

The benefits of collaboration in the entrepreneurship incubation environment in South Africa

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Abstract

Small to medium enterprises are the key contributors to national economic growth; however, they need a robust enabling environment that provides the necessary support for the emerging entrepreneur. Incubation is system of support designed to nurture new businesses in a controlled environment.

The main objective of this study was to gain insights into the extent of collaboration in the business and technology incubator environment in South Africa. Collaboration is an essential means of creating synergies that produce results; the desired outcome in this context is national economic growth.

A qualitative research study was carried out with decision makers in the incubation environment, using a questionnaire that covered the challenges, the extent of networking and rivalry within the incubation milieu.

This research found that due to a number of barriers there is a general lack of collaboration in the South African incubation environment. The study highlighted the benefits of collaborative efforts and created the basis for areas of further research.



Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria.

It has not been submitted before for any degree or examination in any other university.

I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Name:Gloria Dutiro	
Signature:	
Date: 11 November 2009	



Acknowledgements

I dedicate this project to my husband **Innocent**: thank you for the love and unwavering support; and my children **Mudiwa and Shungu** for all their love and patience during the course of the MBA – You are the wind beneath my wings.

Secondly, to my mother **Grace Mhonda** and to the memory of my late father **Phillip Mhonda** – thank you for your unconditional love and encouragement throughout my life.

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1.1 Research title

The benefits of collaboration in the entrepreneurship incubation environment in South Africa.

1.2 Research problem

The research will investigate the extent of collaboration in South African incubators, as collaboration is necessary to promote best practice. After assessing the extent of collaboration, the researcher will suggest success factors associated with collaboration and the ensuing benefits to the South African entrepreneurship enabling environment.

1.2.1 The South African socio-economic environment

The South African socio-economic environment is characterised by low economic growth: -3%: 2nd quarter (Statistics South Africa, 2009); high levels of unemployment: 24.5% (Statistics South Africa, 2009); and high rates of failure in the small to medium entrepreneurial environment: 70% -90% (www.thedti.gov.za)

The current global economic downturn has magnified South Africa's socioeconomic challenges. Statistics South Africa (2009) provides the following evidence that bears testimony to the challenges:



The total number of liquidations recorded for the first five months of 2009 increased by 36,8% (from 1199 to 1640) compared with the first five months of 2008; a total of 208 000 people living in South Africa lost their jobs between the last quarter of 2008 and the first quarter of 2009. The job losses occurred in both the formal (88 000) and the informal sector (96 000). However, the year-on-year picture hardly shows any movement in employment levels, as the number of people employed remained virtually unchanged at 13,6 million.

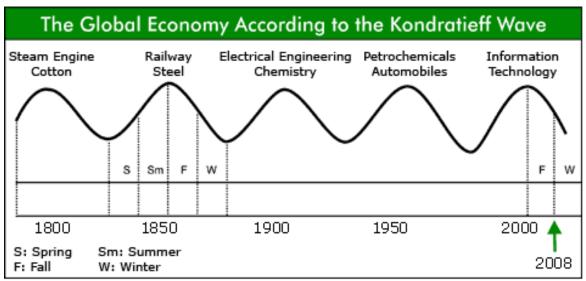
The need to stimulate entrepreneurship and small business development in South Africa has never been greater. South Africa needs entrepreneurship development to boost economic growth and curb unemployment. The importance of growth in the small to medium enterprise environment is underpinned by the fact that it contributes 35% of the country's gross domestic product, contributes 43% of the total value of South African salaries and wages and employs 55% of formal private sector employees (Nieman and Nieuwenhuizen, 2009).

Drucker (1985) pioneered the argument that purposefully managed entrepreneurship creates sufficient jobs to grow an economy, and it is against this backdrop that the SME sector is now recognised as the creator of economic success. Drucker (1985) postulates that innovation is the specific tool which entrepreneurs use to exploit shifts in the economy. Draper (2009) supports this

an economy out of a cyclical downturn by embracing innovation and change.

Drucker (1985, p.10) describes the current economic recession as the "winter stage of the Kondratieff Wave". Drucker (1985) further postulates that entrepreneurial innovation is key to the birth of the "Kondratieff spring", which is a period of positive development and economic growth. According to the Wall Street Survivor University (http://education.wallstreetsurvivor.com) the Kondratieff Wave can range from 40 to 60 years in length and consists of alternating periods of high and low economic growth. Fig 1.1 below illustrates the global economy according to the Kondratieff Wave.

Figure 1.1 The global economy according to the Kondratieff Wave



Source: Wall Street Survivor University (2009)



Herrington, Kew and Kew of the UCT Centre for Innovation and Entrepreneurship, indicate that South Africa s ranked 38th out of 43 countries, with a new business prevalence rate of only 2.1%. In addition to having poor business and management skills, South African entrepreneurs also lack an adequate enabling environment. Herrington et al (2008) stress the need for policy intervention that is aimed at mentoring and nurturing start-up entrepreneurs

Business incubation is a key contributor to developing an enabling business environment. Historically, 87% of incubatees stay in business (National Business Incubation Association, 2006). This success rate gives credibility to incubation as the preferred method of nurturing start-up businesses.

1.3 Research scope

The population of relevance consisted of business and technology incubators in South Africa. The focus of this research will be on business incubators listed and registered as members of the Southern African Business and Technology Incubator Association (SABTIA). The sampling frame was a list of current members of SABTIA.

Incubator	Focus	Location
SmartXchange	Developing the ICT SMME business base coupled with an	KwaZulu-Natal
	empowerment initiative	
Legshaan Ariefdien (Business Development)	Offers support to start- ups and existing businesses in the furniture industry	Cape Town
Maxum Incubator	Assists in starting hi-tech businesses	Pretoria
Downstream Aluminium Centre for Technology	Hosts entrepreneurs manufacturing cast aluminium lifestyle products	KwaZulu-Natal
eGoli Bio Life Sciences	Nurtures life sciences and biotechnology companies	Johannesburg
Acorn Technologies	Facilitates commercialisation of innovations in life sciences	Western Cape
Bandwidth Barn	Assists ICT start-ups	Western Cape
Chemin	Focuses on chemical sector including agroprocessing	Port Elizabeth
Softstart BTI	Assists early stage ICT entrepreneurs	Midrand
Timbali Technology	Assists start-up farmers	Mpumalanga
Raizcorp Pty Ltd	A prosperator: assists businesses to prosper in their environment	Johannesburg
Mpumalanga Stainless Initiative	Assists stainless steel enterprises	Mp umalanga
Blue Catalyst	Promotes start-up technology and knowledge-based businesses	Gauteng
Seda Construction	Provides services and resources to construction businesses	Durban, KwaZulu-Natal
Multi-skills Training & Development Institute	Assists small training providers to achieve accreditation and uplift the broader community	Pretoria

Source: SABTIA Website, 2009 (<u>www.sabtia.org</u>) accessed 14/4/2009



performance by nurturing start-up and early-stage businesses in a managed work space (Nieman, Hough and Nieuwenhuizen 2003). De Witt (2008) cites Cassim and Bissiker's interpretation of business incubation as a well-documented tool for economic development that aids fledgling companies by providing management and shared resources, which increase their chances of survival.

In recent years the South African incubation industry has seen the emergence of incubators across industries and across regions. Currently there are 15 members registered with the Southern African Business and Technology Incubation Association. Dlamini (2009) of the Maxum Incubator and Lourens (2007) of Softstart Business and Technology Incubator concur that the incubation landscape faces various challenges which could be mitigated by collaboration. Lourens (2007) raises concerns about the lack of a community-focus or philanthropic character in South Africa, as there is in other countries.

1.4 A global comparison: developed markets versus emerging markets

China and Brazil, like South Africa, are fast-growing emerging market economies characterised by the prospect of substantial future economic growth; an economy that has recently become receptive to foreign direct investment (FDI); trade liberalisation processes that will continue into the future; and an effective institutional infrastructure (Rahman and Bhattacharyya, 2003). As illustrated in Table 1.2, Chandra (2007:38) compares incubation characteristics of China and

influenced by the nature of the institution and the cultural context in which they operate.

Table 1.2. Comparison of incubation models in USA, China and Brazil

Comparison of incubation models in the United States, China and Brazil	USA	CHINA	BRAZIL
Strategic Focus	Economic development, tech transfer and commercialisat ion	Social mission, economic development with high tech focus	Foster entrepreneurship, economic development, job creation, technology commercialisation.
Sponsorship/incubator funding	Multiple levels of govt, economic development organisations, private funding	Govt is predominant funding source for incubators and incubates.	Plural sources of funding include different levels of govt, universities and some private funds.
Type of incubatee business	Mixed, high- tech, specialised	Mostly high tech (software, hardware, biotech etc)	High-tech, mixed in social, culture and design incubators
Service mix	Tangible and specialised, value-adding services	Mostly tangible services of an administrative nature	Both hard and soft services, such as networking
Financial services	Provides links to sources of financing with a few investing directly in incubatees	Links to various sources of govt grants, bank loans and some VC funding. Rare cases in south of direct investment in incubatees	Links to various sources of govt funding lines, angels and VCs. Bank loans difficult to secure for startups. Rare cases of direct investment in incubates
Tenant entry/ exit criteria	Clearly stated and mainly adhered to	Rather hazy and not adhered to in many cases. Govt mandate takes precedence over efficiency criteria.	Clear criteria mainly adhered to

Source: adapted from Chandra (2007:38)

e of incubator funding, with

the incubator acting as a link to other sources of private funding. The strategic focus of incubation in China is predominantly social in nature, which results in hazy exit and entry criteria. On the other hand, Brazilian incubators, which have similar socio-economic challenges to South African incubators, are focused on fostering entrepreneurship and job creation.

1.5 Research motivation

In the light of the prevailing macroeconomic challenges facing South Africa currently, it is imperative that small to medium business enterprises (SMMEs), which provide 35% of South Africa's GDP and employ 55% of formal private sector employees, are adequately resourced to meet their strategic objectives (Nieman and Nieuwenhuizen, 2009). In most cases SMMEs are created by entrepreneurs who are creative and innovative, but may not necessarily have the business acumen to successfully carry out the business plans. This often leads to the collapse of small businesses in their infancy. According to the small enterprise development agency (Seda) eight in ten new businesses fail within their first five years (www.stp.org.za). Therefore to improve the success of start-up businesses it is important that the South African Incubation industry increases its collaboration efforts, to benefit from the effects of the combined leverage.

The Infodev Incubator Support Centre serves as an example of a global virtual networking and knowledge-sharing platform designed to connect incubators

around the world. TI

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urship and new business

creation in the developing world, through collaboration (<u>www.idisc.net</u>, 2009).



Chapter Two Theory and literature review

2.1 Introduction.

It is evident from chapter one that entrepreneurship is a key driver of economic growth and employment in South Africa. This chapter forms the basis for the research questions posed in the following chapter. The literature review is organised into the following subsections to create an understanding of the scope of the qualitative research.

Subsection	Focus of subsection
2.2	Entrepreneurship: types, characteristics and trends
2.3	Entrepreneurship-enabling environment in South Africa
2.4	Incubation
2.5	Collaboration
2.6	Exchange theory
2.7	Resource dependence theory
2.8	Social embeddedness
2.9	Regional entrepreneurial capital in South Africa

The literature review provides direction for the types of question to be used in the interviews and also looks at other research papers on the incubation environment. The information is sourced primarily from peer-reviewed academic journal articles.



2.2 Entrepreneurship

The following subsections draw a distinction between the different types, characteristics and trends of entrepreneurship.

2.2.1 Types of entrepreneurship

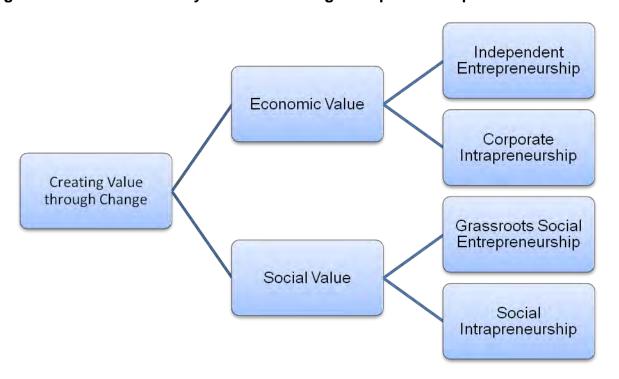
Entrepreneurship has been the focus of academic discussion for decades. Nieman and Niewenhuizen (2009) attest to the fact that in the field of entrepreneurship there is no distinguishable consensus on the definition of an entrepreneur and the boundaries of the paradigm. Iversen, Jorgensen and Malchow (2008) emphasise the lack of consensus in the area of entrepreneurship, as exemplified in a number of reports by the Organisation for Economic Co-operation and Development (OECD), where entrepreneurship is defined as follows:

- " An entrepreneur is anyone who works for himself or herself, but not for someone else" (OECD, 2001b, p.23)
- "An entrepreneur has the ability to marshal resources to seize new business opportunities" (OECD, 1998, p.41)
- "Entrepreneurship is the dynamic process of identifying economic opportunities and acting upon them by developing, producing and selling goods and services" (OECD, 1997, p.151)

sed definition, which states

that entrepreneurship is based on two fundamental characteristics: the type of value being created and the organisational structure. There are two types of value created by entrepreneurship: either economic, such as profit or financial independence, or social, such as mobility or equity. Figure 2.1 depicts the classification system.

Figure 2.1: Classification System for Defining Entrepreneurship



Source: adapted from Yusuf (2005:119)

Social value creation has traditionally been pursued by non-profit organisations and government, while corporates and industry are drawn toward economic value creation. Yusuf's four-cell typology of mutually exclusive entrepreneurial activity can be depicted as in Table 2.1.



Table 2.1: Four-cell Entrepreneurship Typology

	Pursued independently of	Pursued within an	
	an organisational context	organisational context	
Economic Value	(1).Independent	(III)Corporate	
	Entrepreneurship	Intrapreneurship	
Social Value	(II) Grassroots Social	(IV)Social	
	Entrepreneurship	Intrapreneurship	

Source: adapted from Yusuf (2005:120)

Yusuf (2005:120) defines independent entrepreneurship as economic valuecreating activities that are undertaken by an individual or group of individuals who have no existing organisational affiliations. This definition is summarises the OECD definitions described by Iversen et al (2008).

The following subsection highlights the important characteristics of entrepreneurship.

2.2.2 Characteristics of entrepreneurship

Nieman et al (2003) list the following important aspects of entrepreneurship, citing Nieman & Bennet (2002):

- Identifying a real business opportunity
- Creating something new and different through innovation



- Creating and growing an existing or new business venture
- Taking both personal and financial risk
- Being rewarded in the form of profit or value created by the business
- Managing the business through planning, organising, leadership and control of various business functions

Liang and Dunn (2008) recognise that entrepreneurship is the creation of new ventures using intellectual and physical assets; they expand their view to include optimism and realism as distinct entrepreneurship traits.

The following subsection provides an overview of entrepreneurship trends.

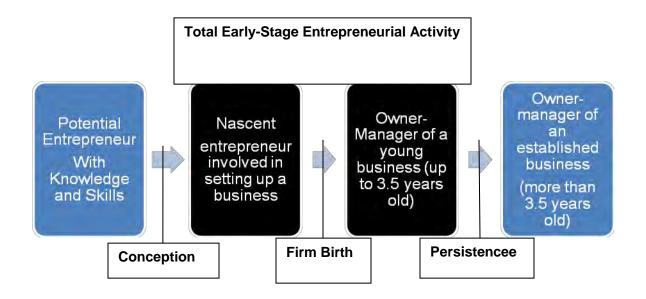
2.2.3 Trends of entrepreneurship

Entrepreneurs exploit new opportunities by acting as co-ordinators of resources. Start-up rates of entrepreneurs improve when emerging entrepreneurs are better educated and supported by the local economy (Naude, Gries, Wood and Meinjties, 2008). The key objectives of entrepreneurial businesses are profitability and growth, based on an innovative idea (Nieman et al, 2003)

Nascent entrepreneurs require business support that gives them the capacity to overcome different challenges (Bosma, Jones, Autio and Levie, 2007). Figure 2.2 shows the nascent entrepreneur's position in relation to the entrepreneurial process.



Figure 2.2 The GEM entrepreneurial process



Source: Bosma et al (2007, p.9)

Three distinct perspectives been identified determinants have as of entrepreneurship: the role of institutions, the role of social networks and the role of personal characteristics (Muhanna, 2007). Institutions include political, legal and economic institutions. The business incubator, which is the subject and unit of analysis of this research, is classified as an economic institution. There is growing evidence that individuals whose immediate social and extended networks include entrepreneurs are most likely to become entrepreneurs. This trend is reflected in the South African communities of Asian descent.

The following subsection reviews the extent of the entrepreneurship-enabling environment in the local economy.



2.3 Entrepreneurship-enabling environment in South Africa

He (2009) proposes that there are five widely recognised preconditions that must be in existence for an entrepreneur to succeed: a favourable market structure; availability of financial capital; a high quality of human and social capital; a culture that is tolerant of failure; and strong property rights when starting, exiting or selling businesses. Coupled with the aforementioned preconditions is the willingness of government to create an enabling environment.

In March 1995 the South African government ratified a White Paper on National Strategy for the Development and Promotion of Small Business in South Africa, which set out a detailed policy and strategy framework on small business development (www.info.gov.za).

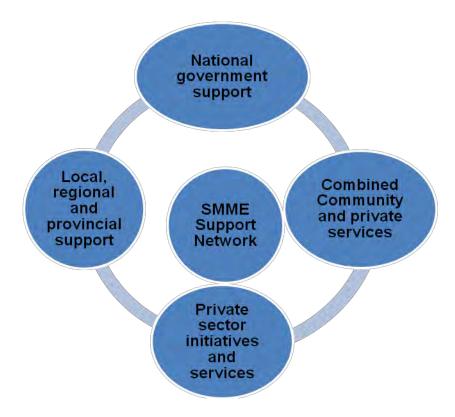
The following extract from the White Paper provides an outline of the key issues to be addressed within the South African small business context.

With millions of South Africans unemployed and underemployed, the Government has no option but to give its full attention to the fundamental task of job creation, and to generating sustainable and equitable growth. Small, medium and micro-enterprises (SMMEs) represent an important vehicle to address the challenges of job



world, one finds that SMMEs are playing a critical role in absorbing labour, penetrating new markets and generally expanding economies in creative and innovative ways. We are of the view that with the appropriate enabling environment, SMMEs in this country can follow these examples and make an indelible mark on this economy. The stimulation of SMMEs must be seen as part of an integrated strategy to take this economy onto a higher road – one in which our economy is diversified, productivity is enhanced, investment is stimulated and entrepreneurship flourishes (www.info.gov.za).

In the South African economy various key players are part of a support network that invests in and stimulates small business. Figure 2.3 reflects the framework for SMME support. The network expands beyond national and local government to non-governmental organisations, chambers of commerce and commercial banks which are part of the private sector, and combined community services. The entire network aims to provide financial, administrative and technical skills for the entrepreneur.

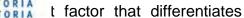


Source: Nieman & Nieuwenhuizen (2009, p.200)

2.4 Incubation

2.4.1 Definition of incubation

The National Business Incubation Association of the United States (NBIA) defines incubation as 'a business support process that accelerates the successful development of start-up and fledgling companies by providing entrepreneurs with an array of targeted resources and services' (www.nbia.org). Chandra, Wei and Fealey (2007) cite Hansen as proposing that organised networking or preferential





distinguished incubators from those that only provide office space and basic services.

Maital, Ravid, Seshadri and Dumanis (2008) indicate that a business incubator is a programme aimed at providing nascent entrepreneurial companies with a variety of support resources and services until they are mature enough to thrive on their own. Grimaldi and Grandi (2005) propose that there are two unique incubators:

- Model 1: incubators that focus on reducing start-up costs for tenants by providing tangible assets
- Model 2: incubators that offer intangible assets such as finance and speed to market

They stress the need for alignment between the incubator's objectives and the tenant's requirements.

2.4.2 Types of incubator in South Africa

The South African industry is characterised by two types of incubator: technology stations and business incubators. Both have been established to boost economic growth, particularly in the high-tech SMME sector (Ndabeni, 2008). The role of the technology incubators is to promote economic growth, sustainable employment, technological innovation and technology transfer and increase the competitiveness of South African companies. The technology stations were developed by the

technical colleges (replaced by Technology universities) and SMMEs.

The focus of this research will be on business incubators listed and registered as members of the Southern African Business and Technology Incubator Association (SABTIA). SABTIA's mission is to raise the profile of South African incubation by advancing the development of business incubation, acting as an entry point and promoting best practice (www.sabtia.org). Some of SABTIA's objectives include:

- The training and development of a robust network that provides support services for start up businesses
- The design and development of activities that promote business incubation
- Educating stakeholders and creating public awareness about the benefits associated with the business incubation process

The following subsection provides various views on the benefits associated with the business incubation process.

2.4.3 Benefits associated with incubators

Tamasy (2007) asserts that the success of incubators is analysed in terms of their main goals as viewed by their respective managements. It is proposed that the three most common goals, in order of importance, are the support of start-ups; the creation of qualified jobs; and the intensification of knowledge and technology transfer. Studdard (2006) found that reputation benefits brought about by

business incubator.

Studdard (2006) makes two important points about improving the reputation of business incubators. First, the reputation of the incubator helps to improve the reputation of the resident firms, which subsequently leads to greater productivity in the marketplace. Secondly, an improved reputation means the business incubator has a better chance of long-term success. Studdard (2006) also cites Shane and Stuart, who show that high-technology firms linked with universities show increased development and are more attractive to external funding.

However, Hughes, Hughes and Morgan (2007) present another point of view, by finding that exploitative learning by incubatees is flawed because it undermines the effect of entrepreneurial orientation on market and response performance, in contrast to exploratory learning, which generates knowledge that is created internally. Hughes et al (2007) recommend a dual approach that makes use of a balance of both exploitative and exploratory learning.

The above commentators indicate that collaboration is a common thread which runs through the various benefits of incubation. The following section therefore explains the case for collaboration and the barriers to collaboration within organisations. This section evolves into the core focus of this study.

2.5 The case for and



Skelcher and Sullivan (2008) define collaboration as the act of working together with one or more people in order to achieve something. Collaborations are motivated by a variety of factors; some are in pursuit of improved outcomes, while others serve to maximise organisational resources. Therefore partners engage in some form of co-ordinated way to achieve their goals (Skelcher and Sullivan, 2008).

According to Hansen (2009), collaboration creates three areas of potential advantage in a business:

- Better innovation, which recombines existing resources, in order to create something new from something old
- Better sales, which create cross-selling, which involves selling products across organisations
- Better operations or making operations more efficient, by sharing advice that improves the quality of decisions

The context of the collaboration determines the nature of the co-ordination, which can range between the following, as described by Keast, Brown and Mandell (2007):

- Co-operation shared information and mutual support
- Co-ordination of common tasks and compatible goals
- Collaboration on integrated strategies and collective purpose
- Coadunation a unified structure and combined cultures



Van Rensburg (2006) contends that a collaborative organisation focuses on exploiting what needs to be done at a specific level and how third parties fit together in a collaborative organisational web. The author suggests that in order for a collaborative model to operate successfully, emphasis must be placed on customer service, business process outsourcing, information technology and organisational knowledge. Spalding and Van Rensburg cited in Van Rensburg (2006), identify key factors that need to be addressed to ensure the success of collaborative efforts between companies. Their primary focus is on flexibility, connectivity and co-ordination of the planning phase, followed by business processes that support relational integration. Spalding and Van Rensburg further suggest that clearly articulated objectives and measures promote commitment and vision between stakeholders involved in a collaborative effort.

Hansen (2009) outlines four barriers that typically block collaboration:

- 1. The 'not-invented-here' barrier an unwillingness to seek input from others
- 2. The hoarding barrier an unwillingness to share knowledge
- 3. The searching barrier when information cannot be found easily
- 4. The transfer problem an inability to transfer knowledge

The following table provides an expanded view of the four barriers.



Table 2.2 Four barriers to collaboration

Barriers	Problems	
Why 'not-invented-here'?	Insular culture	
	Status gap	
	Self reliance	
	• Fear	
Why people hoard	Competitive spirit	
	Narrow incentives	
	Too busy	
	Loss of power	
Why search is difficult	Geographical distance	
	Information overload	
	Lack of links	
Why transfer problems	Tacit knowledge difficult to transfer	
happen	No common objective	
	No strong relations to ease transfer	

Source: adapted from Hansen (2009, p.64)





providing tailor-made management solutions are ways in which the barriers can be overcome.

The following subsections review theories that enhance the collaboration framework.

2.6 Exchange theory

Skelcher and Sullivan (2008) cite Levine and White as developers of exchange theory. The theory has its roots in a study conducted to assess the difficulties experienced by users in accessing a fragmented and specialised service. They took the view that collaboration is a consequence of providers recognising the following:

- a) That they shared system-wide goals
- b) That no individual organisation had sufficient resources to fulfil these objectives

According to Skelcher and Sullivan (2008), scarcity of resources motivates a pattern of voluntary co-operation to help realise system-wide goals. There has to be a degree of consensus about goals and functions. Skelcher and Sullivan (2008:757) state 'This exchange relationship takes place within a framework of mutual respect for the organisational domain of each partner, with explicit or

iner observes the other's

jurisdiction.'



This view limits the kinds of organisations that are likely to participate in this type of relationship. Organisations in which there is high rivalry amongst competitors are unlikely to acknowledge the benefits of exchange theory.

2.7 The Resource Dependence theory

In contrast to exchange theory, which presupposes a positive sum game where no one partner is dominant, resource dependency theory explains the situation where the balance of power is with the partner with the most resources. In situations where resources are scarce, organisations with more control over resources will use their muscle to compete with other organisations to improve the security of their own position (Skelcher and Sullivan, 2008).

Skelcher and Sullivan (2008) make the assumption that resource dependencies create power differentials in the inter-organisational network; motivation to interact is likely to be initiated by the partner who stands to gain the most. Sullivan, Barnes and Matka (2007) draw attention to the need to assess the integrative performance of collaborations, specifically where external forces such as legislation are impacting on the network. In the light of the above, it is necessary to view collaborations as temporary settlements formed to solve a common problem and not an arena for power jostling. Skelcher and Sullivan (2008) emphasise the fact that successful collaboration focuses on the coming together of right individuals



connectivity and capacity to achieve shared goals.

2.8 Social Embeddedness theory

In order to have access to timely information and referrals to other players in a network, most organisations are embedded in wide-ranging inter-organisational networks. These networks can offer access to research and development, trade associations and potential clients (Lin, 2006). Portfolios such as networks begin with links between interdependent firms and then evolve to form links that are not only interdependent but also increasingly embedded in a network (Ozcan and Eisenhardt, 2009). These links bring with them benefits such as access to superior resources and multiple sources of information.

Lavie (2007) found that linked partners that compete with each other improve focal firm performance by improving bargaining power as a result of the network. Many firms rely on their networks to enhance performance, by focusing on their strengths while leveraging their partner's resources and market positions (Yoffie and Slind, 2006). Organisations that visualise their networks in the context of their entire industry are more likely to originate high-performing networks (Ozcan and Eisenhardt, 2009).

In the context of this research, networks extended across organisations as well as across geographic entities.

entrepreneurship in South Africa.

2.9 Regional entrepreneurial capital in South Africa

It has been increasingly acknowledged that entrepreneurship is crucial for economic development. South Africa, as a developing country, experiences widespread regional inequality throughout its nine provinces. Naude et al, 2008 cite Gries and Naude who ascribe regional inequality to different rates of investment in physical and human capital under different economic conditions

Stam (2006) concurs, pointing out that regional differences in start-up firms are a source of uneven regional development. This implies a strong causal link between entrepreneurship and economic growth per region.

2.10 Conclusion

The aim of the literature review was to examine the entrepreneurship and incubation ambits in conjunction with the concept of collaboration and related theories. What has emerged from the literature is that a collaborative incubator plays a pivotal role in the enabling environment of entrepreneurship. The ensuing interviews will provide evidence of the extent of collaboration in the South African incubator environment.



Chapter 3 Research questions

The study will investigate whether South African incubators are collaborating to reap the benefits of combined leverage. The factors will be considered in the context of the whole incubation industry in South Africa and incubators in the same sector.

In order to understand the factors affecting collaboration in the incubator environment, the following questions will be explored:-

- Research question 1: What challenges specific to the incubator could be met by collaborating with incubators which serve the same sector?
- Research question 2: Is there rivalry in the South African incubator environment?
- Research question 3: Is there visible networking between incubators in different economic regions?
- Research question 4: How can incubators strengthen their position by forming partnerships with the private and public sector and NGOs?

The questionnaire designed for the qualitative research appears in Appendix C; it seeks to identify the factors at play in the incubator landscape and will attempt to draw out as much relevant information on collaboration as possible.



Chapter 4 Research methodology

This chapter aims to provide a rationale for the choice of methodology and provides an overview of the strengths and weaknesses of the chosen technique.

The research methodology was designed and executed on the basis of the literature review and the research scope.

4.1 Research design

A two-phased, qualitative exploratory research approach was adopted. Phase one consisted of high-level interviews with field experts to develop a frame of reference and a literature review of key points. In Phase two, in-depth interviews were conducted with key decision makers from the incubators. Telephonic interviews were conducted with incubators outside Gauteng and face-to-face interviews with incubators located in Gauteng. The two phases were structured as follows:

Table 4.1 Research approach

Research Phase	Main Objectives	Data Collection Method	Sampling technique	Sample Size
Phase 1	Exploratory research to develop a frame of reference and literature review	Semi-structured elite interviews	Purposive	2
Phase 2	In-depth interviews with incubator decision makers	Semi-structured narrative enquiry interviews	Snowballing	7



4.2 Methodology rationale

Gillham (2005) argues that the semi-structured interview is ideal for conducting research because of its flexibility, which is balanced by the structure of the questions and the quality of the data obtained. The element of discovery is one of the strengths of the semi-structured interview. On the other hand, the elite interview with a field expert provides a rich source of information and facilitates access to people in the field, as well as providing direction to the whole research process.

According to Zikmund (2003), qualitative exploratory research may be conducted to:

- Diagnose a situation
- Screen alternatives
- Discover new ideas

The interview schedule comprised semi-structured and open-ended questions, which were designed to probe for elaboration of the situation. This assisted the researcher to understand the dynamics within the incubation environment. A quantitative analysis would not have given sufficient insight into the situation.

4.2 Proposed popula University of Pretoria alysis

The population of relevance consisted of business and technology incubators in South Africa. The sampling frame was a list of current members of the Southern African Business and Technology Incubation Association (SABTIA). The association has a current membership of 16, though not all 16 members are active and operational. The unit of analysis was business and technology incubators in South Africa and the study investigated the levels of collaboration within the incubator environment.

4.3 Size and nature of the sample

A non-probability purposive sampling approach (Zikmund, 2003) was employed in the first phase of the research; in this phase SABTIA was selected as the most appropriate sampling frame. A snowball sampling approach (Zikmund, 2003) was employed to solicit the seven sample units. The invitation to participate was sent to all 16 members of SABTIA. From the initial list four responded, and the rest were referrals from the first four. Three interviews were conducted within Gauteng, two from Durban, and one each from Port Elizabeth and Mpumalanga.

4.4 Interview schedule design and pre-testing

The objective of the research was to gain a better insight into the levels of collaboration within the entrepreneurship incubator environment in South Africa. The questionnaire was designed to elicit answers to the research questions within the context of each incubator decision maker. The questionnaire was pre-tested with a business consulting expert to achieve face validity; this pilot study improved

the quality of the in process. Necessary adjustments were made to the questionnaire during the pretest phase to produce the final document. (See Annexure C for final questionnaire).

4.5 Data collection approach

During the ethical clearance process, all 16 members of SABTIA were emailed a letter that contained an invitation to participate in the research. Once ethical clearance to conduct the research had been sought and obtained from the Research and Ethics Committee of the Gordon Institute of Business Science (GIBS), the respondents who had agreed to participate in the research were each sent an email requesting a time to conduct the interview. The interview schedule was sent as an attachment with the above request to allow the respondent to adequately prepare for the interview. The interview was conducted as indicated in the five stages below.

Gillham (2005) outlines the five stages on how to conduct an interview, as follows:

- 1. The preparation phase, which begins before the interview takes place, involves consulting the convenience of those you want to interview and ensuring that they know what your research is all about. It is also important that at this stage they are clear about the probable length of the interview, as this will affect the attitude of the interviewee.
- 2. The initial contact phase, which is primarily social but necessary to establish a rapport and gain the confidence of the interviewee.



- 3. *The orientation phase,* whose primary task is to amplify the information you have already provided and steer the person into the interview.
- 4. The substantive phase, which involves framing questions, being patient and attentive. Being attentive provides the interviewer with the opportunity to identify cues for probing and using a range of probes to encourage the interviewee to own the discussion.
- 5. The closure phase, which is the review and summary stage, invites the interviewee to add any other points which have been missed, which often adds valuable material to the interview. It is also a phase in which you display courtesy to and appreciation of the respondent.

These principles were deliberately applied in the entire research process.

4.6 Data analysis approach

The data analysis was a combination of narrative, constant comparative analysis and content analysis. This involved the recording of observations and interpretations at the same time as the interview was being conducted. The tape recordings of the interviews were transcribed and a system was devised to group

noted and unusual findings were identified.

4.7 Limitations to the research

- Interpretation of qualitative information is typically judgmental, and could therefore be subject to interpreter bias (Zikmund, 2003).
- Non-verbal elements, which are key to relaying meaning, were stripped out of the telephonic interviews.
- A response rate of 44% may not be representative, given the small universum (16 member incubators); therefore the ability to generalise results is limited. One could mention though, that the respondents or participating interviewees form part of the active incubators within this sphere. Some of those who were not able to participate formed part of dormant incubators, or economically inactive incubators.

4.8 Comments on the actual interviews

The following are observations which are worth noting:

 In general the respondents were very responsive to the interview process, because of the rapport established in the ethical clearance process. None of the respondents had any objection to their names being published in the report.



- prepare for the discussion and in most cases improved the quality of the responses.
- Arriving on time to the designated meeting area allowed for better control of the process, it allowed the interviewer to be in control of the discussion.

All the face-to-face interviews continued past the scheduled time; the element of the interviewer being an outsider seemed to facilitate the discussions. The findings of the interview are discussed in the following chapter.



5.1 Introduction

In this chapter a summary of the qualitative research process, as collated from the seven interviews, will be presented by question and respondent. The same 12 questions were posed to each interviewee, irrespective of the sector or province which the incubator represented.

5.2 Overview of the interviews and incubators

Information about the respondents and the interview locations is shown in Table 5.1. The interviewees were all decision makers in the incubators, with the exception of one interview in which the decision maker's assistant stood in as a proxy. The interview environments were ideal for collecting the research data, as it was possible to have the maximum attention of the interviewees for the duration of the interview, regardless of their location.

Table 5.1 Description of the interviews

Incubator	Interviewee	Interview Location	Interview conducted
Maxum Business Incubator	Patricia Dlamini Manager	Pretoria	Office
Softstart Bti	Leonie Greyling CEO	Midrand	Boardroom
Mpumalanga Stainless Initiative	Nombuso Mnisi Proxy for CEO	Mpumalanga	Via Telephone
SmartXchange	Robynne Erwin	Durban	Via Telephone
EgoliBio	Sipho Moshoane CEO	Pretoria	Office
Chemin	Colin Mkhonta Manager	Port Elizabeth	Via Telephone
Seda Construction Incubator	Mthunzi Nyadeni	Durban	Emailed Response

tics and activities of the incubators. Most of the incubators have a combination of both residential and satellite incubatees. Five of the seven incubators are affiliated to the Small Enterprise Development Agency (Seda), with the exception of the Maxum Business Incubator, which is a subsidiary of Blue IQ, a provincial entity and SmartXchange which is locally funded by the eThekwini municipality.

Table 5.2 Description of incubators

Incubator	Core industry focus	Year of inception	Format: Residential, Satellite or Both	Number of active incubatees	Number of PDIs
Maxum Business Incubator	ICT	2005	Residential	5	60%
Softstart Bti	ICT		Both	82	90%
SmartXchange	ICT	2004	Both	55	98%
Mpumalanga Stainless Initiative	Stainless Steel Products	2000	Residential	13	92%
EgoliBio	Bio technology products	2002	Both	26	44%
Chemin	Chemical Products	2002	Both	40	80%
Seda Construction Incubator	Construction	2005	Both	95	

The findings in table 5.2 indicate that the incubator industry is still in its infancy, with relatively few incubatees. Therefore the situation substantiates the need for a collaborative network.

The relevant macroeconomic issues mentioned are listed below for each incubator:

Maxum Business Incubator - Pretoria

- Export capability
- Job creation
- Poverty alleviation
- Downstream service delivery

Softstart Bti

- Alleviation of poverty through employment creation
- Export capability

SmartXchange

- Employment
- Export growth

Mpumalanga Stainless Initiative

Employment

Chemin

- Employment of both high and low skills
- Exports

EgoliBio

• Economic growth through agricultural, medical and food products

Seda Construction Incubator

 Job creation, skills development, growth on turnover and sustainable business

For ease of presentation the responses to each research question are grouped in the following order: ICT products, stainless steel products, chemical products, bio technology products and construction.

5.4 Research question 1

What challenges specific to your incubator could be undertaken by collaborating with incubators which serve the same sector?

The following table summarises the challenges that were revealed during the interview process. See appendix D for the detailed transcript



Industry	List of challenges
ICT	Pipeline constraints, early stage funding,
	location, inaccessibility to public
	transport, IP complexities, clustering,
	funding model, lack of skills, limited
	budgets, corporate funding, monitoring
	of KPIs, avoidance of fees, under
	reporting
Stainless Steel Products	Increase in commodity price of steel,
	difficulty in attracting women to the
	industry, need for support for
	learnership programmes
Chemical Products	Lack of support from industry, lack of
	seed funding, local universities not
	offering chemical engineering, IP
	secrecy, environmental challenges
Biotechnology	Inadequate metrics, competition for
	funding, lack of local technologies for
	commercialisation.
Construction industry	Inadequate opportunities
	Non-payment by incubatees



SABTIA were as follows:

ICT Industry

"What we need to do as incubators is to leverage from each other's expertise, but because of pipeline limitations I will not give away an entrepreneur to another incubator."

"There is very little value in being a member of SABTIA. As an incubation association SABTIA is supposed to gel us, but the leadership is focused on individual incubation problems and not on the national problems; we are struggling with the same issues."

"I am not in a position to approach a national entity such as Seda for funding because the Maxum Business Incubator is a subsidiary of a provincial government entity. There are invisible barriers created by politicking"

"SABTIA as an association is inwardly focused – for what it is worth."

"We are not sharing best practice and we should aim to be constructive and not competitive."

"If incubators are able to collaborate around processes, we would require less resources; there won't be the need to develop the whole process, probably just slight tweaking would be required."

"There is very little co



n my view Softstart BTi is

one of the incubators which really tries the hardest to collaborate; we initiate

collaboration. Sharing methodologies is not going to detract from Softstart Bti; in

fact it will increase our reputation."

"There is the intent to collaborate with international incubators but nothing

concrete. However, we are members of NBIA; we approach them for information

and tweak it for the South African context. We also have new programmes from the

African Incubator Network coming to learn from us."

"SABTIA is a little dormant at the moment, no activity this year. Sad because we

were involved from the beginning, we had one successful conference with 48

speakers to get the fledgling organisation going and nothing since."

Stainless steel industry

"We would like to collaborate on how to attract female entrepreneurs into the

industry."

Chemical Industry

"We tend to operate in silos; our KPIs demand that we work in silos; they do not

capture any aspect of collaboration."

"ICT clients (incubatees) can service chemical incubator clients."

43



lobby group and if the role of the members was significantly improved."

"It is a lame duck and toothless organisation."

Biotechnology Industry

Collaboration with the BRICS (Biotechnology Research Institutions) who are our feeders is excellent, it has taken a year but now both locally and internationally the relationships have grown from strength to strength."

"I am on the Exco of SABTIA and it is a waste of time. In my view it is useless; the concept is great, but until we have a full time dedicated person driving the agenda of SABTIA it is waste of money."

"At the moment we are all doing it part time. Most of us are members of NBIA; they have almost perfected incubation. Let's apply for SABTIA to be the African chapter of NBIA; we will bring brand value and support in terms of resources and guidelines."

Construction Industry

"We collaborate with international bodies like Infodev, NBIA and UKBIA."

5.5 Research questi

• Is there rivalry in the South African Incubator environment?

The following comments were made about rivalry:

ICT Incubators

"There is subtle rivalry, especially around the incubator's focus; for example, high-tech versus lifestyle products".

"Through a lack of clarity incubators are competing instead of sharing best practice."

"All Seda Technology Programme incubators have the same mandate to deliver on growth, employment and equity. All 26 of us vie for the same funding, firstly from Seda and then from other funders."

"Another source of rivalry is that we are compared and ranked against each other by Seda. However, in spite of this no benchmark information is revealed. I do not only want to know how Softstart is delivering on STP key performance indicators, but also on how we are doing as an incubator."

"We are also competing for the same markets, so how can we collaborate, when the reality is we are competing regardless of which sector we are in?"

e DTI techr yunibesithi ya pretoria cause it is easier for some



incubators to deliver on the STP KPIs; for example, the furniture- and agricultural-based incubators can deliver on job creation much easier than an ICT incubator. We are all compared regardless of how long we have been operating; this creates great inequality. Seda needs to neutralise the playing grounds"

Stainless Industry:

"We don't experience any rivalry, since we are the only incubator dealing with stainless steel products."

Chemical Industry:

"It is fierce within the ICT incubators but not with chemical incubators, unless they resuscitate Sedichem. However, we compete for funding with the construction incubators, who seem to get more funding from national government"

Biotechnology Industry:

"We get involved in business incubation, which is functional development and commercialisation; we experience rivalry with technology incubators who, primarily for funding reasons, hold onto products even though they are not equipped to fulfil our role."



"None amongst incubators, only amongst incubatees, and this is evident when competing for projects."

5.6 Research question 3

Is there visible networking between incubators within the economic regions?

The following comments were made with regard to networking:

ICT Industry

"The African Incubation Portal serves as a useful interface for posting papers."

"We want to create soft landing environments through twinning relationships with other countries where our incubatees are exposed to wider markets."

"The African Science Park Association creates a platform to learn and assist incubators in Botswana, Mocambique and Ethiopia; these are mostly informal relationships."

"Competitiveness yes, but no interdependence, we should be networking because sharing of best practice benefits everybody."

"There is no interdependence and very little collaboration."



Stainless Steel Industry

"We don't have any information on any regional activities."

Chemical Industry

"Very low; non-existent within the SADC.

Biotechnology Industry:

"There is no evidence of regional networking because of policy barriers."

Construction Industry:

"Yes, several joint ventures were formed amongst our incubatees."



5.7 Research question 4

How can incubators strengthen their position by forming partnerships with the private and public sector and universities and non-governmental organisations?

The following table summarises the comments made about partnerships:

Table 5.4 Summary on partnerships

Industry	Core Issues		
ICT	 Initiate more collaboration with private sector 		
Stainless steel	 Increase alliances with corporates 		
Chemical	Universities serve as pipelinesNGOs are fundersABSA supports industry		
Biotechnology	 Become involved with education institutions Target financial institutions to provide SMME funding 		
Construction	 Infrastructural projects provided by public works 		



As a parting comment, the respondents were asked to give their view about the future of incubation in South Africa. In general all agreed that there is a future for business and technology incubation in South Africa. Table 5.5 summarises the views expressed followed by the expanded views:

Table 5.5 Summary of the views on the future of incubation

Industry	Views on the future of incubation
ICT	 Key enabler of SMME development Entrepreneurship as a feasible career Closes gap between industry and academic institutions
Stainless Steel	Enhances youth development
Chemical	Incubated companies have holistic view of business
Biotechnology	Insufficient marketing of concept
Construction	Optimistic

"I am optimistic about incubation, their future is great but there is insufficient marketing of the concept of incubation." (Sipho Moshoane)

"In comparison to companies that do not go through incubation, incubated companies have a holistic view of business through the quality of support provided." (Colin Mkhonta)

that entrepreneurship is a



feasible alternative to getting a job." (Leonie Greyling)

"Incubation is an ecosystem that brings industry closer to academic institutions". (Robynne Erwin)

"Incubation is a key enabler of SMME development that fast tracks, creates accountability through contact. Residential incubators are king. Let's kill rivalry and compete in a constructive manner." (Patricia Dlamini)

5.8 Conclusion

The relevant findings of the qualitative research process were presented in the sections above. The response from each interviewee was recorded and grouped under each of the four research questions. In the following chapter the findings will be analysed and compared in the context of the literature review in Chapter 2.

Chapter 6 Discussion of Research Findings

6.1 Introduction

The purpose of this chapter is to discuss the findings from the data in the light of the research questions and literature review.

The major themes have been identified and are compared with the relevant literature for each of the four research questions. A conclusion is presented after each research question.

For ease of reference, the incubators involved in the study are shown in Table 6.1.

Table 6.1 Description of incubators

Incubator	Core industry focus	Year of inception	Format: Residential, Satellite or Both	Number of active incubatees	% of PDIs
Maxum Business Incubator	ICT	2005	Residential	5	60%
Softstart Bti	ICT	2006	Both	82	90%
SmartXchange	ICT	2004	Both	55	98%
Mpumalanga Stainless Initiative	Stainless Steel Products	2000	Residential	13	92%
EgoliBio	Bio technology products	2002	Both	26	44%
Chemin	Chemical Products	2002	Both	40	80%
Seda Construction Incubator	Construction	2005	Both	95	

Source: Own compilation



6.2 Research question 1

What challenges specific to your incubator could be undertaken by collaborating with incubators which serve the same sector?

6.2.1 Findings from the research

The most important themes to emerge from the research data relating to challenges which could be undertaken by collaboration within the same sector are the following:

a) Pipeline limitations

Pipeline limitations are influenced by a number of factors such as location and accessibility of the incubator; reputation of the incubator; changes in the management team, which may or may not be acceptable to potential clients; and the screening process of the incubator.

The competitiveness within the incubator environment discourages the practice of referring potential clients from one incubator to another.

There not enough learnership programmes that encourage women to join the realm of entrepreneurship, specifically in the sectors represented in this research.

The historically disadvantaged region of the Eastern Cape does not have any institution which offers Chemical Engineering; this places pressure on the local chemical incubator, which has to attract potential clients from outside the region.



Incubators which are the only one of the kind in the country do not experience pipeline limitations; examples of these are the stainless steel incubator and the construction incubator.

b) Location

Accessibility and geographical location are important criteria for choosing an incubator. If an incubator aims to have an inclusive demographic mix, it should be located in an area that is accessible by public transport (Maxum Business Incubator, Pretoria).

Incubators that are strategically located within a metropolitan area are accessible and visible and therefore stand to attract more clients. (SmartXchange, Durban Metropolitan).

c) Commercialisation of intellectual property

Universities and research institutions are not proactive in commercialising their technologies because of intellectual property complexities. Therefore government intervention is necessary to enable commercialisation of these technologies. This view was strongly held by the ICT and biotechnology incubators.

d) Insufficient funding

The government's funding model does not discriminate between low- and highimpact incubators. The high-technology incubators, which have greater economic funds with incubators which provide once-off gains.

All the high-technology incubators cited financial sustainability as a challenge. The three-year decreasing funding model is inadequate for incubators in a developing country.

e) Onerous KPI metrics

An onerous KPI reporting process means that limited resources are split between administrative processes and providing incubation services. Collaborating in processes would mean that less time is spent on administration

6.2.2 Important points from the literature

Hansen (2009) suggests three areas of potential benefits of collaboration in organisations:

- Better innovation, which recombines existing resources in order to create something new from something old
- Better sales, which create cross-selling, which involves selling products across organisations
- Better operations, or making operations more efficient by sharing advice that improves the quality of decisions



to ensure the success of collaborative efforts between companies. The primary focus is on flexibility, connectivity and co-ordination of the planning phase, followed by business processes that support relational integration. Spalding and Van Rensburg (2005) suggest that clearly articulated objectives and measures promote commitment and vision between stakeholders involved in a collaborative effort.

Hansen (2009) outlines four barriers that typically block collaboration:

- The "not-invented here" barrier an unwillingness to seek input from others
- 2. The hoarding barrier an unwillingness to share knowledge
- 3. The searching barrier when information cannot be found easily
- 4. The transfer barrier an inability to transfer knowledge

6.2.3 Conclusion on Research question 1

The findings show that incubators are facing the same challenges but are generally not making an effort to collaborate and are operating in silos. The literature by Hansen (2009) suggests a case for collaboration which was supported by the findings from the data analysis. As a collective, the incubators would be in a better position to lobby government and improve their efficiencies by improving their decision-making processes.

Van Rensburg (2006) promotes the idea that clearly defined common objectives provide an agenda for collaborative efforts. The research findings indicate that



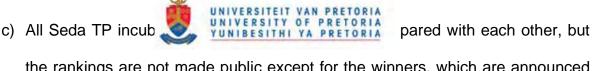
economic growth the YUNIBESITHI YA PRETORIA lying objective of all the incubators, as a result of actively participating as support mechanisms in the entrepreneurship-enabling environment.

6.3 Research question 2

Is there rivalry in the South African Incubator environment?

6.3.1 Findings from the research

- a) Of the seven incubators involved in the research, five are funded and/or supported by Seda TP, which is a national structure. SmartXchange is funded by local government and the Maxum Business Incubator is funded by provincial government. However, all have the same mandate to deliver on growth, employment and equity. For the nationally funded institutions there is competition for funding, firstly from Seda TP and then from other organisations which seek to promote entrepreneurship.
- b) The three layers of government, namely national, provincial and local government, nullify the concept of cross funding. Incubation projects that are budgeted for by provincial government cannot approach a national institution such as Seda TP for additional funding because of the different mandates, stakeholder interests and in some cases opposing political agenda.



- the rankings are not made public except for the winners, which are announced at an annual awards event.
- d) Incubators supporting the same sectors are competing for the same markets and this also creates rivalry. The main focus of incubation is not to compete but to support and induce entrepreneurial engagement and performance.
- e) The KPIs issued by Seda TP apply to all incubators, regardless of the number of years the incubator has been operating as well as the quality of the businesses under incubation.

6.3.2 Important points from the literature

The rivalry experienced among the incubators is broadly consistent with resource dependency theory. According to Skelcher and Sullivan (2008), in situations where resources are scarce, organisations with more control over resources will use their muscle to compete with other organisations to improve the security of their own position. Sullivan et al (2007) argue that even in instances where public policy drives initiatives, there is flexibility for management to select strategies that steer collaborative effort. Seda TP in this case is the driver of public policy and the incubator management should select strategies that steer collaboration.

6.3.3 Conclusion on



The literature supports the main points coming from the data analysis, namely that when organisations are in a situation where resources are scarce, competition and rivalry are likely to arise. The scarce resources in this case are funding, customer and client markets and potential clients. Drawing on the experiences articulated in the research, it seems that the capacity to steer towards collaborative effort is in the hands of management, even though Seda TP drives the overall policy

6.4 Research question 3

Is there visible networking between incubators in different economic regions?

6.4.1 Findings from the research

The economic regions that emerged in the findings were provinces in South African and neighbouring countries and overseas countries. The research shows that very little effort is being made to encourage networking between provinces and neighbouring countries. Maxum Business Incubator is the only incubator which saw the benefit of forming twinning relationships with other African countries to broaden the market for its incubatees. Egolibio is taking strides to create alliances with European-based institutions to create a wider market.

The existence of policy barriers was suggested as a reason for the lack of networking with other African countries, while competitiveness was cited as the reason within South Africa.



6.4.2 Important points from the literature

Chandra, He and Fealey (2007) cite Hansen as proposing that organised networking or preferential access to a network of companies is the significant factor that differentiates distinguished incubators from those that only provide office space and basic services. It has been increasingly acknowledged that entrepreneurship is crucial for economic development. South Africa as a developing country experiences widespread regional inequality throughout its nine provinces. The inequality is attributable to different rates of investment in physical and human capital under different economic conditions (Gries and Naude, 2007).

6.4.3 Conclusion on Research question 3

Not all incubators are reaping the benefits of networking with other economic regions. The literature suggests that widespread networking plays a role in distinguishing incubators. In addition networking within provinces would assist the less developed provinces to provide the enabling environments necessary for entrepreneurship. The extension of networks to overseas countries extends markets for resources and clients and provides exposure to best practice.



6.5 Research question 4

How can incubators strengthen their position by forming partnerships with the private and public sector and NGOs?

6.5.1 Results from the data analysis

The general sentiment of the respondents towards partnerships was very positive.

All the incubators cited the forming of alliances as key to enriching the entrepreneurial ecosystem; the views elicited are summarised in Table 6.2.

Table 6.2 Summary of views on partnerships

Industry	Core Issues
ICT	Initiate for more collaboration with private sector
Stainless steel	 Increase alliances with corporates
Chemical	Universities serve as pipelinesNGOs are fundersABSA supports industry
Biotechnology	 Become involved with education institutions Target financial institutions to provide SMME funding
Construction	 Infrastructural projects provided by public works

Source: Own compilation

6.5.2 Important point



The views expressed in the research are substantiated by those in the literature review. Lin (2006) found that in order to have access to timely information and referrals to other players in a network, most organisations are embedded in wideranging inter-organisational networks. These networks can offer access to research and development, trade associations and potential clients.

Portfolios such as networks begin with links between interdependent firms and then evolve to form links that are not only interdependent but also increasingly embedded in a network (Ozcan and Eisenhardt, 2009). These links bring with them benefits such as access to superior resources and multiple sources of information. The concept of an entrepreneurial ecosystem is again substantiated by Ozcan and Eisenhardt (2009), who state that organisations that visualise their networks in the context of their entire industry are more likely to originate high-performing networks.

Many firms rely on their networks to enhance performance by focusing on their strengths while leveraging their partners' resources and market positions (Yoffie and Slind, 2006).

6.5.3 Conclusion on Research question 4

The positive sentiments of the participants towards partnerships are substantiated by the literature. The research found that organisations which are part of interorganisational networks or are socially embedded stand to benefit from superior closely aligned to an industry or cause are likely to be high-performing networks (Oczan and Eisenhardt, 2009).

6.6 Conclusion to the discussion on the research findings

Table 6.3 summarises the knowledge gained by the researcher from the interviews held compared with the literature review.

Table 6.3 Research evaluation

Research	Comments		
question			
Challenges that	The research elicited information that substantially		
could be undertaken	supported the literature review. The lack of a shared		
by collaboration	common purpose and operating in silos were revealed as		
	the main barriers to collaboration.		
The extent of rivalry	The research revealed what the literature indicated: that		
in the South African	rivalry stems from competition for limited resources.		
Incubator			
The extent of visible	The concept of incubation is still in its infancy in South		
networking across	Africa. The research findings revealed that more should		
economic regions	be done to extend the level of networking		
Partnerships with the	Incubator management provided key insights into how the		
private & public	incubation environment is enriched by the formation of		
sector & NGOs	partnerships.		



The findings of the research indicate that the overall research objectives have been met. It is evident that the process of incubation stands to benefit from the effects of a collaborative environment.



Chapter 7 Conclusion and recommendations

This chapter provides a conclusion to the research project, makes recommendations on the benefits of collaboration and suggests areas for further study on related issues.

7.1 Review of the research project

At this stage a brief review of the main objectives and scope of the research is appropriate.

The stated objective of the research was to assess the level of collaboration in the South African incubation environment and explore the benefits associated with collaboration. The researcher envisages that an integrated entrepreneurshipenabling environment will in turn improve the success rate of start-up businesses.

The unit of analysis was business and technology incubators in South Africa and the sampling frame was the current members of the Southern African Business and Technology Incubation Association (SABTIA). This association was selected on the presumption that its members are representative of the incubation environment in South Africa.

recorded, transcribed and then analysed against the literature review.

7.2 Summary of key points

Although the participants did not represent the entire population of incubators in South Africa, the results of the research provide insights into why there are low levels of collaboration in the business incubator environment. The lack of collaboration is primarily driven by the following:

- Rivalry created by competition for the same funding pool, from government and the private sector
- 2) Key performance indicators that are applied to all incubators that fall under Seda. Incubators are compared with and ranked against each other regardless of the level of industry involved
- 3) Competition for customers and clients by same-sector incubators
- 4) The fact that the DTI technology awards fuel rivalry because it is easier for some incubators to deliver on KPIs than others; for example, an agriculturalbased incubator can deliver more jobs than a biotechnology or ICT incubator. This is not supposed to be a competitive market environment but rather essentially a much-needed entrepreneurship support environment.
- 5) The lack of an independent, active and cohesive umbrella body which promotes anti-competitive behaviour amongst incubators. The current body SABTIA was dormant for the months during which the research was conducted.

7.2.2 The proposed I



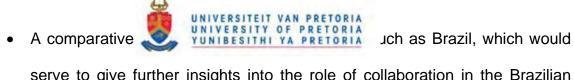
According to Hansen (2009), the goal of collaboration is not collaboration itself but the results that are achieved through a shared vision and a common purpose. The research therefore suggests the following as benefits of collaboration in the incubator environment:

- Increased efficiency in decision making through knowledge sharing
- Exposure to indigenous business incubation and globally applicable best practice
- Consolidated lobbying strength for lobbying government and other organisations for funding
- A well-developed business incubation ecosystem that benefits the entrepreneur and the national economy

7.3 Recommendations for further research

There are few aspects of this research that could be expanded to enrich the findings. The following are topics suggested for further research.

- A similar research project to this one aimed at the privately run incubators
 (The sample did not include any privately run incubators, which would have
 increased the variety of insights.)
- An examination of the role which the experience of the incubator management team plays in an incubator's success



- serve to give further insights into the role of collaboration in the Brazilian business incubation environment
- An inclusion of government's opinion with regard to the strategic focus of incubation in South Africa: Why create a competitive environment when the mandate of the state is to enable the entrepreneur?
- A study of the social return on investment: calculating the amount of investment made so far in the incubation industry and the longitudinal entrepreneurial success over time. A further study should assess the entrepreneurial success/failure after the incubation intervention.

7.4 Concluding remarks

In the researcher's view, business incubation in South Africa is playing a pivotal role in nurturing start-up businesses. However, the creative spirit of entrepreneurship is being stifled by public policy, in that administration is taking up sizeable amounts of time at the expense of core incubation services. In addition to this, the rivalry experienced within some incubators has blurred the underlying objective and purpose of incubation.

The contribution of this study should primarily be to assist role players in the incubation industry to create an efficient entrepreneurship-enabling environment.

The value of role player collaboration cannot be overestimated in this context.



Finally, it was a privilege to take part in such a project and have the opportunity to engage with decision makers who are promoting the spirit of entrepreneurship.



List of Appendices

Appendix A: Reference List

Appendix B: Consistency Matrix

Appendix C: Questionnaire

Appendix D: Interview Transcripts



Appendix A: List of References

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TITLE: The benefits of collaboration in the entrepreneurship incubator industry in South Africa

PROPOSITIONS / QUESTIONS / HYPOTHESES	LITERATURE REVIEW	DATA COLLECTION TOOL (RESEARCH METHODOLOGY)	PROPOSED METHOD OF ANALYSIS
1. What challenges specific to your incubator could be undertaken by collaborating with incubators which serve the same sector?	Skelcher and Sullivan, 2008; Hansen , 2009; Van Rensburg, 2006	Semi–structured interview Collaboration and Exchange Theory based questions	Content and comparative analysis to compare commonality of challenges
2. Is there rivalry in the South African incubator industry?	Van Rensburg, 2006; Sullivan et al, 2007; Skelcher and Sullivan 2008	Semi-structured interview based on Resource Dependence theory	Content and comparitive analysis to assess extent of rivalry
3. Is there visible networking between incubators in the different economic regions?	Naude et al, 2008; Chandra, He and Fealey 2007	Semi-structed interview Based on Regional Entrepreneurial capital	Content and comparative analysis to assess level of networking
4. How can incubators strengthen their position by forming partnerships with the private & public sectors and NGO's	Lin, 2006 Yoffie and Slind, 2006; Lavie, 2007; Ozcan and Eisenhardt 2009;	Semi-structured interview Questions based on Social Embeddedness Theory and Entrepreneurship	Content analysis to determine views on partnerships

- 1. General Information: What is the format of your incubator: is it residential or satellite or a combination of both? What is the age of the incubator and what is the number of active incubatees?
- 2. What is the core industry focus?
- 3. Which macroeconomic issues are most relevant to your incubator?
- 4. Please provide an overview of the challenges that your incubator faces.
- 5. Which of these challenges could be overcome by collaboration between incubators which serve the same sector? How does your incubator coordinate its strengths with resources of both local and international incubators to maximise performance.?
- 6. Are you involved in any collaborative research projects to better the incubator industry? Please provide details.
- 7. Research has shown that Knowledge Management is a key capability that an organisation needs in a collaborative environment. What steps has your incubator taken to integrate the collective knowledge of the

iny collaborative training

interventions to increase the efficiency and effectiveness of your incubator?

- 8. What is the level of interdependence among incubators; is there visible networking between incubators within the economic region?
- 9. To what extent is rivalry prevalent in the incubator environment?
- 10. How can your incubator benefit further from alliances with the following?
 - a) Public sector
 - b) Private sector support initiatives
 - c) NGO and University Programmes
- 11. What measures should be in place to increase collaboration between different incubators in South Africa?
- 12. Do you see a future for business incubation in South Africa?



The ICT Incubators

Maxum Business Incubator: The manager had the following comments to make about the challenges faced by the incubator

"We are currently experiencing pipeline constraints and are also not attracting enough women to the field."

"Technology requires early stage funding, funders are risk averse and therefore stay away from potential technology entrepreneurs."

"We are strategically located as a science park close to universities and the CSIR but not strategically located for incubation. Our pro white location does not encourage diversity"

"Our geographic location in Pretoria, close to the highway, is impractical to achieve the right demographic mix; transport limitations make the area inaccessible to previously disadvantaged individuals, who mainly reside in the townships."

"Universities do not play an active part in commercialising their technologies because of intellectual property (IP) complexities, government should take active steps to commercialise IP".

"I find that incubators are collaborating as clusters, there are those who are dominantly funded by Seda and then others who are not."

SmartXchange:



"Our greatest challenge is government's interpretation of funding, a three year decreasing model is unrealistic in a developing country like South Africa."

"We do not experience any challenges with our pipeline because of the incubator's reputation. We are strategically located within the Durban metropolitan and are therefore accessible to our clients."

"There is a lack of appropriately experienced people within the incubator environment who can talk to corporate, SMMEs and other partners within the ecosystem."

Softstart Bti:

"Our major challenge is financial sustainability; we receive 50% of our funding from Seda, 10 to 12% from incubatees and the rest we source from enterprise development projects for corporate. This is mainly as a result of the Seda technology programme establishing additional incubator programmes with the same allocation of funding or less."

"We are also experiencing resource constraints, limited budgets means limited resources to implement programmes, so it is a constant challenge, dividing our attention between chasing funding and providing incubation services."

"Seda's dominant presence impedes our ability to source funding from other potential supporters. Some corporates question why we need funding if we are

on, these are linked sales, exports & jobs created, etc; however, incubatees in

"Another significant challenge is that we have 62 KPIs which we need to report

general are reluctant to share this information. This results in under reporting to

avoid paying for services. However we are implementing measures to counter

this underreporting, as it is affecting the overall performance of the incubator."

"We are a credible and respectable incubator and therefore do not experience

major problems with our pipeline, we screen diligently to maintain the standard

of entrepreneur in our incubator."

Stainless Steel Products

recognising other funders."

Mpumalanga Stainless Initiative:

"We are affected by the increasing price of steel as it is a commodity, this is increasing our input costs and we are finding it hard to pass on to the clients."

"We are finding it hard to attract women to the industry, because of the nature of the industry, women shy away from us. We are also not doing enough in our learnership programme to attract women"

"We need more support for our learnership programmes from the steel industry."

Chemical Products UNIVERSITEIT VAN PRETORIA YUNIBESITHI YA PRETORIA

Chemin:

"We are experiencing a lack of industrial support from large chemical companies, who can play a big brother role. This is coupled with a lack of seed funding for pilot projects, Seda provides funding for business support."

"We are experiencing challenges with our pipeline because not a single university in the Eastern Cape offers chemical engineering."

"There is lot of IP related secrecy in the industry, companies are reluctant to reveal what their downstream products are."

"Companies are hesitant to reveal their waste products, which could pose an environmental challenge through pollution."

EgoliBio:

"My biggest challenge is that government has half bought into biotechnology, because I compete for funding and attention with furniture, agriculture, steel incubators that create 15 000 low-level seasonal jobs. I create 50 professional jobs, which have greater spin-offs for national economic growth."

"KPIs are impeding access to greater funding because the metrics are measuring quantity and not necessarily quality."

"EgoliBio should be sitting in the Dept of Science and Technology and not with DTI."

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1broad which we can

commercialise."

Seda Construction Incubator:

"Incubatees are not paying support fees and there are inadequate opportunities in the industry.