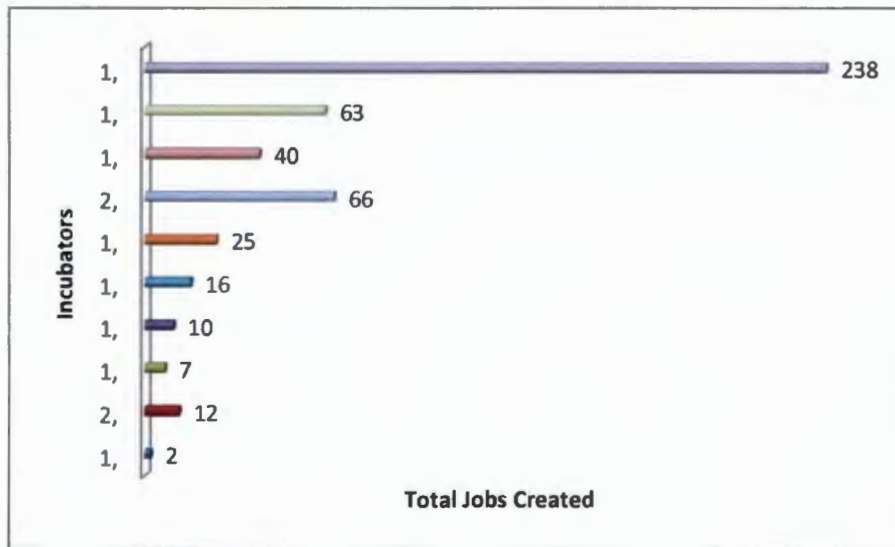


FIGURE 6.13: JOBS CREATED BY CURRENT INCUBATOR CLIENTS

### 6.3.2.23 Incubator graduates' survival

The empirical analysis of the study on graduate survival showed that the business survival rate was above two years as noted by 8 (66.6%) of the respondents. As shown in Table 6.22, the remaining four (33.3%) managers stated that graduates stayed for less than one year.

TABLE 6.22: INCUBATOR GRADUATES' SURVIVAL

Incubator graduates' survival			
		Frequency	Percentage (%)
	Less than 1 year	4	33.3
	2 years	4	33.3
	3 or more years	4	33.3
	Total	12	100

### 6.3.2.24 *Minimum duration that incubator graduates stayed in business*

It was the interest of this researcher to find out the minimum duration an incubator graduate stayed in business before collapsing. Figure 6.14 Shows that the majority (5 or 45.5%) of the managers indicated that graduates went out of business within one year. All graduates were still in business according to the response given by one manager (1 or 9.1%). The fact that the response of the majority of managers indicates some of their graduates went out of business after graduating, should not be construed to mean that there was a high rate of graduates going out of business. The prime focus of this survey was to find out the actual minimum duration it took any graduate to go out of business.

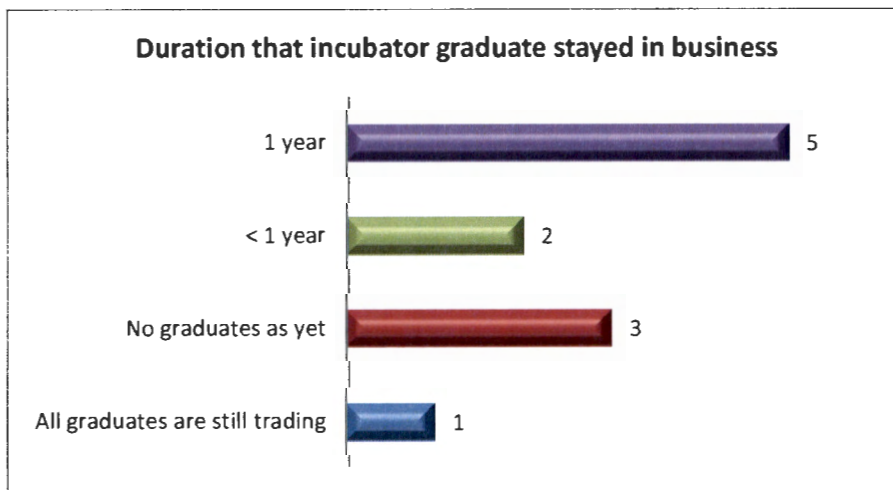


FIGURE 6.14: MINIMUM DURATION GRADUATES STAYED IN BUSINESS

### 6.3.2.25 *Graduates no longer in business (excluding those acquired or merged)*

The researcher was interested in finding out the number of graduates that had actually gone out of business after leaving incubation successfully. The results (Table 6.23)

showed that most of the graduates were still in business. This was reflected from the response given by five (41.7%) managers who stated that all their graduates were still in business. Surprisingly, one (8.3%) manager indicated that 35 graduates from their incubator were no longer in business. Albeit the alarming response from this specific incubator, an impressive rate of business success by incubator graduates was observed.

TABLE 6.23: GRADUATES NO LONGER IN BUSINESS

	Graduates no longer in business	Frequency	Percentage (%)
	2	1	8.3
	3	1	8.3
	35	1	8.3
	No graduates as yet	3	25
	All graduates are in business	5	41.7
	Other	1	8.3
	Total	12	100

#### 6.3.2.26 Graduate firms in business (including those acquired or merged)

The business success of graduates was affirmed in the study carried out by the researcher where managers were asked to state how many of their incubator graduates were still in business. The majority of the managers (5 or 41.7%) as depicted in Figure 6.15 stated that all their graduates were still in business. Suffice to say that all incubators had some graduates who were still in business. This, however, excludes three (25%) incubators who had not had any graduates yet. There were four graduates still in business in one (8.3%) incubator, three in another incubator and two graduates each in two (16.7%) incubators.

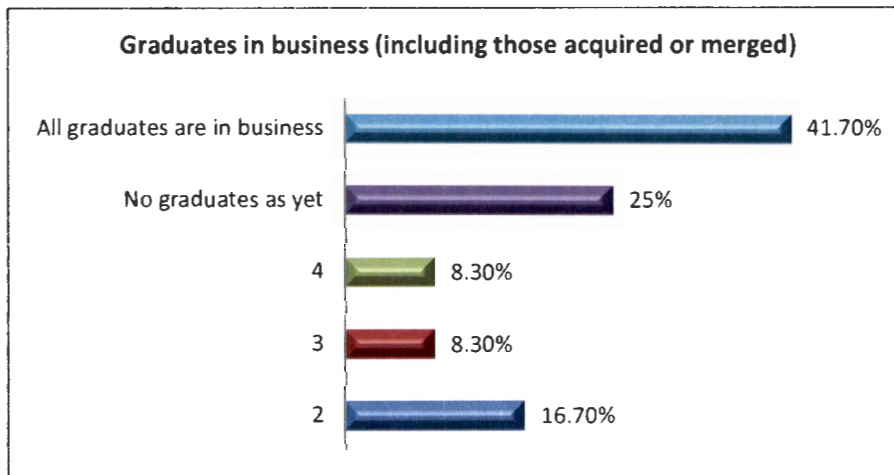


FIGURE 6.15: GRADUATES IN BUSINESS

### 6.3.2.27 *Jobs created by incubator graduates*

Table 6.24 shows that there were 390 jobs created by incubator graduates. The highest number of jobs (150) was created from graduates of only one (8.3%) incubator. No graduates had yet been recorded from two (16.7%) incubators; therefore no job creation was expected. A manager from incubator 1 (8.3%) indicated that they did not know how many jobs their graduates had created. This raises the question as to whether enough information is being kept about graduates by incubators or whether any relationship continues to be harnessed. All 12 managers who responded indicating that their incubators had graduates, all stated that jobs had actually been created by their graduates.

**TABLE 6.24: JOBS CREATED BY INCUBATOR GRADUATES**

Jobs created by incubator graduates so far				
	Jobs created by incubator graduates	Frequency	Total no. of jobs created	Percentage (%)
	4	1	4	1
	13	1	13	3.3
	15	1	15	3.8
	20	1	20	5.1
	28	2	56	14.4
	48	1	48	12.3
	150	1	150	38.5
	No graduates as yet	2	0	
	Do not know	1	0	
		1	84	21.5
	Total	12	390	100

**6.3.2.28 Does incubation contribute to the survival of firms/businesses?**

The researcher asked managers on the emphasis they placed on the contribution of incubation towards better business survival. All the respondents (12 or 100%) strongly agree/agree on business incubations contribution to better business survival (Table 6.25).

**TABLE 6.25: DOES INCUBATION CONTRIBUTE TO THE SURVIVAL OF BUSINESSES?**

Does Incubation contribute to better survival of firms/businesses			
		Frequency	Percentage (%)
	Agree	5	41.7
	Strongly agree	7	58.3
	Total	12	100

### 6.3.2.29 Incubated firms create more jobs than non-incubated ones

Figure 6.16 reveals that the majority (7 or 58.3%) of the managers interviewed were of the opinion that incubation did contribute directly to job creation; whilst six (50%) stated that they 'Agreed' and one (8.3%) 'Strongly agreed'. Only one (8.3%) manager did not agree with the view that incubation contributing to job creation.

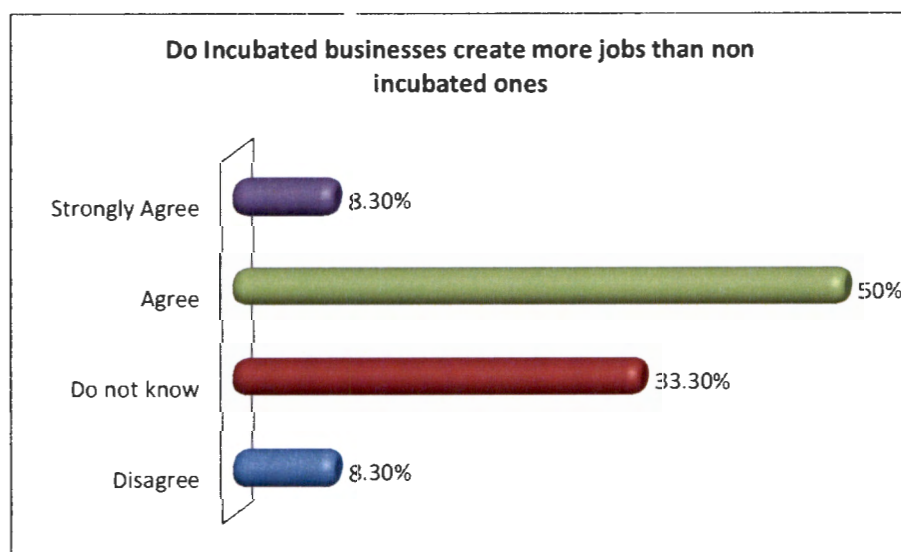


FIGURE 6.16: INCUBATED BUSINESS CREATE MORE JOBS

### 6.3.2.30 Do incubated firms record better turnover results than non-incubated firms?

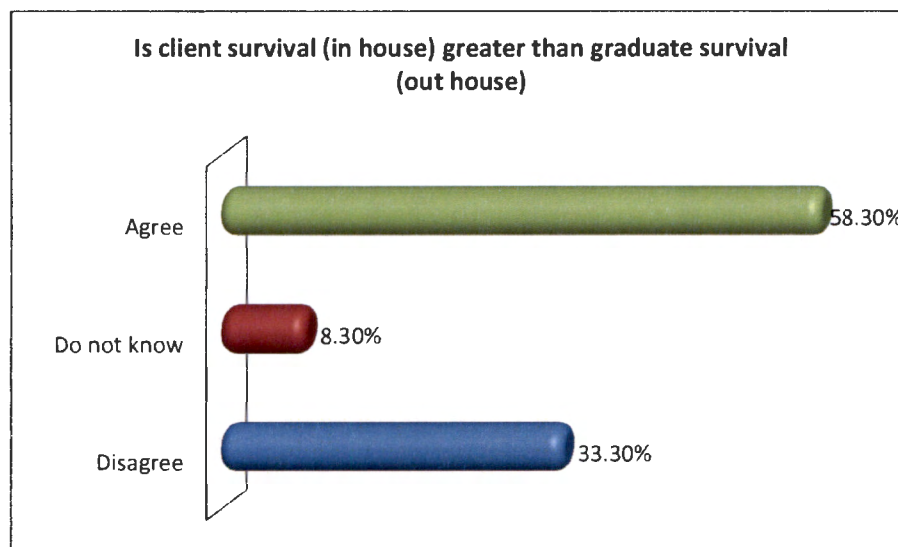
Table 6.26 shows that most organisations are reluctant to give their financial performance because of competition. This was attested by the results on what managers thought about concerning incubated firms' turnover. Half of the respondents (6 or 50%) agreed that incubated firms had better revenue than the non-incubated ones. The other half (6 or 50%) of the managers stated that 'they did not know'.

**TABLE 6.26: INCUBATED FIRMS RECORDED BETTER TURNOVER RESULTS THAN NON-INCUBATED FIRMS**

Do incubated firms record better turnover results than non-incubated firms?			
		Frequency	Percentage (%)
	Do not know	6	50
	Agree	3	25
	Strongly agree	3	25
	Total	12	100

**6.3.2.31 Is client/graduate survival “in-house” greater than graduate survival “out-house”?**

In this study, the researcher wanted to analyse whether the impact of incubators is best appreciated when graduates perform well after external support declined or ceased totally. Managers were asked whether clients survived better “in-house” or whether the graduates survived better out of the incubator “out-house”. As shown in Figure 6.17 the majority (7 or 58.3%) of the managers agreed that survival was better in-house while the remaining four (33.3%) managers disagreed with the statement.



**FIGURE 6.17: CLIENT/GRADUATE SURVIVAL**

### 6.3.2.32 *Is graduate feedback a great challenge to managers?*

In all previous personal communications with incubation professionals in South Africa and abroad, there was a consensus in having some challenges in creating contact once graduates exit incubation centres. The writer was therefore interested to know the degree of the problem among South African incubation managers. As Figure 6.18 shows, the majority of the managers (5 or 50%) agreed that getting feedback is a difficult exercise. The challenge concerning failure to obtain feedback from graduates poses a threat for managers because they will fail to monitor and evaluate the performance of graduates once they leave the incubator.

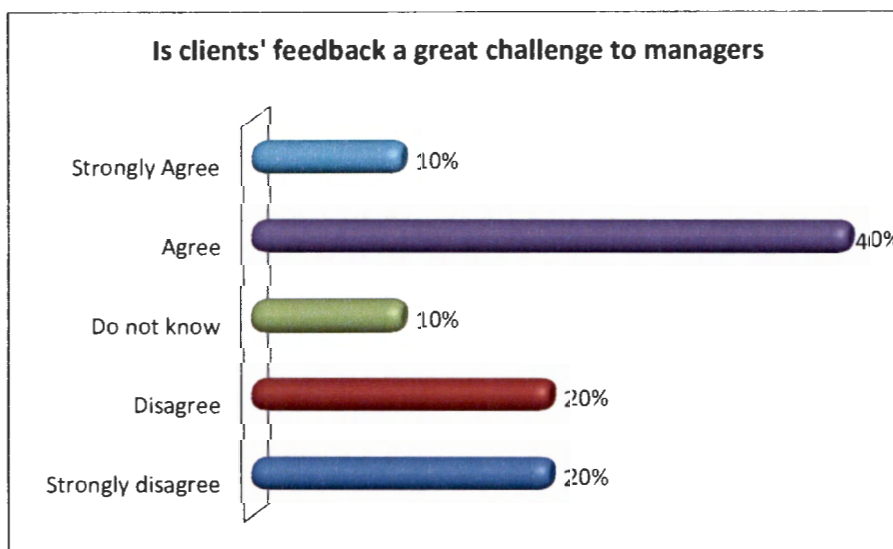


FIGURE 6.18: CLIENTS' FEEDBACK A GREAT CHALLENGE TO MANAGERS

### 6.3.2.33 *Is business incubation proper use of public money?*

As indicated in Figure 6.19, incubation managers have a different perception on business incubation model as proper use of public money. This was because the majority of the services rendered by incubation centres are funded by government. This funding raised many debates in many countries with an argument that it is better to

finance SMMEs directly than through incubation centres (Lewis, 2001). An overwhelming majority (11 or 91.7%) of the managers totally sided with the notion that business incubation is proper use of public money. There was only one (8.3%) manager who responded 'Did not know'.

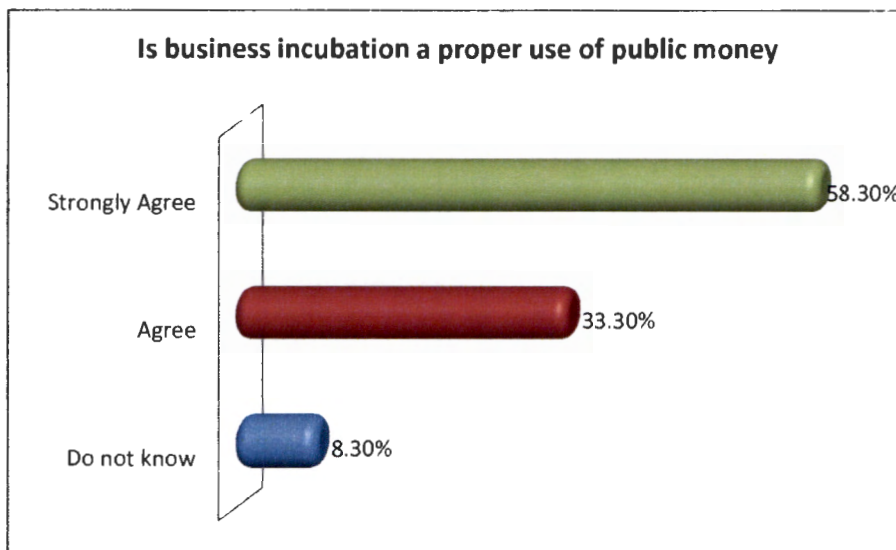
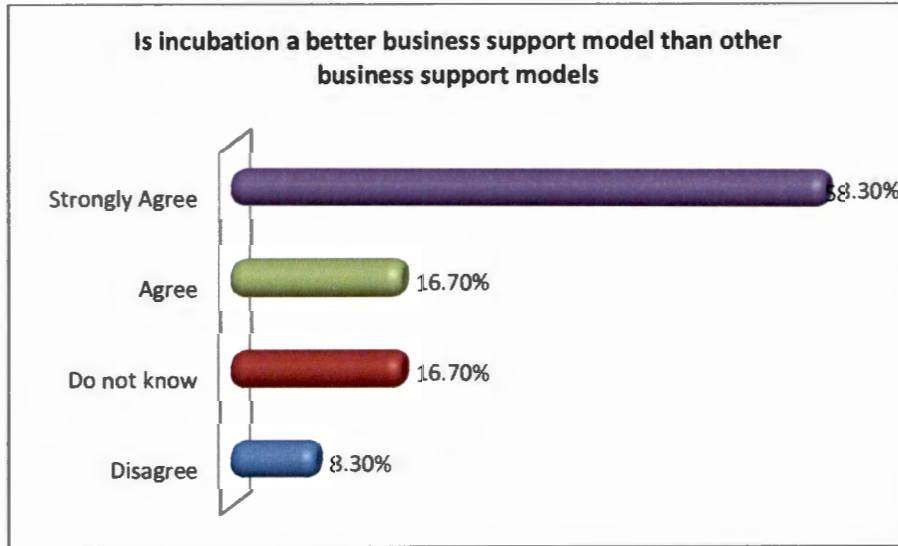


FIGURE 6.19: INCUBATION A PROPER USE OF PUBLIC FUNDS

**6.3.2.34 Is incubation a better business support model than other support models?**

The results for this question (Figure 6.20) was to determine whether incubation is a better business support model than other business support models such as government support services and schemes. The majority of the managers (9 or 75%) agreed that incubation was actually a better business model than other government support models. As depicted in Table 6.5, the majority (85%) of international respondents also agreed with the notion that business incubation is a better support model than other support models. Both international and South African respondents have given reasons why they think the incubation model is better in the qualitative section of both international and South African responses.





**FIGURE 6.20: INCUBATION A BETTER BUSINESS MODEL**

### **6.3.2.35 QUALITATIVE ANALYSIS (SOUTH AFRICAN MANAGERS)**

Incubation managers in South Africa were asked open-ended questions to express their views on whether incubation was indeed a better support model than other business models. The interview focused on four main topics namely; what were the main reasons for clients leaving incubation before graduation; incubator graduation policies; how incubators kept relationships with graduates, and lastly what makes business incubation a better support model. The findings for these questions have been organised in themes shown in Table 6.27.

**TABLE 6.27: CONTENT ANALYSIS OF OPEN-ENDED QUESTIONS (SOUTH AFRICAN MANAGERS)**

No	Themes	Sub-themes
1	Drop-outs	<ul style="list-style-type: none"> <li>• client failure to meet incubation fees</li> <li>• no resources and finance; no capability to establish business; no motivation to establish business</li> <li>• death of client</li> <li>• inability to manage business finances; employment opportunities</li> <li>• unable to show progress, on-performance</li> <li>• inability to pay rent; lack of sales contract; employment opportunity</li> <li>• change of industry; give up</li> </ul>
2	Graduation policies	<ul style="list-style-type: none"> <li>• graduates have to stay in contact with incubator for minimum of 1 year</li> <li>• 2-year incubation programme</li> <li>• client evaluation 6 months prior to leaving a 3 year incubation programme; on successful completion client receives NQF 5 certification</li> <li>• 3-year incubation; turnover improvement; production area expansion</li> <li>• 1-and-a-half to 2-year incubation period; good credit record with incubator; up to date business plan</li> <li>• successful commercialisation of technology; sustainable revenue generation</li> <li>• financial sustainability; sale turn over; market re financing during post incubation phase; successful track record inside incubator</li> <li>• must be able to run business profitably and sustainably, with or without incubator technology and business packages and software</li> <li>• policy based on 3 year incubation cycle plus client dashboard report, clients rated on monthly basis</li> </ul>
3	Keeping relationships with graduates	<ul style="list-style-type: none"> <li>• encourage graduates to exhibit products at incubator; encourage graduates to enter competitions</li> <li>• networking event, visits, technical advice, mentoring process</li> <li>• binding post incubation process</li> </ul>

		<ul style="list-style-type: none"> <li>• new contract to visit graduate; check progress; assist with needs; continued access to facilities; post graduate incubation facilities therefore graduates still can operate within premises</li> <li>• currently informal plans under way to formalise process in the future</li> <li>• graduates become mentors to new clients; and continue using some of the incubator services</li> <li>• quarterly courtesy phone calls; nomination for award ceremonies; post graduate incubation programme</li> <li>• clients sign a graduation agreement entitling them to use incubator facilities and attend events; require clients to be KPI's and be reference clients</li> </ul>
4	What makes business incubation a better support model	<ul style="list-style-type: none"> <li>• regular interaction and contact; support and management assistance; mentoring in business growth</li> <li>• organisation; commitment; control; focus</li> <li>• provision of protected environment; better chances of growth and sustainability</li> <li>• better accountability; governance; tracking of sustainability</li> <li>• low rental; access to advice; access to skills programmes</li> <li>• the integrated factors that make up all the support services</li> <li>• a business is only as strong as it is weakest link, failure in any of the links in the early stages of a start up business and you usually cannot recover. Incubation provides 360 degree cover on all the links whereas other support systems will focus on only a few links. In incubation an incubator should detect when a young business is in trouble before the entrepreneur even realises they are in trouble and mentors them out of the situation. Usually by the time the entrepreneur realises they are in trouble and seeks help it is too late to recover. If this pre-emptive trouble detection and ameliorative mentorship is conducted then the process can be called incubation, if not it is a business support service.</li> </ul>

A further analysis of the South African incubation managers' perception on some key points in the incubation industry was undertaken. The key points include drop outs or SMMEs leaving incubation centres due to many reasons: graduation policies, the relationship of incubation centres to graduates and whether business incubation is a better support model or not. South African respondents were requested to give their perception on these issues and their responses were collected through open ended questions and follow up interviews. The responses are summarised under the following main points.

**Drop-outs:** A few reasons were forwarded concerning why clients left incubators before graduation. One common cause was the failure of the client to meet incubation fees. In other words, these clients had no resources and financial capability to establish business. Other clients, as the managers stated, simply had no motivation to establish business. The clients did not have the ability to manage business finances, which led to the non-performance. In two instances, clients left because of job offers elsewhere. Reasons for premature graduation by clients can be blamed in the poor selection of clients. Most of the clients selected simply were not entrepreneurs. To them entering an incubator was another way of simply surviving. These were the clients who had no innovation and motivation to stay. As soon as these clients got job offers, they normally took the easy way out and opted to go and work for someone else, where they know a salary was guaranteed. Departure of such clients cannot necessarily be blamed on the incubators. Such clients would be incorrigible as they simply are not entrepreneurs.

**Graduation policies:** With regards to graduation policies, different incubators had different policies. However one common feature was the valuation of clients over a specific period of time. Again, different incubators had different evaluation periods. These ranged from six months to three years. Whereas some incubators evaluated their clients' right through the incubation period, others based their evaluation on a specified period, usually at the end of the incubation term. The terms on which clients were evaluated also differed. Some incubators based their evaluation on performance of the

client, looking at such things as turnover, market share, production and administration. One incubator actually evaluated clients based on the credit record the client maintained with the incubator whilst in incubation. An interesting policy was put forward by one incubator who states that the client must be able to run business profitably and sustainably, with or without incubator technology and business packages and software. This policy encourages sustainability and endurance of the entrepreneur. Incubators also used some form of reward to successful clients, where one incubator actually gave successful incubator clients qualifications (NQF 5) after leaving. The idea of motivating clients with qualification at the end of a successful graduation was good in that it made clients work hard knowing that at the end of the programme they will be rewarded.

**Keeping relationships with graduates:** Most of the managers interviewed stated that they had no hard and fast rule with regards keep any relationship with their graduates. One incubator maintains relationships by encouraging graduates to exhibit products at incubator and the incubator also encourages relationships with graduates through competitions. One question that arises though is whether graduates should continue getting support from incubators or whether incubators should only monitor and evaluate progress after graduation. This is in light of some incubators who indicated that they continued offering mentorship programmes to graduates. Encouragingly some incubators indicated that they have visiting programmes where they periodically visit the graduates. Three incubators stated that they maintained relationship by actually signing graduation agreements. One of the agreements entitles the graduates to even use incubator facilities and attend events. Graduates of some incubators are retained as mentors for new incubator clients. Most of the other incubators are just in the process of formalising post graduate relationships. Maintaining relationship with graduates is important because it can help incubators monitor and evaluate progress of graduates. This will allow the incubator to improve or make changes wherever they feel graduates are failing. An actual visit to graduates is more effective than telephone or through other non-contact means.

**Business incubation as a better support model:** On the question as to whether business incubation was a better model than other business support models, one of the

managers interviewed aptly summed up the importance of business incubation in the following statement:

A business is only as strong as its weakest link, failure in any of the links in the early stages of a start up business and you usually cannot recover. Incubation provides 360-degree cover on all the links whereas other support systems will focus on only a few links. In incubation an incubator should detect when a young business is in trouble before the entrepreneur even realises they are in trouble and mentors them out of the situation. Usually by the time the entrepreneur realises they are in trouble and seeks help it might be too late to recover. If this pre-emptive trouble detection and mentorship is conducted then the process can be called incubation, if not it is a business support service.

Most of the other managers agreed with the notion that business incubation was indeed a better business support model than others. Most attributed this to the high level of technical assistance and technology available to incubator clients. Others cited the affordable rentals for start-ups.

#### **6.3.2.36 CONCLUSION AND SUMMARY OF SOUTH AFRICAN MANAGERS' RESPONSES**

South African incubation managers who have experience in the incubation industry ranging from nine months to nine years responded on key issues of the incubation industry. Their top objectives were poverty alleviation (100%), retaining business in the community (58.3%) and job creation (33.3%). More or less these seem similar objectives. Poverty alleviation can be achieved by retaining business in the community which have potentials to create jobs.

South African incubation managers (75%) have considered business incubation as a better business support model. They agreed on the positive contribution of business incubation for business survival, job creation and annual revenue in their short experience in the incubation industry. The managers responded that there was 66.6% graduate survival rate. There were 390 jobs created by incubator graduates and another

478 jobs created by incubator current clients. These results were in line with their objectives from business incubators.

It has been also revealed from the responses that there is an increase on the number of incubator clients among South African incubation centres which was 10 in 2001 to 271 in 2008. The rate of graduation is slow but still with a growth trend, from one in 2003 to 73 in 2008.

The managers' response to the impacts of business incubators to SMMEs job creation, survival and annual revenue both in descriptive and content analysis section showed the positive perception they have on business incubation as a support model.

### **6.3.3 Presentation of results for South African incubator clients/graduates**

#### ***6.3.3.1 Distribution of participants by age group***

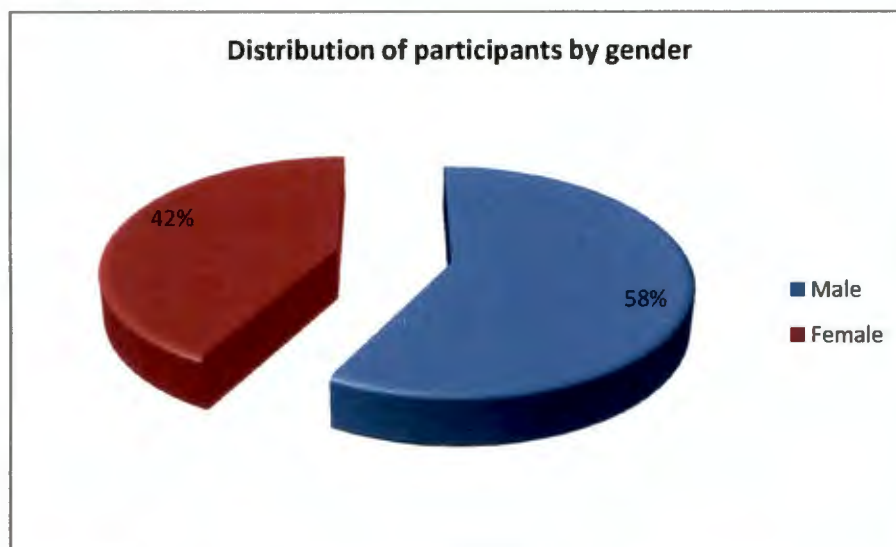
As indicated in Table 6.28, there were a total of 62 respondents who participated in the survey. South African incubator clients and graduates were the third category of respondents in this study. These are SMMEs which are direct beneficiaries of the support of incubation centres; and their responses highlighted the impact of South African business incubators for SMMEs. The highest numbers of participants were generated from the age group 25 to 35 making up 21 (38.2%) of the total respondents. This was followed by the age group between 46 to 55 years, which was closely followed by age group 36 to 45 years. It was interesting to find entrepreneurs below the age of 25 and above the age of 55 (Table 6.28).

**TABLE 6.28:2 DISTRIBUTION OF PARTICIPANTS BY AGE GROUP**

Distribution of participants by age			
		Frequency	Percentage (%)
	< 25	5	9.1
	25–35	21	38.2
	36–45	10	18.2
	46–55	11	20
	> 55	8	14.5
	Total	55	100
	Missing	7	
	Total	62	

**6.3.3.2 Distribution of participants by gender**

The distribution by gender (Figure 6.21) revealed that there were more male participants (33 or 57.9%) compared to the female participants (24 or 42.1%).



**FIGURE 6.21: DISTRIBUTION OF CLIENTS/GRADUATES BY GENDER**

### 6.3.3.3 *Distribution of participants by race*

Figure 6.22 shows the respondents by race. There were 48 (77.4%) blacks who participated in this survey accounting for the largest part of the respondents. There were only seven whites and two Indians, who accounted for 11.3% and 3.2% respectively.

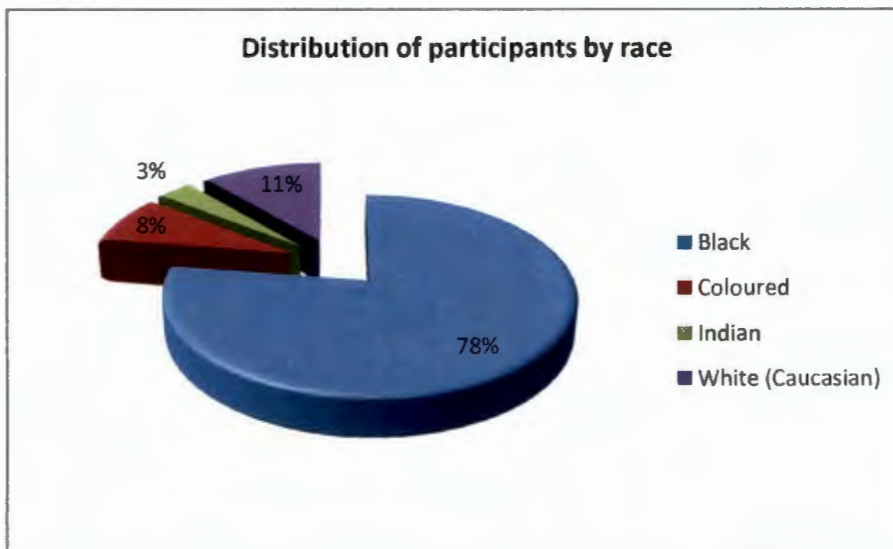


FIGURE 6.22: DISTRIBUTION OF CLIENT/GRADUATE BY RACE

### 6.3.3.4 *Distribution of clients/graduates by education*

Most of the participants as indicated in Figure 6.23, 19 (31.1%) were holders of Grade 12 (Matric) qualification. This was followed by participants who were holders of National diplomas 10 (16.4%). Another eight participants which accounted for 13.1% were honours degree holders; five (8.2%) with BTech degree qualifications; four (6.6%) with undergraduate degree, and only three participants who held doctoral degrees, representing 4.9% of the respondents. One of the respondents did not indicate what level of qualification he/she had.

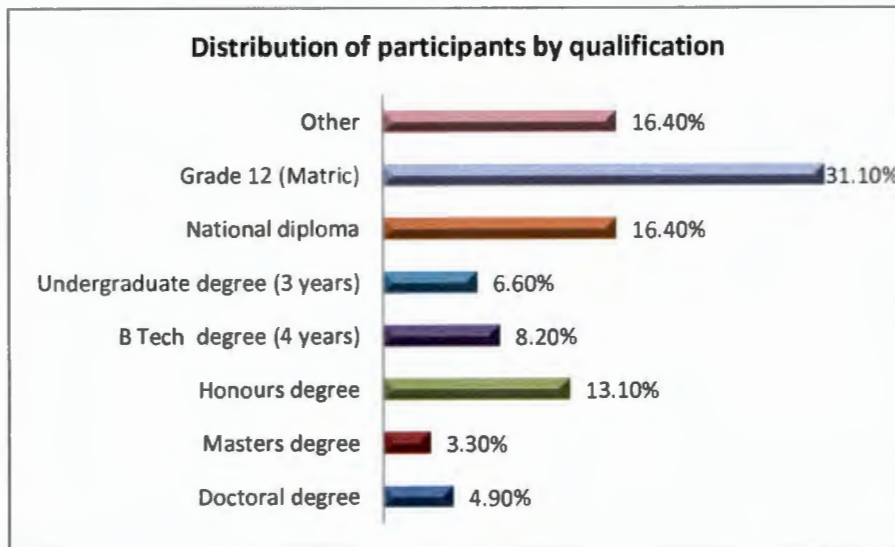


FIGURE 6.23: CLIENT/GRADUATE EDUCATION LEVELS

#### 6.3.3.5 *Distribution of participants before joining incubation centres*

The distribution in Figure 6.24 below shows the client/graduate status before joining the incubator. The majority (36 or 58.1%) owned their own businesses before joining incubators. This was followed by those who were employed (10 or 16.1%); those who were unemployed (9 or 14.5%); and those who did not own businesses (3 or 4.8%) and those who were students (3 or 4.8%). One (1.6%) respondent did not specify their former status. The data has been illustrated in Figure 6.42;

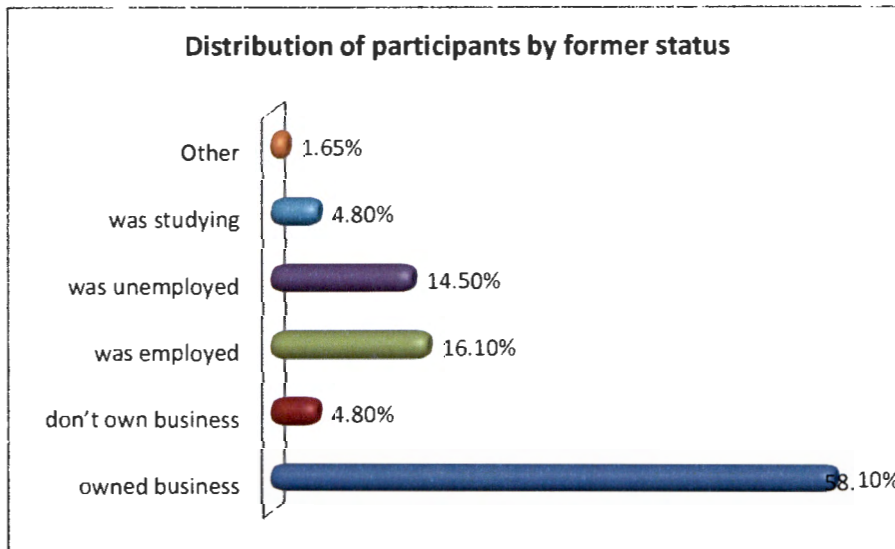


FIGURE 6.24: CLIENT FORMER STATUS

**6.3.3.6 Distribution of participants by current stage of business development for clients/graduates**

Most of the participants (26 or 44.1%) in Table 6.29 revealed that they were doing business with products and services that were already being sold. The other 14 (23.7%) indicated that they were in the pre-start-up stage with products or services under development, this was followed by 10 (16.9%) who were developing business plans, while only one (1.7%) participant indicated that they were out of business. The result showed that not all clients were running their own businesses at the time. The clients were at different stages of the business life cycle and tailor-made support would be required to represent their stage of growth.

**TABLE 6.29: DISTRIBUTION OF PARTICIPANTS BY CURRENT STAGE OF BUSINESS DEVELOPMENT FOR CLIENTS/GRADUATES**

Clients' current stage of business development	Frequency	Percentage (%)
Developing business plan	10	16.9
Pre-start up: product/service under development	14	23.7
Start up: product/service ready for market	8	13.6
Doing business: product/service currently being sold	26	44.1
Out of business	1	1.7
Total	59	100
Missing	3	
Total	62	

**6.3.3.7 Distribution of clients/graduates by current relationship with incubators**

Incubators added value not only in the provision of facilities such as building and machinery in their centres, but also in the provision of skilled professional mentoring and coaching. The skilled professional mentoring and coaching can also be given to non-resident companies as well. In this analysis, for instance the highest number of respondents, 23 (38.3%) in Table 6.30, revealed that they were not currently residing in incubator facilities, compared to 21 (35%) resident clients. The survey revealed that 11 (18.3%) participants were anchor tenants allowed to stay inside incubator facilities paying market rents. A total number of three (5%) participants indicated that they had left the programme though not having officially 'graduated'. The remaining one (1.7%) participant did not fall within the description of the survey, whilst two participants did not detail what specific relationship they had with incubator programmes.

**TABLE 6.30: DISTRIBUTION OF PARTICIPANTS BY CURRENT RELATIONSHIP WITH INCUBATORS**

	Clients' current relationship with incubators	Frequency	Percentage (%)
	Current incubator client residing in incubator facility	21	35
	Current incubator client not residing in facility	23	38.3
	Incubator graduate, no longer located in facility	1	1.7
	Former client who left the programme, did not graduate	3	5
	Anchor tenant (company paying market rents allowed to stay inside the incubator)	11	18.3
	Other	1	1.7
	Total	60	100
	Missing	1	
	Total	62	

**6.3.3.8 Participants' length of time running own business before joining incubation centres**

Responses as indicated in Figure 6.25 below revealed that there were 18 (30.5%) participants who never started any business prior to entering the incubator programme. A total number of 13 (22%) participants were in business for a period less than a year; 12 (20%) were in business for a period between two to three years. Five (8.5%) had been in business for a period between three to four years. Surprisingly, nine (15%) had been in business for a period above four years. Two participants representing 3.4% were not classified under the given category and did not give any answer.

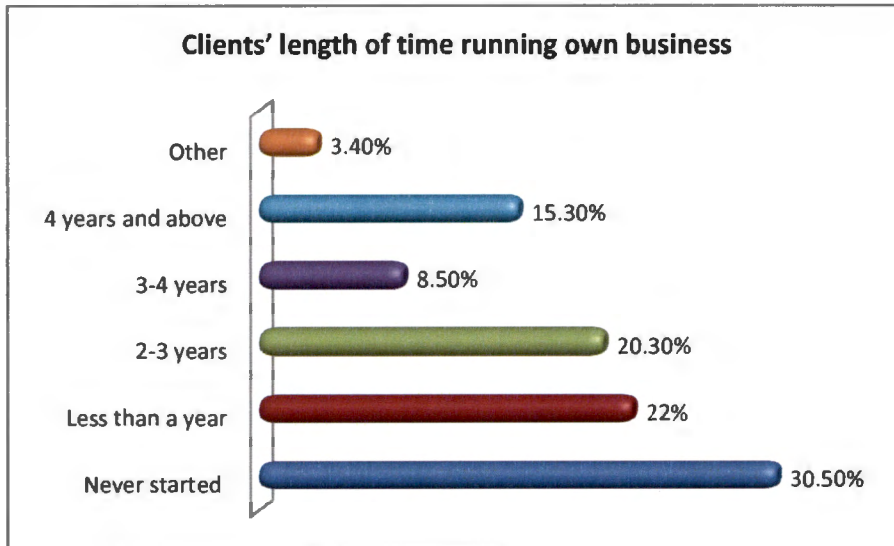


FIGURE 6.25: LENGTH OF RUNNING BUSINESSES BEFORE JOINING INCUBATION CENTRES

### 6.3.3.9 Type of industry

Most of the participants (23 or 41.1%), as depicted in Figure 6.26, indicated that they belonged to the manufacturing while agriculture and mining represented 11 (19.6%) and 10 (17.9%) respectively. One (1.8%) participant belonged to the retail industry; two (3.6%) to the chemical industry and four (7.1%) belonged to other industries not specified above.

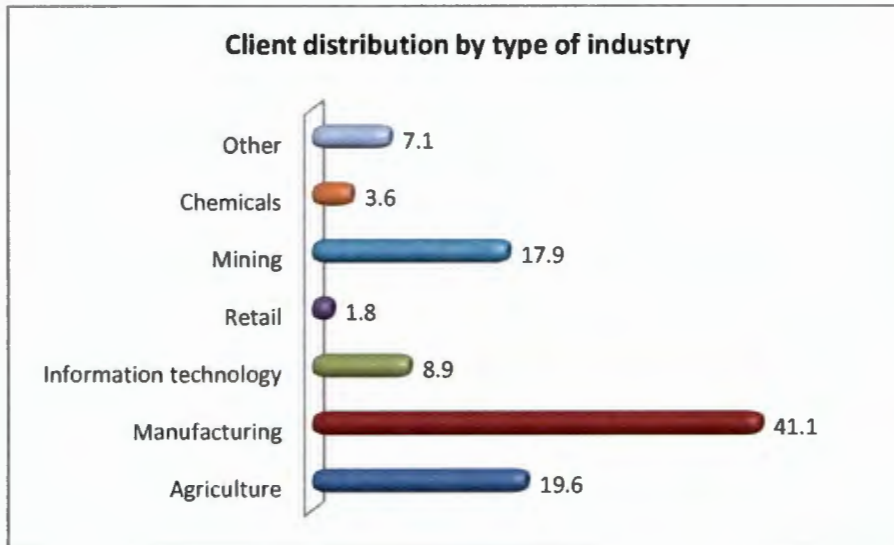


FIGURE 6.26: TYPE OF INDUSTRY

### 6.3.3.10 Important factors during start-up phase

Participants were asked how they rated the importance of factors which are related to a business during the initial start-up phase. The objective of the question was to get an insight on which factors were important to business owners, especially in their start-up stage. It is assumed that most of these factors influenced the decision of most clients on whether to join an incubator. These are critical factors which business owners cannot compete or grow without. Table 6.31 below shows management and technical skills took the highest priority (56.7%) followed by experienced advisors in their area of business (49.2%). Finance was also considered as a third priority. Respondents rated marketing an important element of running their businesses. Business owners had skills and right product or financing but still failed to find customers for their product. This normally put entrepreneurs at a total loss. Other important factors such as net working and trust from banks, rated low, remain important as one of the important factors for businesses. The start-up phase factors or challenges faced by business owners in this study were exactly the same as those mentioned by SMME in many countries and have been acknowledged by the South African government (White Paper, 1995).

**TABLE 6.31: IMPORTANT FACTORS DURING START-UP PHASE**

No	Factors	Percentage (%)
1	Business management and technical skills	56.7
2	Experienced advisors in your area of business	49.2
3	Finance	48.3
4	Marketing your products and services	43.1
5	Affordable rent for your business	41.1
6	Networking	35.1
7	Trust from banks	26.3

**6.3.3.11 Year company entered as a client to the incubator**

As indicated in Figure 6.27, the year in which a company entered as a client to the incubator was surveyed over a period starting 2001 to 2009. Results from the survey showed growth rate from 2001 to 2008 and decline in 2009. The decline in 2009 is because the study was done in the middle of the year and more clients were expected to join incubation centres later during the course of the year (July to December 2009). Apart from the information on the number of clients in each year, this question was used to get an important data on the survival rates of clients/graduates. Assuming respondents which were available to fill questionnaires are also currently trading, the date of entrance will give valuable information on business survival.

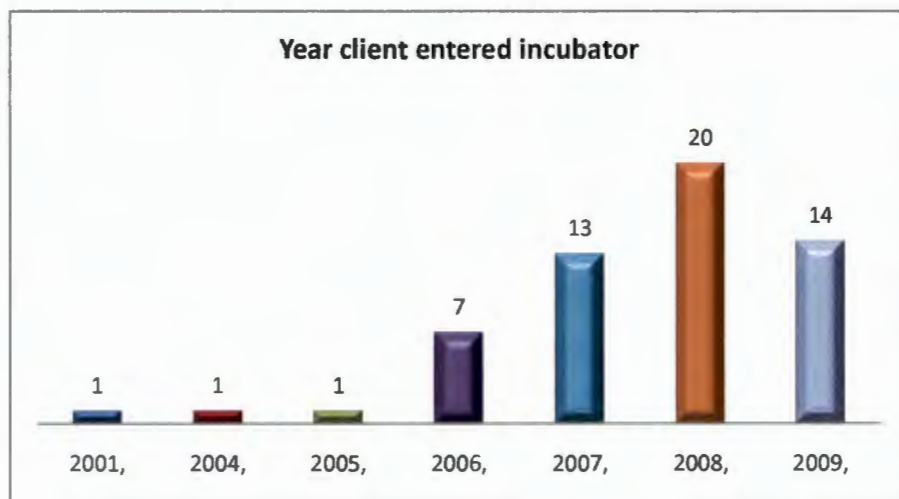


FIGURE 6.27: YEAR CLIENT ENTERED INCUBATOR

### 6.3.3.12 Jobs created before and after joining incubation centres

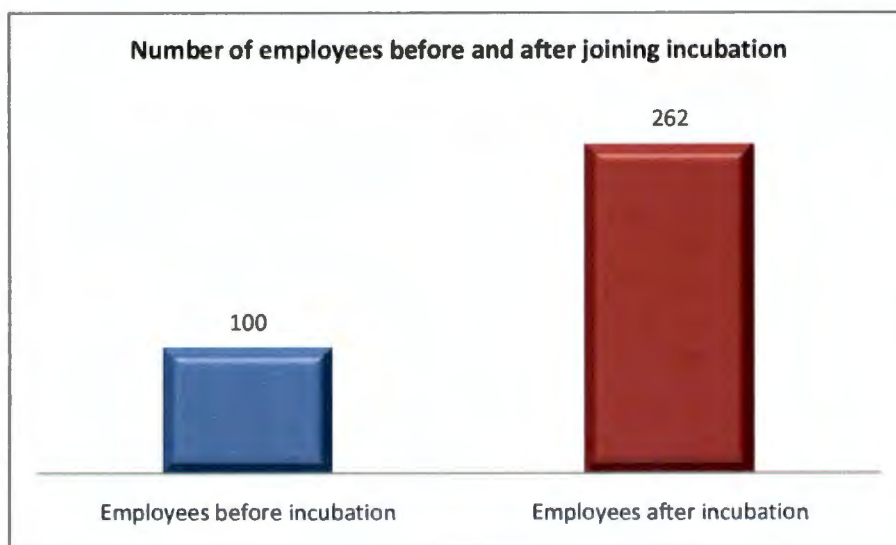
The number of people employed by clients before and after joining incubation centres has been shown in Table 6.32. According to this finding clients/graduates have employed a total number of 262 employees (Table 6.33) after joining incubation centres compared to 100 employees (Table 6.32) before joining incubation centres. This means there was a difference of 162 jobs created as depicted in Figure 6.34.

TABLE 6.32:3 JOBS CREATED BEFORE JOINING INCUBATION CENTRE

Jobs created before joining incubation centre			
	Employees	Frequency	Total Jobs created
	0	21	0
	1	13	13
	2	4	8
	3	2	6
	5	1	5
	6	4	24
	7	2	14
	30	1	30
	<b>Total</b>	<b>48</b>	<b>100</b>

**TABLE 6.33: 4 NUMBER OF FULL-TIME EMPLOYEES AFTER JOINING INCUBATION**

Number of full-time employees after joining incubation			
	Employees	Frequency	Jobs created
	0	1	0
	1	14	14
	2	10	20
	3	5	15
	4	3	13
	5	1	5
	6	3	18
	8	2	16
	9	2	18
	10	2	20
	11	1	11
	15	1	15
	16	2	32
	30	1	30
	36	1	36
	<b>Totals</b>	49	262



**FIGURE 6.28: NUMBER OF EMPLOYEES BEFORE AND AFTER JOINING INCUBATION**

### 6.3.3.13 Part-time jobs created before and after joining incubators

Results shown in Tables 6.34 and 6.35 respectively show that there were a total of 34 part-time jobs created before participants joined incubators, compared to 202 jobs created after joining incubators. This means that there was a difference of 168 jobs created. This is another indication of the contribution of business incubators for assisting SMMEs in creating jobs.

TABLE 6.34: PART-TIME JOBS CREATED BEFORE AND AFTER JOINING INCUBATORS

Part-time jobs created before joining incubators				
		Frequency	Percent	Total no. of jobs
	0	22	59.5	0
	1	4	10.8	4
	2	7	18.9	14
	3	1	2.7	3
	4	2	5.4	8
	5	1	2.7	5
	<b>Total</b>	<b>37</b>	<b>100</b>	<b>34</b>

**TABLE 6.35: NUMBER OF PART-TIME JOBS CREATED AFTER JOINING INCUBATORS**

Number of part-time jobs created after joining incubators				
		Frequency	Percent	Total no. of jobs
	0	4	11.8	0
	1	8	23.5	8
	2	11	32.4	22
	3	4	11.8	12
	4	2	5.9	8
	5	2	5.9	10
	6	1	2.9	6
	35	1	2.9	35
	101	1	2.9	101
	<b>Total</b>	<b>34</b>	<b>100</b>	<b>202</b>

**6.3.3.14 Number of women employed before and after joining incubators**

The results in Tables 6.36 and 6.37 show the direct impact of incubation programmes with regards to women’s employment. Whereas there was only 55 women employed before participants joined incubation, the number of women employed increased to 166 after participants joined incubators. This is an increase of 111 jobs for women in South Africa. This is again another indication of the contribution of incubators for SMMEs.

**TABLE 6.36:5 NUMBER OF WOMEN EMPLOYED BEFORE JOINING INCUBATORS**

Number of women employed before joining incubators				
		Frequency	Percent	Total no. of jobs
	0	25	58.1	0
	1	9	20.9	9
	2	5	11.6	10
	5	2	4.7	10
	7	1	2.3	7
	19	1	2.3	19
	<b>Total</b>	<b>43</b>	<b>100</b>	<b>55</b>

**TABLE 6.37: NUMBER OF WOMEN EMPLOYED AFTER JOINING INCUBATORS**

Number of women employed after joining incubators				
		Frequency	Percent	Total no. of jobs jobs
	0	10	21.7	0
	1	10	21.7	10
	2	10	21.7	20
	3	3	6.5	9
	4	2	4.3	8
	5	4	8.75	20
	7	2	4.3	14
	13	2	4.35	26
	14	1	2.2	14
	20	1	2.25	20
	25	1	2.25	25
	<b>Total</b>	<b>46</b>	<b>100</b>	<b>166</b>

**6.3.3.15 Clients' perceptions on increase of full-time employees**

Apart from questions on actual jobs created, it was important to get each client/graduate perception on the issue of incubation increasing full-time employment. The results gave an idea the clients'/graduates' attitude towards incubation contributing to full-time employment. The results in Table 6.38 revealed that over half of the participants (53.7%) were of the perception that incubation did increase full-time employment followed by 46.3% of the participants were of the view that incubation did not increase full-time employment.

**TABLE 6.38: CLIENTS' PERCEPTIONS ON INCREASE OF FULL-TIME EMPLOYEES**

Client perception on increase of full-time employment			
		Frequency	Percentage (%)
	Strongly disagree	11	20.4
	Disagree	14	25.9
	Agree	21	38.9
	Totally Agree	8	14.8
	Total	54	100
	Missing	8	
	Total	62	

### **6.3.3.16 Clients' perceptions on increase of part-time employees**

Table 6.39 revealed the number of participants who acknowledged 23 (49.1%) and those that did not acknowledge 27 (50.9%) that incubation increased part-time employment was almost evenly matched. It seems strange that there is a difference in the actual contribution of incubators in job creation to the perception of the incubatees. As shown in Table 6.33, there were a total of 262 full-time and 202 part-time jobs created after joining incubation centres. However, the attitudes of the incubatees or SMMEs seem contrary to that.

**TABLE 6.39: CLIENTS' PERCEPTIONS ON INCREASE OF PART-TIME EMPLOYEES**

Client perception on increase of part-time employment			
		Frequency	Percentage (%)
	Strongly disagree	11	20.8
	Disagree	16	30.2
	Agree	23	43.4
	Totally Agree	3	5.7
	Total	53	100

### 6.3.3.17 Clients' perceptions on increase of total female employed

The majority of the participants (55.6%), as depicted in Table 6.40, were of the view that incubation did actually increase the number of women employed, out of which 39 (55.6%) 'agreed'. On the other hand, those participants that were of the view that incubation did not increase the number of women employed accounted for 24 (44.4%).

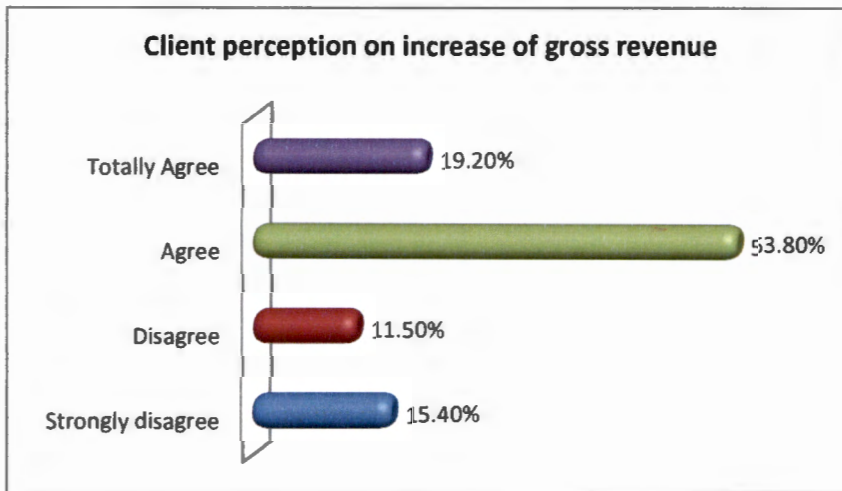
**TABLE 6.40:** CLIENTS' PERCEPTIONS ON THE INCREASED NUMBER OF TOTAL FEMALE EMPLOYED

Client perception on increase of total female employees			
		Frequency	Percentage (%)
	Strongly disagree	12	22.2
	Disagree	12	22.2
	Agree	21	38.9
	Totally Agree	9	16.7
	Total	54	100



### 6.3.3.18 Clients' perceptions on the increase in gross revenue

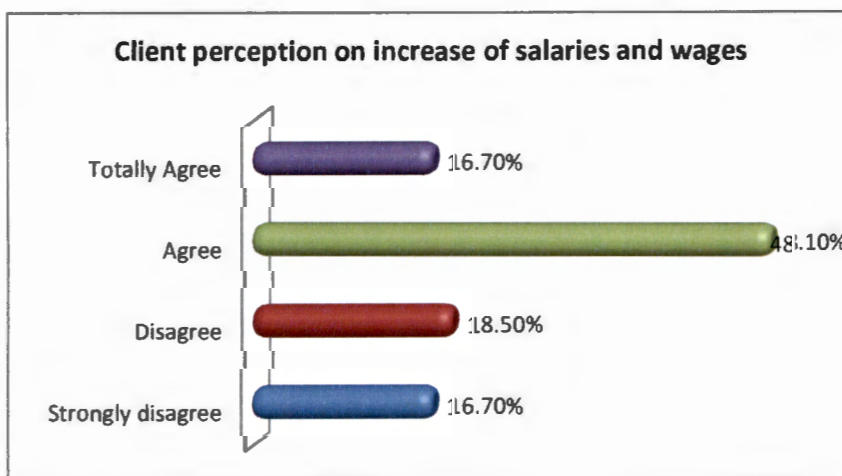
The results on whether incubation increased revenue shown in Figure 6.29 below indicated that an overwhelming number (73.1%) of participants did ascribe to the perception. Among the few that though otherwise 14 (26.9%) 'disagreed'.



**FIGURE 6.29:** CLIENT PERCEPTION ON THE INCREASE IN GROSS REVENUE

**6.3.3.19 Clients' perceptions on the increase in salaries and wages**

There was a majority consensus, 64.8% of the participants (Figure 6.30), on the perception of incubation increasing the amount of salaries and wages out of which 26 (48.1%) participants; 'Agreed' and nine (16.7%) participants 'Strongly agreed'. A portion of participants (19 or 35.2%) felt that incubation did not increase salaries and wages, whereas nine (16.7%) 'Strongly disagreed' and 10 (18.9%) 'Disagreed'.



**FIGURE 6.30:** CLIENTS' PERCEPTION ON INCREASE IN SALARIES AND WAGES

### 6.3.3.20 Clients' perceptions on the good performance of business attributed to the incubators

The majority of the participants (77.6 %) (Figure 6.31) were appreciative of the role that business incubation played in the improvement of their business performance. . A small number of respondents (22.4%) indicated otherwise where they disagreed.

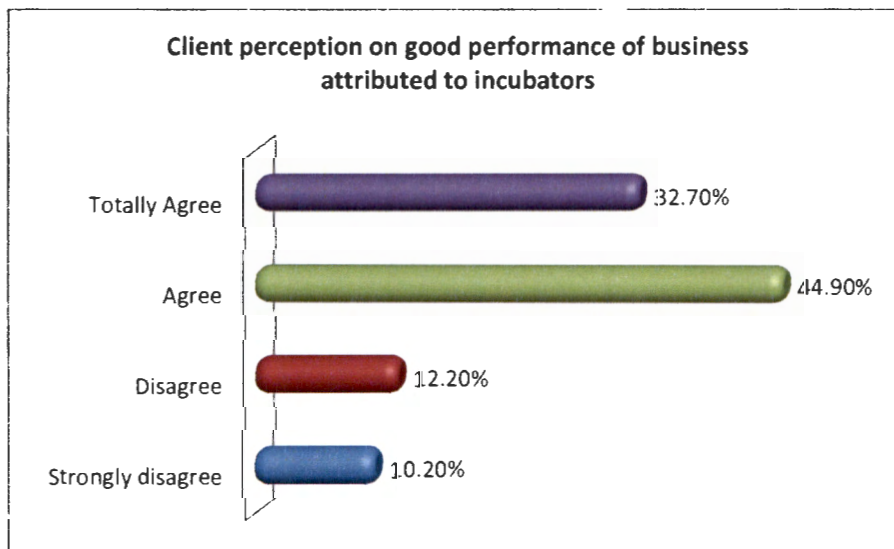


FIGURE 6.31: CLIENTS' PERCEPTION ON THE GOOD BUSINESS PERFORMANCE

### 6.3.3.21 Clients' length of stay in incubation centre

Clients/graduates were asked how long they had been in incubator centres. The majority (30 or 60%, see Table 6.41) stayed for a period of less than two years. The remaining 20 (40%) stayed for a period of two and more years. This gives very important information on the survival of SMMEs. As the majority of the respondents 91.6% from Table 6.30 were residing in incubation centres as client and anchor client, their stay in the incubation centres can give a good data on their survival which is one of the objectives of this study.

**TABLE 6.41: CLIENTS' LENGTH OF STAY IN INCUBATION CENTRE**

Clients length of stay in incubation centre			
	Years	Frequency	Percentage (%)
	0.04	1	2
	0.25	1	25
	0.33	3	6
	0.5	3	6
	0.58	4	8
	0.67	1	2
	0.75	1	2
	0.83	1	2
	1	10	20
	1.25	1	2
	1.42	1	2
	1.5	3	6
	2	8	16
	2.25	1	2
	2.33	1	2
	2.5	3	6
	3	5	10
	4	1	2
	5	1	25
	<b>Total</b>	50	100

**6.3.3.22 Clients/graduates that are still in business**

Table 6.42 below illustrates that 80% of the clients and or graduates indicated that they still were in business. The finding of this specific question, though not conclusive, was however encouraging considering that this has a bearing on what may be termed survival of clients/graduates' businesses.

**TABLE 6.42: GRADUATES STILL IN BUSINESS**

Clients / graduates still in business			
		Frequency	Percentage (%)
	Still in business	16	80
	No longer in business	4	20
	Total	20	100

**6.3.3.23 Conclusion and summary of responses from South African incubator clients/graduates**

South African incubator clients and graduates are the third category of respondents. These clients and graduates were requested to give the benefit and impact of business incubation in their business in many perspectives such as job creation, business survival and annual revenue. The impact responses from graduates give a better picture of impact than that of clients. This is because the performance of SMMEs when they are under the supervision of incubation staff compared to when they run their business independent is not the same. Unfortunately the majority (44 or 73.3%) of respondents were current clients while only 14 (20%) were anchor tenants and graduates. The difficulty of tracing graduates has been very high for the researcher and incubation managers. This makes the impact reports mainly in house rather than out house. The majority of these clients who responded did not start business before joining incubation centres.

Most SMMEs struggle from so many challenges in their start up phase. The challenge however differs from one SMME to another. Of all the respondents, 56.7% take business management and technical skills as very important factor during their business start up phase. Experienced advisors in their areas of business were also very important (49.2%). The issue of finance was in third place (48.3%). It is possible to see that finance may not be always the priority in many businesses.

It was clearly shown from the responses that SMMEs had more employees after joining incubation centres. A total of additional 162 jobs were created after SMMEs joined incubation centres. This is a good indication of contribution of business incubation towards job creation. The data obtained directly from the beneficiaries is more credible than getting it from the third party. The majority of the respondents have a positive perception that business incubation contributes for job creation, business survival and annual revenue.

#### **6.4 COMPARISON OF INTERNATIONAL AND SOUTH AFRICAN RESPONSES REGARDING THE BUSINESS INCUBATION CONCEPT**

There is general consensus on the concept of business incubation as a better business support model. It seems from the findings that business incubation has been accepted both in South Africa and International as a model to contribute to better business survival, job creation and revenue generation.

#### **6.5 CORRELATION ANALYSIS**

Correlation coefficients indicate the relationships between variables. The degree of the relationship can be expressed in the magnitude of relationship in the same or opposite direction. Positive relationships indicate that an increase in one variable, the other also increases. Negative relationship indicates as one variable increase, the other decreases. This is direct and inverse relationship respectively.

Cooper and Schindler (2004: 540) further argue that "a correlation coefficient of any magnitude or sign, whatever its statistical significance, does not imply causation". There is no evidence of cause and effect in a correlation coefficient. This might mean one variable can be a cause of the other, or that specific variable is activated by one or more variables or each variable influence each reciprocally. According to Cohen (in Dessie, 2009: 111), the magnitude of the relationship varies from small to medium and large effect. The Spearman correlation coefficient ( $r_s$ ) in the following range shows the magnitude of the relationships among variables.

- *Small effect:*  $|r_s| = 0.1$
- *Medium effect*  $|r_s| = 0.3$
- *Large effect*  $|r_s| = 0.5$

### **6.5.1 Correlation between client/graduate status before joining incubation centres, job creation and revenue**

As shown in Table 6.43 below, the relationship of some variables such as the clients status and the duration of running their business before joining the incubation centre is indicated against the number of full-time employees currently employed, women employed and current performance in terms of annual revenue. It is indicated that there is no relationship between these variables.

**TABLE: 6.43: JOB CREATION, REVENUE AND CLIENT/GRADUATE STATUS**

	Duration Before incubation	Date of entry	Current full- time employees	Women employed	Gross Revenue
Previous status	-.662**	-0.019	0.151	0.122	-1.000**
Current relationship	-0.079	-0.028	0.206	.302 <sup>a</sup>	1.000**
Current stage of business development	-0.103	-.307 <sup>a</sup>	-0.191	-0.21	-1.000**
Duration before joining	1	0.043	-0.173	-0.085	1.000**
Date (year) of entry	0.043	1	-.363 <sup>a</sup>	-.451**	1.000**
Current Full-time employees	-0.173	-.363 <sup>a</sup>	1	.898**	-1.000**
Current part-time employees	-0.07	0.193	.415 <sup>a</sup>	0.07	. <sup>a</sup>
Gross revenue-year joined incubator	1.000**	1.000**	-1.000**	-1.000**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

a. Cannot be computed because at least one of the variables is constant.

## 6.5.2 Client status and current business formation

The researcher wanted to see if there are any positive or negative relationships in certain variables before a client/graduate join the incubation centre to the current business formation such as merger, acquisition or closure.

**TABLE 6.44: CLIENT STATUS AND CURRENT BUSINESS FORMATION**

	Merger	Acquisition	Closure
Highest qualification	0.11	-0.189	-0.194
Client/graduate status	-.312 <sup>*</sup>	-.343 <sup>*</sup>	0.1
Duration of running business	.453 <sup>**</sup>	.337 <sup>*</sup>	-0.104
Type of industry	0.15	0.055	0.14

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

a. Cannot be computed because at least one of the variables is constant.

There is an inverse medium effect between client/graduate status before joining the incubation centre to merger (-0.312) and acquisition(-0.343) There is also a positive medium effect between the duration clients /graduates run their business before joining incubation centres and the merger and acquisition(0.453 and 0.337) respectively.

### 6.5.3 Financial and non-financial support to business survival

There is no significant correlation between some non-financial and financial supports such as advisors, marketing, networking and finance

**TABLE 6.45: FINANCIAL AND NON-FINANCIAL SUPPORT TO BUSINESS SURVIVAL**

	Finance	Business skills	Marketing	Networking	Trust from banks	Closure	Duration	Current status
Experienced advisors	.680**	.722**	.614**	.418**	.485**	0.166	-0.167	0.269
Finance	1	.712**	.642**	.419**	.548**	0.122	-0.145	0.284
Business skills	.712**	1	.679**	.474**	.501**	0.08	-0.234	0.2
Marketing	.642**	.679**	1	.593**	.518**	0.116	-0.105	0.343
Networking	.419**	.474**	.593**	1	.416**	0.148	-0.061	0.198
Trust from banks	.548**	.501**	.518**	.416**	1	0.125	-0.049	-0.207

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

a. Cannot be computed because at least one of the variables is constant.

#### 6.5.4 Types of industry and job creation

As depicted in Table 6.46 there was not much of a relationship indicated between the type of industry and the number of jobs created before and after joining incubation centres for clients and graduates though there was a significant statistical difference shown between jobs created before and after clients/graduates joined incubation centres. This is in support of the argument that there is no guarantee to say that there is causation or direct relationship if there is significant statistical difference (Cooper and Schindler, 2004 540).

**TABLE 6.46: TYPES OF INDUSTRY AND JOB CREATION (CORRELATION COEFFICIENTS)**

	Employees Before	Employees After
Agriculture	-0.056	-0.158
Manufacturing	0.005	-0.228
Information technology	-0.029	-0.116
Retail	-0.168	-0.061
Distribution	<sup>a</sup>	<sup>a</sup>
Mining	0.032	.590**
Chemicals	-0.168	-0.079

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

a. Cannot be computed because at least one of the variables is constant.

### 6. 5.5 Industries and duration of business survival

This analysis helps to identify if there are relationships between types of industries and business survival. There is an inverse medium effect (-0.400) between agriculture and the business survival. According to Table 6.47, manufacturing has a positive higher effect (0.561) to the business survival. There is no other significant relationship between business survival and other industry types such as IT, retail, distribution, mining and chemicals.

**TABLE 6.47: INDUSTRIES AND DURATION OF BUSINESS SURVIVAL (CORRELATION COEFFICIENTS)**

	Duration in years	Are you still in business (trading?)
Agriculture	0.011	-0.4
Manufacturing	-0.059	.561*
Information technology	0.054	-0.108
Retail	-0.098	-0.108
Distribution	-0.069	-0.108
Mining	-0.062	-0.239
Chemicals	-0.115	-0.158

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

a. Cannot be computed because at least one of the variables is constant.

### 6.5.6 Incubation managers' status in relation to job creation and business survival

It was important to see the correlation of the academic qualification, experience, full-time or part-time employment to the number of people employed, number of drop outs, closures or survival. There is a positive medium effect (0.368) between academic qualification and number of employees. There is also an inverse medium effect to drop outs (-0.467) and a positive medium effect to closures. There is an inverse higher effect (-0.604) between full-time and part-time status of the incubation manager and number of employees and large effect (0.775) to drop-outs. The employment condition of the manager (full-time or part-time) might have an impact on the performance of the clients though difficult to conclude based on the correlation analysis.

**TABLE 6.48:** INCUBATION MANAGERS' STATUS IN RELATION TO JOB CREATION AND BUSINESS SURVIVAL

	No of current employees	Dropouts	Failed businesses	Businesses still trading
Highest Qualification	0.368	-0.467	0.463	0.113
Incubator stay	-0.061	0.095	0.117	0.38
Employment contract	-.604*	.775**	0.135	0.289
Business model	-0.354	0.522	0.2	0.248

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed).

a. Cannot be computed because at least one of the variables is constant.

## 6.6 HYPOTHESIS TESTING

Hypothesis testing is the evaluation of the accuracy of hypotheses by determining the statistical likelihood that the data reveal true differences not sampling error. It is the

evaluation of whether there is a statistical significance or not between the population of interest and the sample drawn from the population (Cooper and Schindler, 2004: 486). In this hypothesis testing the following procedures are followed.

### **6.6.1 Hypothesis 1**

- **The null and alternative hypothesis**

H<sub>0</sub>: There is no difference between the number of jobs created in incubated firms before and after joining incubation centres

H<sub>a</sub>: There is a difference between the number of jobs created in incubated firms before and after joining incubation centres

- **Statistical test**

The t-test for paired samples is chosen because the data are interval and the samples are related.

- **Significance level**

$\alpha = 0.05$

- **Critical test value**

This is calculated by taking the interpolated value of 46 degrees of freedom (df) from t table with a level of significance value of 0.05. As calculated from the SPSS (refer table below), the df is 46. From the t Table 6.74, 46 df is between 40 and 60 degrees of freedom, 2.021 and 2.000 respectively. The critical value will therefore be  $2.021 + 2.000/2 = 2.0105$

- **Interpretation**

Since the t value 4.048 is greater than the critical value 2.0105, the null hypothesis is rejected. It is therefore concluded that there is statistically significant difference between jobs created before and after incubated firms join incubation centres. The t-test analysis result from SPSS is shown in Table 6.49.

**TABLE 6.49: THE t-TEST ANALYSIS OF JOBS CREATED BEFORE AND AFTER JOINING INCUBATION CENTRES**

	Mean	Std. deviation	Std. error mean	T	Df	Sig.(2-tailed)
Pair 1 Number of full-time employees current Number of employees during joining incubator	3.404	5.766	.841	4.048	46	.000

## 6.6.2 Hypothesis 2

- **The null and alternative hypothesis**

**H0:** There is no difference between the gross revenue in incubated firms before and after joining incubation centres

**Ha:** There is a difference between the gross revenue in incubated firms before and after joining incubation centres

- **Statistical test**

The t-test for paired samples is chosen because the data are interval and the samples are related

- **Significance level**

$$\alpha = 0.05$$

- **Critical Test Value**

Using 16 as the degree of freedom from the SPSS result, and taking the level of significance value of 0.05, the critical value is 2.120 from the t table.

- **Interpretation**

Since the t value 3.096 is greater than the critical value 2.120, the null hypothesis is rejected. It is therefore concluded that there is statistically significant difference between total annual revenue of incubated firms before and after joining incubation centres. **There is a statistically significant difference between the revenues before and after.** The t-test result from SPSS is shown in Tables 6.80 and 6.81 below.

**TABLE 6.50: PAIRED SAMPLES STATISTICS FOR HYPOTHESIS 2**  
t-test analysis of gross revenue before and after joining incubation centres

	Mean	N	Std. Deviation	Std. Error Mean	t	df	Sig.(2-tailed)
Pair					3.096	16	.007
1							
After	735176.47	17	1070926.890	259737.923			
Before	381517.59	17	720766.856	174811.640			

## 6.7 CONCLUSION

The results of data collected from three groups of respondents are presented in this chapter. Data from international, South Africa incubation managers and Incubation clients/graduates are presented in their order of collection. In all the responses appropriate types of displaying the data are used. Initially the quantitative types of data are displayed using exploratory data analysis such as frequency tables, bar charts and pie charts. For some ranking types of data, the highest to lowest percentages are given in order. For the qualitative types of data, content analysis is applied and responses are summarised in thematic category.

It is possible to see a general consensus on international and South African respondents on the positive contribution of business incubation in job creation, poverty

alleviation, business survival and annual revenue though both categories of respondents have a very different experience in the incubation industry. Specific results and discussion will be revisited in Chapter 7.

## **CHAPTER 7**

### **DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS**

#### **7.1 INTRODUCTION**

Discussions, conclusions and recommendations regarding this study are based on the findings from the questionnaires returned by the respondents as well as interviews, physical visits by the researcher and secondary data about business incubation. This includes international and South Africa data collection that served as a basis for the conclusions and recommendations. The core objective of the research was to find out answers to the primary and secondary problems which were outlined in the fourth chapter of this study.

#### **7.2 DISCUSSION**

The high failure rate of SMMEs is the primary problem of this study. This was discussed in Chapter 4. The question of the role of the business incubation model in reducing this failure rate in SMMEs is raised as a crucial question. The question further raised was if incubation assisted for survival of SMMEs, how was their performance in terms of key performance indicators such as jobs created, revenue and sales? The dilemma both in the primary and secondary problems is raised in the following research questions and hypotheses.

##### **7.2.1 Research questions**

1. What is the rate of business survival in incubated firms?
2. Do incubated firms survive beyond the first two years of operation?

3. Is business incubation a better business support model than other business support models such as government support services and schemes?
4. What makes business incubation a better business support model than other support models such as government support services and schemes?

### 7.2.2 Hypotheses

#### **Hypothesis 1:**

**H0:** There is no difference between the number of jobs created in incubated firms before and after joining incubation centres

**Ha:** There is a difference between the number of jobs created in incubated firms before and after joining incubation centres

#### **Hypothesis 2**

**H0:** There is no difference between the gross revenue in incubated firms before and after joining incubation centres

**Ha:** There is a difference between the gross revenue in incubated firms before and after joining incubation centres

The research questions and hypotheses will be discussed in the following section.

### 7.2.3 Discussion of research questions

**Research Question 1:** What is the rate of business survival in incubated firms?

**Research Question 2:** Do incubated firms survive beyond the first two years of operation?

As one can understand from this study, the main challenge of SMMEs is their high failure rate. The failure is attributed to many challenges facing SMMEs. There are many variables in a start-up business contributing to their success or failure. To overcome these challenges and improve the survival rates, government has many interventions and business support strategies. The recent method of intervention is the model of business incubation. Business incubation has contributed to a better survival of SMMEs in many countries. It was the objective of this study to see if the same incubation model contributed for better survival of SMMEs in South Africa.

As shown in Table 6.3, a total of 54 (90%) of the international respondents agreed that business incubation contributes for better survival of firms as compared to non-incubated ones. South African incubation managers have the same perception with international respondents on business survival. All respondents (12 – 100%) stated that ‘they strongly agreed’ with the idea that indeed incubation did contribute to better survival of SMMEs (Table 6.25).

A much closer estimate of the survival of SMMEs was found from questionnaires directed to South African incubator clients and graduates. According to Table 6.30, 44 (73.3%) are current clients of the incubator. These clients are resident and non-resident currently under the direct supervision of incubators. There were also 11 (18.3%) anchor tenants who are paying market rates and trading inside incubation centres. This makes the total number of firms actively involved with incubators 55 (91.6%). These respondents have given their date of joining incubation centres which can be a basis for the calculation of duration of stay in business. As shown in Figure 6.27, the year clients entered incubator can be summarised in Tables 7.1 and 7.2 below.

**TABLE 7.1: YEAR CLIENTS/GRADUATES ENTERED INCUBATOR**

Period	2009	2008	2007	2006	2005	2004	2001
No of survivors	14	20	13	7	1	1	1
% of survivors	24.6	35.1	22.8	12.3	1.8	1.8	1.8

**TABLE 7.2: SURVIVAL RATE BASED ON DATE OF ENTRY TO INCUBATOR**

Duration	Less than two years	More than two years
Survival rate	59.7%	40.3%

The majority of the respondents (20 or 35.1%), as depicted in Table 7.1, joined incubation centres in 2008 which is about one and half year stay in business. Excluding 2009, the number of surviving firms goes down as the duration increases from year one to year seven (2009–2001). It is clear from the above description (Tables 7.1 and 7.2) that 34 (59.7%) survived for a period of less than two years. The other 40.3% survived for a period of two and more years.

The researcher wanted to check the survival rates still from another perspective by asking questions on duration of stay in the incubation centres. Interestingly the responses correspond to the previous response of the year of joining incubation centres. The majority (40 or 60%) of them stated that they had been in incubators for a period between 0.5 and two years. The other 20 (40%) stated they have been in incubation centres for two and more years (refer to Figure 6.27).

**TABLE 7.3: SURVIVAL RATE BASED ON DURATION OF STAY IN INCUBATOR**

Duration	Less than two years	More than two years
Survival rate	60%	40%

The questionnaire for South African incubator clients and graduates was set to get information on the survival rates specifically for graduates whether they are still in business or not. This is because it is clear that current clients are in business. There were only 20 graduate respondents of which 16 (80%) responded they are still in business and the remaining four (20%) are no longer in business (Figure 6.15). It is not

however; exactly clear how these four graduates were available for response during the data collection process. It is believed that once businesses fail or stop trading, it is difficult to get any data about them.

The main basis of comparison in the case of survival is less than and beyond two years. This is in line with the SMME failure challenge in the first two years of operation as outlined in Chapters 1 and 4 of the study. Therefore, the comparison is to determine if the intervention of incubators increased the number of survivors beyond two years. From the above analysis, the survival rate beyond two years is about 40%. This figure is far below from SEDA report of 83% survival during the second year (Figures 3.10 and 3.12) and NBIA 1997–2006 reports of 87% survival rate in the USA, but a bit closer to the survival rate findings of (Roper, 1999) 55% in his study of Israeli technology incubators. The report from SEDA fails to give any survival data beyond two years, which is the survival rate of clients while they are in house. The data of survival beyond two years is very important as it shows how graduate firms performed after a decline of support and run their business independently, though scholars such as Allen and Weinberg (in Hackett and Dilts, 2004: 68) define the success of the incubator on the number of drop outs or tenants which exit the incubation programme. Therefore, the possible responses to these research questions according to the findings are as follows:

- What is the rate of business survival in incubated firms? The rate of business survival in incubated firms is 60% for businesses which are less than 2 years old and 40% for businesses which are 2 years and older as shown in Table 7.1 and Table 7.2.
- Do incubated firms survive beyond the first two years of operation? Yes. Incubated firms survive two years and above at 40% rate (Refer to Table 7.1 and Table 7.2)

### **7.2.3.1 Summary and conclusions to research question 1 and 2**

The data from majority of international and South African respondents indicate that business incubation does contribute to business survival. However, looking at the survival of SMMEs participated in this study; the rate of survival is lower than all studies reported so far on business incubation. This can be attributed to the fact that most of the respondents in this study were clients. There was no systematic way of keeping records of graduates given the young age of the business incubation industry in South Africa. On the other hand, Hackett and Dilts (2004: 58) suggest the variation of success or failure reports of incubators can be attributed to the political and financial dependency of the incubators where incubators report success and under report failures to justify continued subsidisation of public funds. The lower success rate in terms of business survival can also be attributed to the age of the incubators. South African business incubators are still young in experience. According to Table 6.13 the majority of the incubators 54.6% are from one to three years old while the remaining 36.4% are from six to eight years old. As an organisation incubators experience their own difficulties and go through learning curves. The ability of the incubator to provide comprehensive incubator services (Mian, 1997) which is the result of the number of links and networks that can be created is affected by the length of time incubators have been in operation.

The conclusion of surviving beyond two years can be achieved in getting more response from graduates than clients, which was very difficult in this research process. Difficulties of tracking graduates obscure such conclusions.

#### **Research Question 3:**

Is business incubation a better business support model?

The vast majority of the international respondents stated business incubation was a better support model than other business support models such as government support services and schemes. The outcome of the study indicated that 85% of international respondents (Tables 6.5 and 6.6) agreed that business incubation is a better support model than other government support services and schemes.

#### **Research Question 4:**

What makes business incubation a better business support model?

##### **7.2.3.2 *Qualitative responses from international and South African respondents***

Most of the respondents from international and South Africa were of the view that incubators had a higher success rate of graduates, which contributed to job creation and improvement of local communities compared to other government support services. It was also noted that in the incubator support services money is invested directly where it is needed as compared to other support services which do not always reach the intended target. As a result less money is needed for incubation services or programs whereas the other support services would require relatively high amounts of government investment. The quality of the service that incubator clients received was still noted as superior compared to that offered by other support services in terms of expert assistance rendered to the clients in the incubators, networking and peer interaction. Businesses incubators use the service of experts who actually are in the business world thereby expand valuable entrepreneurial skills to incubator clients. It was noted by many respondents that incubators gave better services than other support services designed by government, because incubators solely focused on the success of their clients whereas government is not in itself a business.

Many respondents were of the view that business incubators services are a tangible business solution. This was also widely observed under respondents who 'Agreed'. They felt that incubators offered what direct support services to clients than the services offered under the other forms of support services. Incubators offered solutions which were strongly structured, that were practical and not merely ironical or theoretical as in the other support services. It was observed that solutions offered in incubators were fostered on a platform of respect, trust and synergistic creation that is not fostered in short-term government support. Incubators selected the best business solutions that are

well strong and well structured. Whereas solutions in the other government support services tended to be lacklustre, many respondents were of the view that the services offered by incubators tended to be multifaceted. Services offered by incubators are not just focused on products unlike other government support services. The 'hands-on' approach offered under incubators with constant monitoring and evaluation of milestones leads to sustainable growth of business entrepreneurs, which unlike in other government services is not seen as handouts but the development of financially viable careers. This consistency displayed by incubators was seen by respondents as solution that makes the difference in successful client development and graduate survival.

The majority of respondents (Table 6.6) were of the view that business incubation solutions were quantifiable unlike other government solutions which could not be clearly monitored and evaluated. As such many respondents agreed that business incubation was consistent and offered solutions that were sustainable in that the business incubator solution developed jobs and technology among entrepreneurs.

Most of the other managers agreed with the notion that business incubation was indeed a better business support model than others. Most attributed this to the high level of technical assistance and technology available to incubator clients. Others cited the affordable rentals for start-ups.

The results of the survey conclusively suggested that business incubation was a better support intervention compared to other government support interventions as frequently suggested as money put in the right place offering tangible solutions that were quantifiable and sustainable.

## **7.2.4 Questions on secondary problems**

### **7.2.4.1 Hypothesis 1**

**H0:** There is no difference between the number of jobs created in incubated firms before and after joining incubation centres.

**Ha:** There is a difference between the number of jobs created in incubated firms before and after joining incubation centres.

According to Table 6.49 and the interpretation given based on the t-test value from SPSS and t-table, the null hypothesis is rejected. It is therefore concluded that there is statistically significant difference between jobs created before and after incubated firms join incubation centres.

#### **7.2.4.2 Hypothesis 2**

**H0:** There is no difference between the gross revenue in incubated firms before and after joining incubation centres.

**Ha:** There is a difference between the gross revenue in incubated firms before and after joining incubation centres.

Since the t-value 3.096 is greater than the critical value 2.120 the null hypothesis is rejected. It is therefore concluded that there is statistically significant difference between total annual revenue of incubated firms before and after joining incubation centres. There is a statistically significant difference between the revenues before and after (refer to Table 6.50).

#### **7.2.4.3 Summary of findings on secondary problems**

From sampling theory, any sample will almost vary from the population. It is important therefore to judge if these differences are statistically significant or not. "A difference has statistical significance if there is a good reason to believe the difference does not represent random sampling fluctuations only" (Cooper and Schindler, 2004: 486). Based on this understanding, the null hypotheses are rejected in both cases.

According to the results given in Table 6.14, there were a total of 769 clients admitted to different incubation centres in South African Incubators since incubators started receiving clients. The number of clients is increasing from year to year from 10 clients in 2001 to 271 and 230 in 2008 and 2009 respectively. The total number of clients which incubators are currently serving has increased to 593 from 10 in 2001. This is a great change which incubators are serving more and more SMMEs. From the total clients admitted, there are only 128 graduates so far increasing from no graduates in 2001 to 73 graduates per annum in 2008. Both current clients and graduates are contributing for job creation. There were a total of 479 people employed by current clients of all incubators. There are also 390 jobs created by incubator graduates.

Apart from the number of jobs created, comparing the number of jobs created before and after entrepreneurs join incubation centres shows a huge difference. The total number of people employed full time by all respondents has increased from 100 to 262 (Tables 6.32 and 6.33). The increase is also in part-time employees and number of women employed. There were 34 part-time employees compared to 202 after joining incubation centres (Tables 6.33 and 6.34). The number of women employed has increased from 55 to 117 (Tables 6.36 and 6.37). This is a great contribution in jobs created as a result of the incubation centre.

### **7.3 CONCLUSION**

As the researcher has stated throughout this study, there are many variables contributing to the success or failure of small businesses in a specific environment. This makes impact studies such as this very difficult. It was assumed that the performance of SMMEs in terms of existing in business and creating more jobs is attributed to the support services obtained from incubation centres. There are various factors influencing SMMEs before joining and after leaving incubation centres. In this study current incubator clients and graduates were requested to give information on their performance. The success of SMMEs even after leaving incubation centres is still attributed to incubation centres. The good or bad performance of businesses for instance can be attributed to the existing external business environment such as

recession. The infinite number of variables involved in businesses makes the experimental studies such as control groups of incubated and non-incubated firms very difficult. However, the most important concept about incubators should be assisting entrepreneurs to remain competitive in bad and good economic situations. As Lumpkin and Ireland (in Al-Mubarak, 2008: 27) argue, incubators are mechanisms to enable a firm "to master the competitive factor with effectiveness within particular industrial settings". This encourages researchers to compare and contrast the impacts or contributions of incubators in an environment of a specific industry and area still in the presence of the many variables affecting a business. Therefore, the impact of incubators on SMMEs is in spite of the many internal and external factors which contribute negatively or positively to the performance of SMMEs before and after joining incubation centres. It is practically impossible to control other factors and expose SMMEs only to the influence of incubators.

The following conclusions are drawn from literature review and empirical data of this study.

### **7.3.1 Small medium and micro enterprises**

SMMEs are engines of economic growth for one country and contribute specifically to job creation, poverty alleviation and income distribution. However, there is not yet an enabling environment specifically for SMMEs that is conducive to doing business in South Africa. The challenges for growth are many including management and technical skills, availability of experts in their area of industry, finance, infrastructure, environmental factors, lack of resources in the area, culture of the people living in a specific area and political reasons such as government policy. How many businesses are crippled because of inappropriate policy, interventions from government, location or entrepreneurial culture of a certain community? These and other challenges have contributed a lot to SMMEs to remain small indefinitely without any growth.

Responsible people such as policy makers can contribute a lot in creating a favourable environment in one country in terms of the major challenges of SMMEs. Businesses can be manipulated to grow or remain small with such influencing factors. Businesses fail because they don't have resources that can organise necessary infrastructure. Others fail because they are not able to anticipate the future or do not have the necessary competence to cope with unforeseen events. These and other similar reasons of failure are directly related to the small business capacity.

### **7.3.2 Nature and size of South African SMMEs**

The findings on SMMEs about their industry, number of employees and total annual revenue gave a good comparison of South African SMMEs participated in this study to the South African SMME category. In referring back to Table 6.32, almost all SMMEs, (47 or 97.9%) have only from 0–7 employees before joining incubation centres. This figure improves to 1–10 employees for 43 (87.9%) of SMMEs after joining incubation centres. The other four (8.1%) have from 11–16 employees and two businesses created 30 and 36 employees.

The same is true in regards to total annual revenue. The maximum annual revenue recorded in SMMEs among the South African incubator clients and graduates is R4m for one business, with the majority far less. According to the South African SMME categorisation shown in Table 3.1 of the literature review chapter, the majority of the respondents participated in this research are grouped under micro and very small businesses. None of the businesses assisted by incubators reached even the category of a small and medium sized business of 50 and 100 employees respectively. The same is true for annual revenue except for agriculture industry where 4million annual revenue is categorised under a medium sized enterprise. This raises a question on the potential for growth of the SMMEs. The majority of the SMMEs are not far better than survivalists and informal traders with few employees and turn over. It is most likely that these SMMEs are contributing to poverty alleviation than wealth creation. In such cases the businesses emphasise on the mere survival not involving in new technologies and

innovations. It seems the incubators are there mainly as support agents for businesses which cannot exist otherwise. However incubators should also concentrate on SMMEs specifically on new technologies and innovations with a potential for growth not only in terms of jobs and revenue but asset and infrastructure aimed at creating wealth. As Kauffman says, "the largest concept of entrepreneurship is growth" (kauffman.org).

On the other hand, the micro and small business nature of South African enterprises which are supported by incubators reveals another positive direction towards supporting the informal economy. It is a strong point to see South African incubation centres reaching the unskilled and transferring modern first class technology to the rural and marginalised areas. Many rural incubators are contributing to the informal economy such as Timbali Technology Incubator in Mpumalanga where modern horticulture technology is used by low skilled women to reach international flower markets through the incubator. The successful delivery of novice farmers into the mainstream economy, job creation and empowerment of the previously disadvantaged people in the Mbombela region indicated the application of business incubation in the lower end of the market. This is more relevant to developing countries with a major concern of job creation and poverty alleviation. The contribution of business incubation in such poverty alleviation is far reaching than just being places of innovations for new technology. In this regard, it is possible to say that the South African Incubators are contributing much in distributing the available technology than innovate new technologies. The need for transfer and distribution of the available technology seems much higher than coming with new technology given the history of the country in terms of inequalities such as in access to technology, income and infrastructure.

### **7.3.3 The incubation model**

The business incubation model reduces the major financial and non-financial resource challenges that SMMEs face during their early start up phase. The internal and external factors contributing to small business failure are partially reduced by the business

incubation model. The availability of experts around inexperienced business owners gives a direction for one's business by filling managerial and technical skill gaps. Other financial resources which are common during the start up phase are also relieved by below market rate facilities available in incubation centres

- **BUSINESS INCUBATION AND BUSINESS SURVIVAL**

Both the international and South African respondents agree on the positive contribution of business incubation for business survival. The national business incubation association studies (NBIA, 1997–2006) support this statement. South African incubator clients and graduates survival rate in this study (40%) as indicated in Table 7.2 is far better than the industry standard of SMME failure of 80% in South Africa (SEDA, 2007). According to the findings in this study, 40% of SMMEs stay in business for a more than two years while 60% survived for less than two years. This survival rate is still lower than SEDA business survival rate reports of 90 to 95% in the first two years (SEDA, 2005/2006).

The majority (78.3%) of respondents (Table 6.30) are incubator clients. Only 20% are incubator graduates and anchor tenants. Therefore survival rate figures do not represent graduate survivals as the majority of respondents are clients. This survival rates in this study fail to represent graduate survival rather only client survival (in house).The SEDA (2005/2006) survival reports do not represent graduate survival as well. Graduate survival rates show better impacts of incubation centres than client survival. It can be concluded according to this study that the impact of South African incubators in terms of graduate survival is not well known yet. Graduate survival rate statistics show long-term impacts of incubators than client survival rates. According to this study, there was no much information on what happened on incubator graduates. This might take us to previous doubts of some scholars on long-term effects of incubators on graduates (Lewis, 2001).

- **BUSINESS INCUBATION AND JOB CREATION**

According to the findings of this research, most incubation centres both in developed and developing countries are established with the prime objective of creating jobs, retain business in a specific community and revitalise less developed communities. The majority of international respondents and South African incubation managers have witnessed the positive contribution of the incubation model for job creation. In this regard, South African incubator clients and graduates are also benefited from the incubation model. These incubator clients and graduates have created more jobs after they joined incubation centres compared to the employees they have before joining incubation centres. These findings can lead to appropriate conclusion that business incubation contributes for job creation.

- **BUSINESS INCUBATION AND ANNUAL GROSS REVENUE**

On top of the responses from international and South African incubation managers, there was data to indicate incubated firms recorded better annual revenues than non-incubated ones. There was also a difference in annual revenue of SMMEs before and after joining incubation centres. Annual revenues have increased since SMMEs joined incubation centres.

- **BUSINESS INCUBATION AS A BETTER SUPPORT MODEL**

International and South African respondents unanimously agreed that business incubation is a better approach to business support. The success factor of the incubation model seems to lie in the following sub-factors according to the respondents.

## **1. NETWORKING**

Business incubators contribute to SMMEs in assisting in one of the success factors in business named networking (Scott, 2007). Business incubators create networks and among different business people that might increase one's chances of selling an idea, product or service. Incubators have networking and other social events which create a good opportunity for incubator tenants to link to experts, consultants, angel investors, marketers and academia. This is the greatest asset which one cannot measure in monetary terms. Experienced people share their experience, challenges and success stories in their respective industries. Incubator tenants who are not much experienced in business learn practical life lessons from experts. This makes incubator tenants to learn from other experts so that they do not repeat the same mistake (Mbewana, 2006). Networking is a common activity for most incubators and a tool proved to contribute to incubator clients' success. The accumulated knowledge and skill of different professionals will be given to tenants that help them to capitalise on a better ground. The controlled and continuous advice and experience sharing is very important. Incubators create an environment where experts in the field will directly meet with incubator tenants. These are not just experts but successful professionals and business people which is almost impossible if it was not with the facilitation of the incubators. This is an excellent model where skill and experience can be transferred to others in a coordinated way. These are the intangible benefits that incubators give to their tenants. This excels any low rent or financial assistance provided by incubators. There is more value than just finance (Mbewana, 2006).

## **2. AVAILABILITY OF EXPERTS**

Mentors and coaches which are available because of incubators provide continuous guidance to SMMEs. The mentors are experienced in business management and specific technical skills. Their guidance saves entrepreneurs from making unbearable mistakes in the scarce resources especially during the start up phase of SMMEs. For SMMEs with scarce resources failure may not be a lesson rather total collapse. The

failure may be the last phase of business life for some entrepreneurs who struggle to organise resources and come back on track again. How long does it take for one person to organise human and material resources and start business especially in a developing country context? The availability of mentors fills this gap.

An entrepreneur who just started business might struggle to get access to experienced and known entrepreneurs in the field. Successful entrepreneurs and pioneers in the field have been accessible to an ordinary entrepreneur because of the incubation centres. This is unthinkable without the coordination of the incubation centres. This access is not just mentors or coaches but successful business owners and companies. Personal advices, seminars and workshops from such individuals are excellent learning curves. This is the value which accelerates and guarantees success for entrepreneurs under incubation centres. As Terry (2009) of the Texas University (USA) said, the success is all about experts surrounding the entrepreneur in an incubation environment. As he said: "You are not alone in the business incubation, you are surrounded by people." The existence of virtual incubators is a good example of the incubation model. Incubators without walls still add value for entrepreneurs. Entrepreneurs from a distance make use of the expertise of mentors and a coach for success. What is most important to such incubator clients and entrepreneurs is the expertise, not necessarily a specific building or facility. This does not mean, however, that buildings or real estate do not add value for one's business.

### **3. BUSINESS SUPPORT SERVICES**

It is possible to conclude from the findings that business incubation contributes to better business survival and job creation. It is also a better support model than other government support programmes and services. However, the incubation industry is still in its infancy in South Africa. Though the incubation approach seems effective in providing a better and integrated business support strategy, how many of South African SMMEs can be reached in this type of assistance is a big question. Whatever effective it seems, it will remain benefiting only small numbers. The current 23 incubation centres

available in South Africa benefit a very limited number of SMMEs. The management, support staff, machineries and facilities available in each incubation centre is doing little given to the small number of SMMEs assisted every year. In other words, the cost per job created in South African incubators seems very high.

#### **4. OTHER INCUBATOR CONTRIBUTIONS**

The impact of business incubators is not limited to business survival, job creation and an increase of sales. There are many contributions done by South African Incubators which are not discussed in this study. These included the following:

- *Training*: incubators give training for individuals and communities when approached for assistance which is out of the support given to the clients in the formal programme.
- *Feasibility study*: incubators are also involved in the initial feasibility study of businesses which later may or may not be part of the incubator. If the feasibility shows no admission is important, the people with their business or idea will not be part of the incubator. However, incubators have spent their money and expertise in such pre-incubation stage which benefits both the incubator and incubatee.

#### **7.4 RECOMMENDATION**

This study has collected data from the international and national business incubation and economic development professionals. This study can be a resource document for policy makers and other professionals in the economic development and business incubation arena in South Africa and the rest of the developing world. The lessons learned or shared as a result of this study include the following:

- business incubation processes
- pre-incubation
- client selection

- serving clients
- performance tracking systems
- graduation/exit policies
- incubator sustainability

In addition the following specific points are recommended as a result of the findings.

#### **7.4.1 Selection of incubator clients**

The concept of incubation is based on providing support to start-up firms, especially when they are fragile and weak. The researcher deduced from many business incubator professionals, that incubation is not all about picking weak prospects and making them strong. It is not also about selecting the strong prospects to be stronger. A proper selection involves taking or admitting individuals or businesses with a growth potential and assist them with skills, infrastructure and other challenges that businesses face in order to become successful.

Business incubators should be places to assist potential entrepreneurs who cannot reach their potential because of scarcity of resources such as finance, facility or expert skill. Incubation centres should not be places of charity where unsuccessful business people get temporary shelter.

#### **7.4.2 Selection of incubation managers**

Although it seems most incubators are very careful in the selection of their clients they are not so careful in the selection of incubation managers. The success of the incubator is equally dependent on careful selection of the incubator manager and the client. The selection of incubation managers should not be just because of general management skills rather with skills to cope with incubator challenges and add value for clients and stake holders. Their skills are not directly linked to the objective of the incubators which can have direct impact on the success of clients. In some incubation centres the challenges of clients are not just the lack of technical skills but also include marketing of

their product. In such cases the role of the manager is not managing the centre but assisting in finding markets for client products. The assignment of incubation managers should be evaluated on the specific challenges of regions and client products. In some incubators in the USA, there are full-time managers with various skills which can assist in areas such as accounting, marketing, technical and other business skills.

#### **7.4.3 Networking events**

The experience of others is the most valuable asset for entrepreneurs like other resources such as finance or facility. The expertise available through networking fills the greatest challenge of SMMEs. Many SMMEs have limited access to relevant networks. Developing contacts is one of the most difficult issues that SMMEs especially new entrepreneurs face. The challenge of networking becomes more severe for rural entrepreneurs. In this regard business incubators play a very important role. A monthly networking luncheon for clients and experts assists to discuss challenges, opportunities and success stories among the incubation community.

#### **7.4.4 University linkages**

Links to universities and higher institutions are suggested as the success factors in some studies given the expertise and other resources available in universities which can contribute to the incubator staff and clients (Wagner, 1997; Mbewana, 2006; OECD, 1999). In this regard, the linkages of South African Incubators under the SEDA programme are minimal. The benefits of linkages could be for universities as well as incubators. Universities can use incubators as a testing lab for their new innovations while incubators can make use of the continuous pool of expertise available in universities.

It is highly recommended for SEDA incubators in all regions of South Africa to start and strengthen their linkage with universities and higher institutions.

#### 7.4.5 The incubation process

The incubation process which incubation professionals follow is crucial in the success of both incubation centres and clients/graduates. The researcher has come up with a conceptual framework for incubation processes as shown in Figure 7.1 below. The framework is explained as follows.

**Selection/screening process:** It is clear that it is not possible to assist everyone. Apart from that selection helps to match clients with the right resources such as machinery and expertise available through the network of incubators. The success and failure of incubation centres lies in proper selection procedures. As discussed in this study, selection is not taking the strong rather judging the ones with strong potential for growth. According to the findings on the selection criteria which were common to international and South African respondents, selection should be based on potential for growth, type of industry, objective of the incubator, excellent business opportunity and a good business plan from the highest to the lowest order (refer to Figure 6.2 and Table 6.19).

**Pre-incubation:** if there are doubts on the right selection of a client, it is better not to take them as clients rather keep them in the pre-incubation phase where services such as research and scrutiny of business ideas, business plan development, counselling and seminars are offered (Erlewine and Gerl, 2006). At these stage clients will assure if the incubator is the right place that can add value in to the business. Incubation managers will also check if clients are right for their incubator and in terms of the character of entrepreneurs such as coach ability. Pre-incubation will also test their commitment. Lalane, Marketing Manager of Soft Start Incubator in Midrand, Pretoria, South Africa in an interview about their pre-incubation programme says “pre-incubation is like testing the water”. Pre-incubation gives a chance if applicants are the right fit because it is difficult to help everyone. The duration of pre-incubation varies from few months to a year depending on the type of industry, business idea and competency of the entrepreneur.

The other important component of pre-incubation is that applicants who are not fit for the incubator can leave (drop out) early before resources are spent unnecessarily.

**Incubation stage:** At this stage clients will get any necessary intervention. All effort that incubators can do in order for clients to succeed will be done. Resources (financial and non-financial) from internal and external networks which are aimed to add value for the business will be implemented which finally can lead for clients to graduate/exit successfully and operate independently in the outside world. However even after all these efforts; there are clients which might take longer time to come to the desired performance and milestones expected by each one of them. These are clients who need extra intervention. The intervention cannot continue forever. Clients should progress to be successful (graduate) or leave the programme (drop-out).

**Key performance indicators:** The contributions of incubation centres known as key performance indicators should be reported to the sponsoring body. Key performance indicators include the creation of new ventures and their survival, jobs created, community revitalisation and poverty alleviation, technology transfer and commercialisation. The process is continuous as long as incubation centres exist. Refer to Figure 7.1 below:

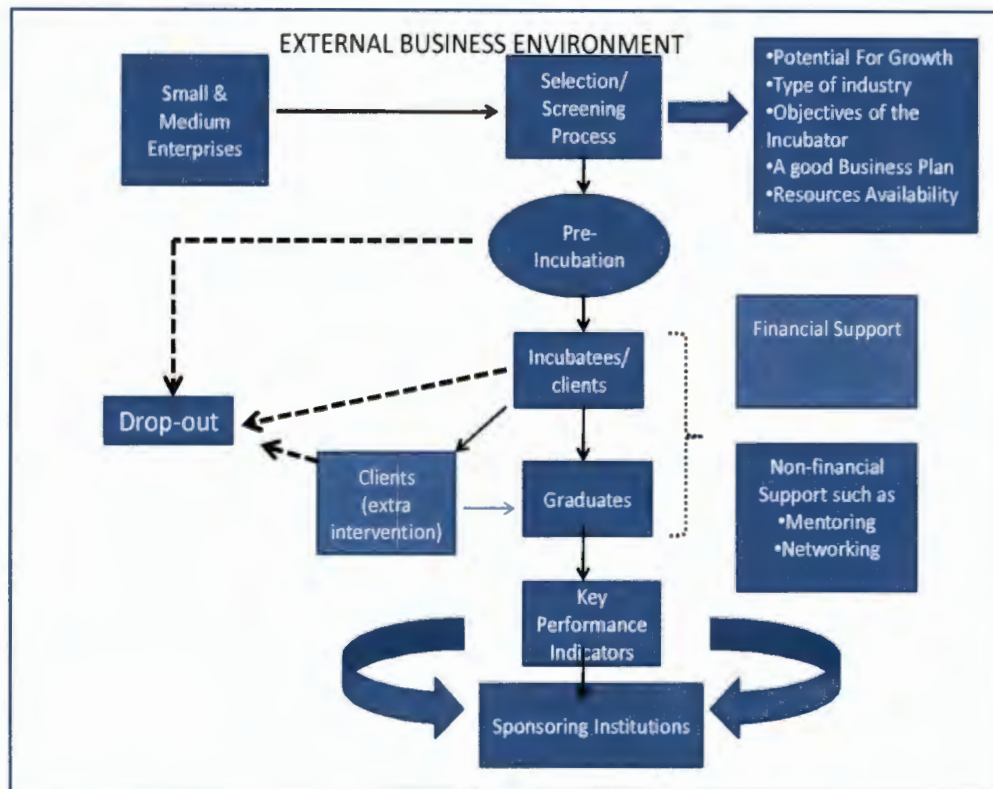


FIGURE 7.1: CONCEPTUAL FRAMEWORK FOR BUSINESS INCUBATION PROCESS

- **Conceptual framework:** The suggested conceptual framework for the incubation process shown in Figure 7.1 above can contribute to the proper resource utilisation and entrepreneurial support.

#### 7.4.6 Standardised measure of impacts

Most South African incubators do not have a standardised performance measure of impacts. Incubators are expected to have ongoing impact information. In order to do that similar impact study instruments should be used among all incubators. This enables impact researchers to get information as needed. If there is no uniformity of measuring instruments, incubation managers can miss relevant information which

shows the real impact of incubators. The impact study instruments are developed by industry experts. It is therefore recommended for all incubators in the same industry to have uniform measure of impacts and track records.

#### **7.4.7 Commercialisation of technologies**

South Africa has a first and formal economy with developed infrastructure. The current available technology should be transferred to the SMMEs and informal sector in the rural areas of the country. It is well understood in many countries that business incubators are effective instruments for transferring technology from developed to undeveloped areas. In this regard, the role of incubators seems ignored or not well understood (refer to Table 6.9). For SEDA and incubation centres, commercialisation of technologies should be one of the priority objectives.

#### **7.4.8 Sustainability of the incubator**

The research found that 100% of the incubators are financed by government. They are fully non-profit (Table 6.10). Incubation centres are not there to create dependency but rather to bridge financial and non-financial gaps which would be difficult to achieve without the intervention of incubators. This can include reaching experts and accessing fund from other sources. Incubation centres are not places of wasting tax payers' money for the weak entrepreneurs that cannot make any improvement regardless of any intervention. It is a place to assist entrepreneurs who are strong, promising and hard working and can contribute back to their community and themselves in creating jobs and revitalising communities for the better life of all stakeholders. If the focus of business incubators is shifted from this objective, it remains another government grant scheme which creates more dependency, closes up motivation and hunger for self-development.

In other countries such as the USA, sustainability of the incubator is a question which incubation managers work on. Carol (2009), one of the business incubation professionals says, "I am a firm believer in charging clients; they must show their commitment by paying". For instance; in some incubators clients are not only admitted from minorities and start-up businesses but also from established businesses. They mix clients with other businesses in a growth stage which contribute to the incubator because of rent paid and other services. Established businesses are in a position to pay for such services compared to early stage entrepreneurs.

#### **7.4.9 Incubator graduate relationship**

Incubators are there to create value for entrepreneurs. After graduation, the level of support can be limited but may not be stopped altogether. The incubator-graduate relationship was clearly pointed out during the NBIA (2009) conference where it was stated that in some incubators almost 70% of their graduates go back to their incubators years after graduating from incubation centres. This helps to create a ongoing relationship and it is easier to track impacts on graduates. In addition some incubation managers have exit/graduation interview. This creates a very good atmosphere to get constructive criticism which managers should not take personally. Relationships like this can help the difficulties of reaching graduates in South African incubators which the researcher and incubation managers experienced in this research. Doing so makes the future impact studies easier.

#### **7.4.10 Business incubators for the South African business environment**

As indicated in the literature review (GEM, 2006; 2007; 2008) South Africa is characterised by

- low entrepreneurial spirit
- low skill levels (business and technical)
- low number of entrants into the economy

It was also revealed from the analysis that “businesses are not performing even when finance is available”. This gives an indication of most of the major gaps in South African businesses. In this regard, the incubation model is more relevant to fill the low entrepreneurial and skill gap. Exposures of novice entrepreneurs to mentors and coaches and other networks created by the incubator create a learning curve which can accelerate SMME growth. Incubators provide tailor made services which are directed to clients. Business incubation is not like any other business support scheme. Therefore, the business incubation model can address the low skill and low entrepreneurial spirit of South Africa. The establishment of more incubators can solve the major challenges in the SMME sector. It is also recommended to invite more angel investors and private business owners in the incubation industry than involving government alone in South African incubation centres under the SEDA programme.

#### **7.4.11 Research on revenues and incomes of incubator clients/graduates**

It is advised for future researchers to ask incubator clients and graduates for percentage increase/decrease or changes of their annual revenue than asking for specific monetary amounts. Incubator clients and graduates release income related information easily most probably if requested in percentage changes not in actual figures.

### **7.5 FURTHER RESEARCH**

The researcher recommends further research in the following areas:

- to investigate the cost per job created in South African incubation centres
- to determine other impacts of incubators in South Africa apart from business survival and job creation as has been done to other countries such as the USA.
- The next crucial question for economic professionals is not whether business incubation can contribute to better performance of SMMEs, rather how it can reach more SMMEs. Therefore, conducting research on how the incubation model can reach and benefit more SMMEs is advisable.

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## **Annexure A: Letter to Incubation Managers from SEDA**

Dear Incubation Managers/Centre Managers

We have received a letter from Graduate School of Business and Government Leadership, North West University, Mafikeng Campus regarding Mr Agaze M.D, who is currently a PhD student at the university and his plan is to collect data from all South African incubators. The letter is about requesting our cooperation for data collection for the student. The research is fully for academic purposes and confidentiality of the data is maintained. Reports from this research will only be treated in aggregate.

Kindly assist Mr Agaze where possible in the process of data collection.

Kind Regards

Mr J Ravjee

*Maritza Atkinson*  
PA to Executive Manager of Stp

The dti Campus-Block G Office  
77 Meintjies Street, Sunnyside  
P O Box 56714, Arcadia, 0007

Tel: 012 441 1369 Fax: 012 441 2369  
Mobile: 083 670 3844  
Email: [matkinson@seda.org.za](mailto:matkinson@seda.org.za)  
[www.seda.org.za](http://www.seda.org.za)



## Annexure B: Client Survey

*This survey, combined with the corresponding Incubator Graduate Survey, will help you secure the data you need to track the 10 basic metrics suggested on pages 12-13 of Measuring Your Business Incubator's Economic Impact: A Toolkit.*

*All in-house and affiliate clients\* should complete this survey upon acceptance to the incubation programme and at regular intervals thereafter (annually at minimum).*

This portion to be completed by incubator staff	
Date:	_____
Company Name:	_____
Year Company Was Incorporated:	_____
Date Company Entered Incubator:	_____
Company Address (for affiliate clients* not located in incubator):	_____
Industry Classification (NAICS code):	_____
Contact Name/Title:	_____
Contact Telephone:	_____
Contact E-mail:	_____

### This portion to be completed by client company representative

1. How many people currently are employed full-time (at least 32 hours per week) at your business?  
\_\_\_\_\_
2. How many people currently are employed part-time (less than 32 hours per week) at your business? \_\_\_\_\_
3. What is the dollar amount of total salaries and wages your company paid last month? \_\_\_\_\_
4. What is the dollar amount of your company's gross revenues for the most recent full year?  
\_\_\_\_\_
5. What is the dollar amount of debt capital (bank loans, loans from family and friends, and other loan sources) raised in the most recent full year? \_\_\_\_\_
6. What is the dollar amount of equity capital raised in the most recent full year? (Include funds from angel investors, venture capitalists, seed funds, or other sources of equity capital.) \_\_\_\_\_
7. What is the dollar amount of grant funds (SBIR, state grants, etc.) raised in the most recent full year? \_\_\_\_\_

Source: National Business Incubation Association, business incubation impact toolkit (2007)

## Annexure C: Incubator Graduate Survey

*This survey, combined with the corresponding Incubator Client Survey, will help you secure the data you need to track the 10 basic metrics suggested on pages 12-13 of Measuring Your Business Incubator's Economic Impact: A Toolkit.*

*All graduate clients should complete this survey at the time of graduation and annually for at least five years after graduating from the incubation program.*

This portion to be completed by incubator staff	
Date:	_____
Company Name:	_____
Date Company Was Incorporated	_____
Date Company Entered Incubator	_____
Date Company Graduated from Incubator	_____
Company Address	_____
Industry Classification (NAICS code):	_____
Contact Name/Title:	_____
Contact Telephone:	_____
Contact E-mail:	_____

### This portion to be completed by graduate company representative

8. How many people currently are employed full-time (at least 32 hours per week) at your business?  
\_\_\_\_\_
9. How many people currently are employed part-time (less than 32 hours per week) at your business? \_\_\_\_\_
10. What is the dollar amount of total salaries and wages your company paid last month? \_\_\_\_\_
11. What is the dollar amount of your company's gross revenues for the most recent full year?  
\_\_\_\_\_
12. What is the dollar amount of debt capital (bank loans, loans from family and friends, and other loan sources) raised in the most recent full year? \_\_\_\_\_
13. What is the dollar amount of equity capital raised in the most recent full year? (Include funds from angel investors, venture capitalists, seed funds, and other sources of equity capital.) \_\_\_\_\_
14. What is the dollar amount of grant funds (SBIR, state grants, etc.) raised in the most recent full year? \_\_\_\_\_
15. Is your company preparing to undergo a merger, acquisition or closure in the next six months?  
\_\_\_\_\_

Source: National Business Incubation Association, business incubation impact toolkit (2007)

## Annexure D: Letter to Graduate School of Business & Government Leadership



NORTH-WEST UNIVERSITY  
YUNIBESITI YA BOKONE-BOPHIRIMA  
NOORDWES-UNIVERSITEIT  
MAFIKENG CAMPUS

### GRADUATE SCHOOL OF BUSINESS & GOVERNMENT LEADERSHIP (MAFIKENG CAMPUS)

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Dear Sir/Madam

My name is Mulugeta Agaze Dessie, currently studying for my PhD in the Graduate School of North West University, Mafikeng Campus, South Africa. My research is about **business incubation and its contribution for business survival and job creation**. Here with, I have attached research questionnaires to gather information about South African business incubators. Business incubation managers and incubator clients & graduates will be the target population to answer these questionnaires. Any information obtained will be treated in confidence and the report will be in aggregate. The information will be treated for statistical or research purposes only. There will not be any publication or what so ever without the written consent of institutions involved. I appreciate if you take few minutes to answer.

For further information, please contact me at +2783 708 9189 (Email: [mulusda@gmail.com](mailto:mulusda@gmail.com),) or my supervisor, Prof. WPJ Van Rensburg at +2718 389 2117/2383 (Email: [Jansen van Rensburg@nwu.ac.za](mailto:Jansen van Rensburg@nwu.ac.za)), or The Graduate School, North West University, Mafikeng Campus, South Africa, Tel: +2718 381 2351/2315; Fax: +2718 381 2881

Yours Faithfully

M. D. Agaze

**MAFIKENG CAMPUS**

Private Bag X2046 Mmabatho South Africa 2735  
Tel: (018) 389 2117/2383 Fax: (018) 389 2186 E-mail: [Willie.Jansen van Rensburg@nwu.ac.za](mailto:Willie.Jansen van Rensburg@nwu.ac.za)  
Internet: <http://www.nwu.ac.za>

**Annexure E: Questionnaire (International Incubation Experts)**



**NORTH-WEST UNIVERSITY  
YUNIBESITI YA BOKONE-BOPHIRIMA  
NOORDWES-UNIVERSITEIT  
MAFIKENG CAMPUS**

**GRADUATE SCHOOL OF BUSINESS & GOVERNMENT LEADERSHIP (MAFIKENG CAMPUS)**

**RESEARCH QUESTIONNAIRE**

**PART A: DEMOGRAPHIC DETAILS**

1. Kindly place an "X" in the relevant boxes below, to indicate your gender and country.

Gender	X	Country/continent	X
Male		U.S.A	
Female		Central America	
		Canada	
		South America	
		Europe	
		Asia	
		Africa	
		Other, please specify	

2. Please indicate your position by marking "X" from the following list.

Title	X
Incubator manager	
Incubation advisor	
Incubator staff	
Local small business development centre	
Other, please specify	

**PART B. INCUBATOR INFORMATION**

3. What type of business model is your incubator involved in? (Please mark all that apply to your incubator)

Type	X
Non—profit	
Profit based	
Other, please specify	

4. Please indicate the type of industry your incubation centre is engaged in (Please mark all that apply)

No	Industry	X
1	Agriculture	
2	Life sciences	
3	ICT & Electronics	
4	Chemicals	
5	Bio-tech	
6	Mining	
7	Manufacturing	
8	Service	
9	Other, please specify	

5. For how long have you been in the incubation industry?

No	Years	X
1	Less than 2 years	
2	2-5 years	
3	5-8 years	
4	8-10 years	
5	More than 10 years	

6. Incubators admit applicants on different admission criteria. Please rate the importance of the following list of selection criteria for your incubator and rate same in a scale of 1 to 4(4 being the highest and 1 the lowest).

No	Criteria	High 4	Medium 3	Low 2	Very low 1
1	A good business plan				
2	Availability of finance				
3	Excellent business opportunity				
4	Availability of skilled staff				
5	Type of industry				
6	Potential for growth				
7	Objective of the incubator				
8	Other, please specify				

7. What was most important to your clients during the initial admission period? (Select only 3 from the list)

No	Type of assistance	X
1	Lower rent facility	
2	Expert advice	
3	Net working	
4	Finance	
5	Business and technical skills	
6	Other, please specify	

8. Which of the following task has been most difficult for your incubator in the initial client admission process? Select from the list and rate in their order of difficulty (1 being the most difficult and 4 less difficult)

No		
1	Marketing the incubator	
2	Applicants business plan review process	
3	Credibility from prospective tenants	
4	Matching client needs to incubator resources	

9. Which of the following best describes the objective of your incubation centre?

No	Objectives	X
1	Creating jobs for community	
2	Retaining business in the community	
3	Commercialising technologies	
4	Fostering community entrepreneurial culture	
5	Poverty alleviation	
6	Wealth creation	
7	Other, please specify	

### PART C.OPINION

Please indicate to what extend whether you agree or disagree with the following statements. Place cross(X) under your answer (Q6-Q12)

10. Business incubation contributes for better survival of firms/businesses than non-incubated firms/businesses?

Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree

11. Incubated firms/businesses create more jobs than non-incubated ones.

Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree

12. According to my incubator records, Incubated firms' recorded better turn over results than non-incubated firms

Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree

13. The impact of incubators is best recognised if graduates perform after external support declined or ceased totally. According to my knowledge, graduate survival (out house) is always greater than client survival (in house)?

Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree

14. Keeping contact with incubator graduates and obtaining continuous feedback has been a difficult exercise.

Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree

15. Business incubation is proper use of public money?

Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree

16. Business incubation is a better business support model than other business support models such as government support services and schemes

Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree

17. If your answer to Question 12 above is "Agree/strongly agree", what makes business incubation a better support model?

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## **Annexure F: Questionnaire (South African Incubation Centre Managers or their Representatives)**



**NORTH-WEST UNIVERSITY  
YUNIBESITI YA BOKONE-BOPHIRIMA  
NOORDWES-UNIVERSITEIT  
MAFIKENG CAMPUS**

**GRADUATE SCHOOL OF BUSINESS & GOVERNMENT LEADERSHIP (MAFIKENG CAMPUS)**

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### **RESEARCH QUESTIONNAIRE**

**THIS QUESTIONNAIRE IS FOR INCUBATION CENTRE MANAGERS OR THEIR REPRESENTATIVES**

#### **Instruction for completion**

- 1. Please answer all questions as honestly as possible**
- 2. Place cross(x) in the space provided to give your choice of correct answer**

**PART A: DEMOGRAPHIC DETAILS**

1. Kindly place an "X" in the relevant boxes below, to indicate your age, gender and race:

AGE	X		GENDER	X		Race	X
<25			Male			Black	
25-35			Female			Coloured	
36-45						Indian	
46-55						White/Caucasian	
>55						Asian	
						Other, specify	

2. Your highest academic qualification. Please select one from the list below.

Qualification	(X)
Doctoral Degree	
Masters Degree	
Honours Degree	
B Tech degree(4 years)	
Undergraduate Degree(3 years)	
National Diploma	
Grade 12 (Matric)	
Other, please specify	

3. Which of the following describes your position best?

Title	X
Incubator manager	
Incubation advisory board member	
Incubator staff	
Local small business development centre such as Seda/dti	
business consultant	
economic development professional	
Virtual incubator	
Other, please specify	

4. For how long have you been in the incubation industry?

5. As an incubator manager, are you full-time or part-time employee?

Employment status	X
full-time	
part-time	

**PART B. INCUBATOR INFORMATION**

6. What type of business model is your incubator involved in? (Please mark that apply)

Type	X
Non-profit	
For-Profit	
Other, specify	

7. Please indicate the type of industry your incubation centre is engaged in (Please mark all categories that apply)

No	Industry	X
1	Agriculture	
2	Life sciences	
3	ICT & Electronics	
4	Chemicals	
5	Bio-tech	
6	Mining	
7	Manufacturing	
8	Service	
9	mixed use	
10	Other, please specify	

8. Which of the following best describes the objective of your incubation centre?  
Select all that apply.

No	Objectives	X
1	Creating jobs for local community	
2	Retaining business in the community	
3	Commercialising technologies	
4	encouraging minority/women entrepreneurship	
5	Fostering community entrepreneurial culture	
6	Poverty alleviation	
7	Wealth creation	
8	Other, please specify	

9. Which one of the following entities is the main source of funding for your incubator?

Sponsoring Entity	X
Government	
Donors (local and international NGOs)	
Private sector	
Local community	
Academic institution	
No sponsorship	
For profit entity	
Other, please specify	

10. Which of the following demographic group of entrepreneurs does your incubator target?

Demographic focus	X
No special focus	
Micro entrepreneurs	
Women	
Blacks	
Coloured	
Indians	
Immigrant entrepreneurs	
Other ,please specify	

**11. Which of the following business assistances does your incubator offer for clients?**

Select all that apply.

No	Type of Assistance	X
1	Help with business basics	
2	Networking	
3	Marketing assistance	
4	Internet access	
5	Help with accounting or financial management	
6	Shared administrative or office services	
7	Help access commercial bank loans	
8	Help access non-bank loans	
9	Linkages to higher education resources	
10	Access to angel investors/venture capital investors	
11	Access to mentors	
12	Comprehensive business training programmes	
13	Special equipment or facility	
14	Technology commercialisation assistance	
15	Help with regulatory compliance	
16	Intellectual property management	
17	International trade assistance	
18	Assistance with product design and development	
19	Other,	

**PART C.CLIENT INFORMATION**

12. When (year) did your incubation centre start receiving clients (applicants?)\_\_\_\_\_

13. Please indicate the number of clients admitted to your incubator in the following industries since the incubator started operation. Choose only the industry your incubator is involved in.

No	Industry	No of entrants of entrants									Total
		2001	2002	2003	2004	2005	2006	2007	2008	2009	
1	Agriculture										
	Life sciences										
3	ICT/Electronics										
4	Chemicals										
5	Bio-tech										
6	Mining										
7	Manufacturing										
8	Service										
9	Mixed use										
10	Other										

14. The number of client companies your incubator is currently serving?  
\_\_\_\_\_

15. Considering the most recent client admission of your incubator, which of the following three factors do you think were the most important ones to your clients?(check only three)

No	Type of assistance	X
1	Lower rent facility	
2	Expert advice	
3	Net working	
4	Finance	
5	Business and technical skills	
6	Other, please specify	

16. Incubators admit applicants on different admission criteria. Please rate the importance of the following list of selection criteria for your incubator and rate same in a scale of 1 to 4(4 being the highest and 1 the lowest).

No	Criteria	High 4	Medium 3	Low 2	Very low 1
1	A good business plan				
2	Availability of finance				
3	Excellent business opportunity				
4	Availability of skilled staff				
5	Type of industry				
6	Potential for growth				
7	Objective of the incubator				
8	Entrepreneurs commitment				
9	Ability to pay rent				
10	Other, please specify				

17. Which of the following task has been most difficult for your incubator in the initial client admission process? Select from the list and rate in their order of difficulty (4= most difficult and 1 = less difficult)

No		4	3	2	1
1	Marketing the incubator				
2	Applicants business plan review process				
3	Credibility from prospective tenants				
4	Matching client needs to incubator resources				
5	Other, please specify				

18. Please indicate the maximum duration that a client stayed in your incubation centre and graduated successfully (this doesn't include drop outs)

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19. Please indicate the minimum duration that a client stayed in your incubation centre and graduated successfully (this doesn't include drop outs)

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20. Are there incubator clients who left the incubation centre before graduation?

Yes		No	
-----	--	----	--

21. What were the main reasons for leaving before graduation?

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22. How many people are currently employed by the incubator current tenants and non-tenant affiliates?

---

**PART D. GRADUATE INFORMATION**

23. Please indicate the number of graduates in the years provided below.

No	Industry	No of graduates									Total graduates
		2001	2002	2003	2004	2005	2006	2007	2008	2009	
1	Agriculture										
2	Life sciences										
3	ICT/Electronics										
4	Chemicals										
5	Bio-tech										
6	Mining										
7	Manufacturing										
8	Service										
9	Mixed Use										
10	Other										

**24.** Incubators in different industry have different graduation policy/criteria for clients to graduate. Some policies are formal while others are informal or undocumented. Whether it is formal or informal, what are the main graduation criteria your incubator is currently using?

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**25.** How do you keep your relationship with your graduates, once they (the graduates) left the incubation centre?

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**26.** Incubator graduates run their own businesses after leaving the incubation centres. Some graduates succeed and continue trading for years while others fail and stop trading. From all your incubator graduates so far, what is the maximum duration that a graduate stayed in business (did not stop trading)?

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**27.** The minimum duration that your incubator graduate stayed in business after graduation and stop trading?(Refer to Q 25 above)

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**28.** How many of your graduate firms are no longer in business, excluding those acquired or merged?

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**29.** How many of your graduate firms are in business, including those acquired or merged?

30. How many jobs have been created by all incubator graduates so far?

---

**PART E. OPINION**

Please indicate to what extent whether you agree or disagree with the following statements.  
Place cross(X) under your answer (Q27-Q33)

31. Business incubation contributes for better survival of firms/businesses than non-incubated firms/businesses?

Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree

32. Incubated firms/businesses create more jobs than non-incubated ones.

Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree

33. According to my incubator records, Incubated firms' recorded better annual gross revenue than non-incubated firms

Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree

**34.** The impact of incubators is best recognised if graduates perform well after external support declined or ceased totally. According to my knowledge, the survival of businesses inside incubation centres (in house) is better than the survival of firms outside incubation centres(out house)

Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree

**35.** Keeping contact with incubator graduates and obtaining continuous feedback has been a difficult exercise.

Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree

**36.** Business incubation is proper use of public money?

Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree

**37.** Business incubation is a better business support model than other business support models such as government support services and schemes

Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree

38. If your answer to Question 33 above is "Agree/strongly agree", what makes business incubation a better support model?

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**THANK YOU VERY MUCH FOR YOUR CO-OPERATION**

**MAFIKENG CAMPUS**

Private Bag X2046 Mmabatho South Africa 2735

Tel: (018) 389 2117/2383 Fax: (018) 389 2186 E-mail: [Willie.Jansen.vanRensburg@nwu.ac.za](mailto:Willie.Jansen.vanRensburg@nwu.ac.za)  
Internet: <http://www.nwu.ac.za>

## **Annexure G: Questionnaire (South African Incubator Clients and Graduates)**



**NORTH-WEST UNIVERSITY  
YUNIBESITI YA BOKONE-BOPHIRIMA  
NOORDWES-UNIVERSITEIT  
MAFIKENG CAMPUS**

**GRADUATE SCHOOL OF BUSINESS & GOVERNMENT LEADERSHIP (MAFIKENG CAMPUS)**

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### **RESEARCH QUESTIONNAIRE**

**THIS QUESTIONNAIRE IS FOR INCUBATION CLIENTS AND GRADUATES OR THEIR REPRESENTATIVES**

#### **Instruction for completion**

- 3. Please answer all questions as honestly as possible**
- 4. Place cross(x) in the space provided to give your choice of correct answer**

**QUESTIONS TO INCUBATOR CLIENTS/TENANTS AND GRADUATES**

**THIS SECTION IS TO BE COMPLETED BY INCUBATOR CLIENTS/TENANTS AND GRADUATES OR THEIR REPRESENTATIVES**

1. Kindly place an "X" in the relevant boxes below, to indicate your age, gender and race:

AGE	X		GENDER	X		Race	X
<25			Male			Black	
25-35			Female			Coloured	
36-45						Indian	
46-55						White/Caucasian	
>55						Asian	
						Other, specify	

2. Your highest academic qualification. Please select one from the list below.

Qualification	(X)
Doctoral Degree	
Masters Degree	
Honours Degree	
B Tech degree(4 years)	
Undergraduate Degree(3 years)	
National Diploma	
Grade 12 (Matric)	
Other, please specify	

3. Which one of the following describes your status before joining the incubator?(mark all that apply)

	X
I own my own business	
I don't own business	
I was employed	
I was unemployed	
I was studying	
Other, specify	

4. Which of the following statements most accurately describes your current stage of business development?

	X
Developing business plan	
Pre-start up: product/service under development	
Start up: product/service ready for market	
Doing business: product/service currently being sold	
Out of business	
Other, please specify	

5. Which of the following describes your current relationship with the incubation programme?

No		(X)
1	current incubator <b>client residing</b> in incubator facility	
2	current incubator <b>client, not residing</b> in facility	
3	incubator <b>graduate</b> , no longer located in facility	
4	former client who left the programme, did not graduate	
5	Anchor tenant(company paying market rents and is allowed to stay inside the incubator)	
6	other, please specify	

6. For how long did you run your business before joining the incubation centre? (Mark one that apply)

Duration	X
Never started business before joining	
Less than a year	
2-3 years	
3 -4 years	
4 years and above	
Other, please specify	

7. To which of the following sectors is your business related to?

No.	Sectors/industry	X
1	Agriculture	
2	Manufacturing	
3	IT	
4	Retail	
5	Distribution	
6	Mining	
7	Chemicals	
8	Other, please specify	

8. Thinking back when you started your business, rate how important the following factors were. (4 being most important and 1 being less important)

No	Factors	High 4	Medium 3	Low 2	Very low 1
1	Experienced advisors in your area of business				
2	Finance				
3	Business management and technical skills				
4	Marketing your products and services				
5	Networking				
6	Trust from banks				
7	Affordable rent for your business				
8	Other, please specify and rate				

9. Date (year) your company entered as a client to the incubator

---

10. What was the most important reason for you to join an incubator?

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11. In the following you are requested to compare your current performance to the year you entered the incubation centre about number of full /part-time employees, salaries and wages and gross revenue. Please give figures accordingly.

	current	Year You Entered Incubator
Number of full-time employees		
Number of part-time employees		
Total number of women employed		
Your company's gross revenue		

12. Is your company preparing to undergo a merger, acquisition or closure in the next 6 months?

	Yes	No
Merger		
Acquisition		
Closure		
Other, specify		

13. Comparing the performance of your business **BEFORE** and **AFTER** joining the incubation centre, rate the following points.

No	Performance	Strongly disagree	Disagree	Agree	Strongly agree
		1	2	3	4
1	Number of full-time employees has increased				
2	Number of part-time employees has increased				
3	Number of total women employed has increased				
4	Number of total men employed has increased				
5	Maximum gross revenue has increased				
6	Total amount of salaries and wages has increased				
7	The current good performance of my business can be attributed to the support gained from incubators				
8	Other, please specify				

14. How long have you been in the incubation centre?

\_\_\_\_\_

**THIS SECTION IS ONLY FOR INCUBATOR GRADUATES (Q15-Q18)**

15. Are you still in business (trading?)

Yes		No	
-----	--	----	--

16. How long have you been in business after graduation?(**AFTER** leaving the incubation centre)

\_\_\_\_\_

17. If your answer is "No" to Question 15 above, when did you quit business (trading)?

No	Year	X
1	Within the 1st year after leaving the incubation centre	
2	Within the 2nd year after leaving the incubation centre	
3	Within the 3rd year after leaving the incubation centre	
4	Within the 4th year after leaving the incubation centre	
5	Within the 5th year after leaving the incubation centre	
6	other, please specify	

18. What was the main reason to stop trading? (Refer to Q17 above)

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**THANK YOU VERY MUCH FOR YOUR CO-OPERATION**

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## **Annexure H: Interview Questions/ NBIA CEO**

1. There are many reports of success about incubation. Do you think business incubation is a better business support model than others? Why
2. Do you agree business incubation contributes for better business survival, job creation and poverty alleviation?
3. Do you think business incubation is proper use of public money?
4. There are some criticisms on the concept of business incubation
  - 4.1 there is no scientifically proven study, such as a study with a control group, which proves business incubation works.
  - 4.2 The 2<sup>nd</sup> criticism is on the selection criteria: People argue during applicant selection procedure, the best and strong ones are selected Incubation seems selecting the good and reporting success. The strong ones might be successful without the intervention of an incubator. How do you see this? What is the best criterion of selection for you?
5. What lesson do you give to incubators in developing countries such as Africa?

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## Annexure I: Current and Future Incubation Centres In South Africa (June, 2009)



### Current Centres:

1. Softstart Business Technology Incubator - Potgieter Johannesburg
  2. Seda Limpopo Jewellery Incubator
  3. EgoliBio - Potgieter Johannesburg
  4. Zenzele - Potgieter Johannesburg
  5. Seda Construction Incubator (SCI) - Durban, Mthatha, Dundee
  6. Biodiesel - Marble Hall, Limpopo
  7. SEDA Nelson Mandela Bay ICT Incubator - PE
  8. CHEMIN - Port Elizabeth
  9. Timbali - Nelspruit
  10. Seda Automotive Technology Centre - Rosslyn, Pretoria
  11. Seda Ekurheleni Base Metals - Springs, Potgieter Johannesburg
  12. Seda Platinum Incubator - Rustenburg
  13. Seda Essential Oils Business Incubator - Pretoria
  14. Downstream Aluminium Centre of Technology - Richards Bay
  15. Mpumalanga Stainless Initiative - Middelburg, Mpumalanga
  16. Fumtech - HQ, Cape Town
  17. Fumtech -George
  18. Fumtech -White River
  19. Fumtech -Umzimkhulu
  20. Fumtech -Durban
  21. Fumtech -Mthatha
  22. Fumtech -Potgieter Johannesburg
  23. Sugar Cane Incubator - Malelane
  24. Mpumalanga Agri-Skills Development and Training - Nelspruit
  25. Soshanguve Manufacturing Technology Demo Centre (SMTDC)
- Future Centres:**
26. Seda Agriculture & Mining Tooling Incubator in Free State

### Sectors:

- ICT
- Manufacturing
- Biotechnology
- Resources: Small Scale Mining
- Construction
- Bio-Fuels
- ICT
- Chemicals
- Floriculture
- Automotive
- Resources: Mining Beneficiation
- Resources: Mining Beneficiation
- Agriculture: Essential Oils
- Manufacturing: Aluminium
- Manufacturing: Stainless Steel
- Manufacturing: Furniture

- Agriculture: Sugar Cane
- Agriculture: General
- Manufacturing: General

Agriculture & Mining

## LIST OF ACRONYMS AND ABBREVIATION

ABSA	Amalgamated Banks of South Africa
ANC	Africa National Congress
ASGI-SA	Accelerated and Shared Growth Initiative of South Africa
BBBEE	Broad Based Black Economic Empowerment
BEE	Black Economic Empowerment
BMF	Black Management Forum
BRAIN	Business Referral and Information Network
CEO	Chief Executive Officer
CPPP	Community Public Private Partnerships
CSIR	Council for Scientific and Industrial Research
CSS	Central Statistics Service
DACT	Down Stream Aluminium Centre for Technology
DST	Department of Science and Technology
DTI	Department of Trade and Industry
EU	European Union
FNB	First National Bank
FRAIN	Franchise Advice and Information Network
Furntech	Furniture Technology Centre
GDP	Gross Domestic Product
GEAR	Growth, Employment and Redistribution
GEM	Global Entrepreneurship Monitor
GNP	Gross National Product
GSB	Graduate School of Business
HBD	Here be Dragons
ICT	Information Communication Technology
IDC	Independent Development Cooperation
IMT	Interim Management Team
JIPS	Jonkoping International Business School

KPI	Key Performance Indicators
LED	Local economic development
MAC	Manufacturing Advice Centres
MFI	Micro Finance Institutions
MoU	Memorandum of Understanding
MSI	Mphumalanga Stainless Steel Initiative
MSI	Middleburg Stainless Steel Initiative
NAFCOC	National African Chamber of Commerce and Industry
NAMAC	National Manufacturing Advice Centre
NBIA	National Business Incubation Association
NGO	Non-Government Organisation
NIPF	National Industrial policy Framework
NSBA	National Small Business Amendment Act
NTBF	New Technology Based Firms
NTTC	National Technology Transfer Centre
NYC	National Youth Commission
OECD	Organisation for Economic Cooperation and Development
PMU	Programme Management Unit
RBV	Resource Based View
RDAs	English Regional Development Agencies
SA	South Africa
SBS	Small Business Service
SBTI	SoftStart Technology and Business Incubator
SDI	Special Development programme
SEDA	Small Enterprise Development Agency
SEOBI	SEDA Essential Oils Business Incubator
SMME	Small, Micro and Medium Enterprises
STP	Seda Technology Programme
TAC	Technology Advisory Centre
TDC	Technology Diffusion Centres:
TEA	Total Early Stage Entrepreneurial Activity

U.S.A	United States of America
UCT	University of Cape Town
UK	United Kingdom
UKBI	UK Business Incubation
UN/ECE	Enterprise Development Programme of the United Nations Economic Commission for Europe
UNDO	United Nations Development Organisation
UNDP	Human Development Report for South Africa
UNDP	United Nations Development Programme
UYF	Umsobomvu Youth Fund
VAT	Value Added Tax