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A multi-stakeholder view on business incubator effectiveness

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A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

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Abstract

The unemployment rate in South Africa and around the world has a crippling effect on economies. Many studies have shown that an improvement in entrepreneurial activity frequently leads to a decrease in unemployment and increase in economic growth rate. Young firms play an essential role in new job creation through both start-ups and firm growth, and business incubators have been shown to be highly effective tools for developing these new ventures and contributing to job creation and economic development. Gaining a greater understanding of the factors driving business incubator effectiveness will lead to an increase in the number of successful early stage firms, thus contributing to job creation and economic growth. In addition, having an understanding of the differences in perceptions between incubator managers, tenants and key stakeholders with regards to business incubator effectiveness will help tenants and stakeholders make better decisions on which incubators to work with, as well as helping business incubators to align their offering to the needs of tenants and stakeholders.

This study explored the factors that drive business incubator effectiveness from the perspective of entrepreneurs, incubator managers and stakeholders as well as to identify differences in opinions between these three groups. This was done using a phenomenological approach, focused on gathering qualitative data using in-depth semi-structured interviews from 16 participants.

A success framework for business incubation emerged from the research findings and was found to represent the 16 components that are crucial to incubator effectiveness from the perspective of the three sample groups. The results of this study could help to improve effective incubation by highlighting the factors driving effectiveness and discovering new factors relevant to the South African context. This could in turn provide incubator managers with knowledge to better tailor their offerings to tenants and key stakeholders. This improved value proposition would lead to greater success for all involved.

Keywords

Business incubator; incubation; success factors; entrepreneurship; new venture

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.

Anton Graham Rose

7 November 2016

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Chapter 1: Introduction to Research Problem

1.1 Description of the problem and background

The unemployment rate in South Africa averaged 25.27% from 2000 until 2015, and was recorded at 24.5% in 2016 (Trading Economics, 2016b). The GDP growth rate in South Africa is reported at 0.6% in 2016 (Trading Economics, 2016a). At the opening ceremony of the Global Entrepreneurship Week, Minister of Small Business Development Lindiwe Zulu reminded stakeholders that "to meet the National Development Plan (NDP) target of creating 11 million jobs by 2030, South Africa needed scalable SMMEs, growing at a rate of 20% per annum. This means that small businesses will have to contribute roughly 800 000 jobs per year until 2030, according to the government's calculation. In South Africa, SMEs contribute 55% to GDP and are estimated at more than two million in number" (Government, 2015b, p. 1). Based on these statistics the government has a difficult task ahead.

Many studies have shown that an improvement in entrepreneurial activity frequently leads to a decrease in unemployment and increase in economic growth rate. (Acs, Audretsch, Braunerhjelm, & Carlsson, 2012; Audretsch & Thurik, 2001). In addition, young firms play an essential role in new job creation through both start-ups and firm growth. 42% of new jobs on average over the period 2001-11 are created through oung SMEs even though they represented only 17% of employment. (OECD, 2015)

There are numerous government initiatives aimed at driving economic growth through entrepreneurship such as the Small Enterprise Development Agency (SEDA), Small Enterprise Finance Agency (SEFA), National Youth Development Agency (NYDA), Technology and Innovation Agency (TIA) and National Empowerment Fund (NEF) (Herrington, Kew, & Kew, 2015). The growth of SMEs and entrepreneurship is one of the key objectives of the National Development Plan (NDP) (National Planning Commission, 2011), and according to Minister Lindiwe Zulu: "The establishment of Centres for Entrepreneurship is consistent with our vision of building a nation of entrepreneurs" (Government, 2015a, p. 1).

Despite these initiatives South Africa is a gross underperformer when compared to other African countries. According to Herrington (2014, p. 4), "South Africa's rate of entrepreneurial activity is very low for a developing nation" and "South Africa's level of

early-stage entrepreneurial activity has declined by 34% from 10,6% in 2013, to 7,0% in 2014" (Herrington et al., 2015, p. 19).

A study by Radipere & Scheers (2014) found that 40% of new firms fail in the first year, 60% in the second year, and 90% in the first ten years. The authors mentioned above found that entrepreneurs lack the knowledge and skills necessary to operate their businesses successfully. Business incubators have been shown to be provide an environment that is conducive to early stage form development and support (Bollingtoft & Ulhoi, 2005; Campbell, 1989; Hackett & Dilts, 2004b).

Business incubators are shown to provide the crucial coaching and training needed to fill the entrepreneurial knowledge gap (Bruneel, Ratinho, Clarysse, & Groen, 2012). Further to this, according to Campbell (1989) and Chandra and Fealey (2009), business incubators are highly effective tools for developing new ventures and contributing to job creation and economic development.

But Hansen, Chesbrough, Nohria & Sull (2000), Lumpkin & Ireland (1988) and Mian (1997) oppose this view. These authors argue that the real effectiveness of incubators is inconclusive, that incubators do not guarantee success and that the value added is questionable.

Numerous studies have evaluated the success factors of business incubation. Bruneel et al. (2012) and Bergek & Norrman (2008) suggest that crucial components of an incubator value proposition consist of shared infrastructure, business support in the form of resources and coaching, internal and external networking and selection criteria. Bruneel et al. (2012) believe that the foundation of an incubators value proposition is built on the concept of shared infrastructure and the associated benefits generated due to economies of scale and freeing up of new ventures to focus on core activities.

Bruneel et al. (2012), Freeman, Carroll, & Hannan (1983), Levitt & March (1988), highlight the problem that entrepreneurs face, namely lack of business acumen and skills necessary to navigate a new venture through an uncertain environment with unique and shifting pressures. This issue emphasises the importance of business support in the form of coaching and training which has been found to decrease new venture failure rate significantly (Claryssee & Bruneel, 2007; Kirwan, Van Der Sijde, & Groen, 2006).

(Scillitoe & Chakrabarti, 2010a) propose that access to external networks is crucial to new venture success as they provide access to knowledge resources and supply chains that would otherwise be inaccessible to a small business. This is highly

dependent on the skills and network of the incubator management, frequency of interactions, knowledge and entrepreneurial skill of contacts.

According to (Aerts, Matthyssens, & Vandenbempt, 2007; Hackett & Dilts, 2004b; Lumpkin & Ireland, 1988), selection criteria is crucial when it comes to incubator effectiveness. There are a number of different approaches used to ensure strong entrepreneurs or teams are selected, and ideas are filtered down to those that have exponential growth potential and are both innovative and scalable.

Buys and Mdewana (2007) found that eight factors contribute to business incubator success. However, their research was limited to 12 government funded incubators that are part of the Godisa organisation. These will be discussed further in Chapter Two. This research intends to build and expand on previous research by exploring both government backed incubators outside of Godisa and private incubators.

Whilst extensive literature exists covering the components that drive incubator effectiveness, deeper qualitative insights are required into the various components and differentiating features. In addition, there has not been a comparison between perceptions of entrepreneurs, incubator managers and stakeholders in the entrepreneurial ecosystem.

The key problem that this research is attempting to solve is the fact that the core components driving incubator effectiveness are not been articulated in an integrated framework that can be used as a best practice model for incubator management and investors. Given that entrepreneurial activity reduces unemployment and drives economic growth, and incubators help entrepreneurial ventures to be successful, it is important to create a framework that greatly increases the chances of incubator effectiveness.

1.2 Purpose of the research

The aim of this research is to:

1) Explore the components that drive business incubator effectiveness as perceived by incubator managers, tenants and key stakeholders.
2) Establish whether there are differences in perceptions between incubator managers, tenants and key stakeholders with regard to business incubator effectiveness.

Gaining a greater understanding of the factors driving business incubator effectiveness will lead to an increase in the number of successful early stage firms which in turn will contribute to job creation and economic growth. In addition, having an understanding of the differences in perceptions between incubator managers, tenants and key stakeholders with regards to business incubator effectiveness will help tenants and stakeholders make better decisions on which incubators to work with, as well as helping business incubators to align their offering to the needs of tenants and stakeholders.

It is submitted that the current research will contribute to the existing literature as regards business incubators, as it explores business incubators outside of Godisa and extends the sample to include private incubators.

It is further hoped that this research has business value in that the results of this study could help to improve effective incubation by highlighting the factors driving effectiveness and discovering new factors relevant to the South African context. This could in turn provide incubator managers with knowledge to better tailor their offerings to tenants and key stakeholders. This improved value proposition would lead to greater success for all involved.

1.3 Scope of research

The scope of this research is to explore the components that drive business incubator effectiveness as perceived by incubator managers, tenants and key stakeholders. The study is limited to entrepreneurs that are currently a tenant or have been a tenant in an incubator in the past, incubator managers that are currently employed by a government backed or private incubator and stakeholders that have frequent interactions with incubator management and entrepreneurs within the incubator.

The intention of the study is to explore both government backed and private incubators therefore both types of incubators were included in the sample. Due to the nature of purposive, convenience and snowball non-probability sampling there is not an equal representation of both types of incubators. The scope of the study was also limited to the Gauteng and Western Cape geographic areas in South Africa.

Chapter 2: Literature review

2.1 Definition of a business incubator

An incubator can be viewed as “a support environment for start-up and fledgling companies’’ (Peters, Rice, & Sundararajan, 2004, p. 83). According to research by Aernoudt (2004), Allen & McCluskey (1990), Bollingtoft & Ulhoi (2005), Brooks (1986), Chan & Lau (2005), Clarysse, Wright, Lockett, de Velde, & Vohora (2005), Collinson & Gregson (2003), Colombo & Delmastro (2002), Hackett & Dilts (2004a), Hansen et al. (2000), Hsu, Shyu, Hsiao-Cheng, Chao-Chen, & Lo (2003), Lyons, Li, & Zhao (2003), Mian (1996), Phillips (2002), Rice (2002), Rothschild & Darr (2005) and Von Zedtwitz (2003), four components are particularly important:

1. Shared infrastructure
2. Shared business services to reduce operating expenses
3. Business advice from experts
4. Access to internal and external networks.

In incubator literature, the focus has shifted to the value of business support as opposed to an initial focus on shared administrative services and infrastructure (Bergek & Norrman, 2008). According to Bergek and Norman (2008), the latter is the most important. Over time there have been disagreements over the incubator concept. Firstly, opinions are split on how incubators are defined in terms of whether it is categorised as an organisation or just an entrepreneurial environment. Secondly, there is not much clarity on which area of the venture development process is being researched (Bergek & Norrman, 2008), although “most researchers seem to agree that incubation is related to the early phase of a venture’s life” (Bergek & Norrman, 2008).

According to Bruneel et al. (2012), the concept of business incubation has evolved since the first business incubators were developed. A study done by the aforementioned authors found that as business incubators evolve to new generations, they add new dimensions to their value proposition.

2.2 Business Incubator value proposition

Bruneel et al. (2012) support the findings of Bergek & Norrman (2008) regarding shared infrastructure, business support and networks forming an integral part of the

business incubator value proposition. However they extend the research to include selection criteria and an exit policy.

2.2.1 Shared infrastructure

Bruneel et al. (2012) believe that a business incubators value proposition is based largely around shared infrastructure and consideration of business expenses is critical to success. According to Chan & Lau (2005), shared resources and rental income are the most crucial components of business incubators. Through sharing resources and renting office capacity, tenants benefit from existing economies of scale (Bruneel et al., 2012). Tenants' overhead costs are reduced through access to conference rooms, parking spaces and reception areas; through sharing of basic services such as internet, voice, electricity and water; through avoiding costs associated with dealing with independent vendors, thus allowing them to focus on their core competencies (Bruneel et al., 2012).

2.2.2 Business support

Due to the emergence of innovation and technology as key drivers of economic growth, Bruneel et al. (2012) propose that creation of technology-intensive companies are critical to enable such growth. Such companies typically lack the business acumen to survive. To counteract this, business incubators extended their value proposition to offer knowledge based services (Bruneel et al., 2012).

According to Bruneel et al. (2012), new firms often lack the "management skills and experience to cope with sudden environmental shifts and rapidly changing environments." Through experience and learning, firms develop routines that create operational efficiencies and reshape cognitive frames (Levitt & March, 1988). The absence of these learned processes can contribute to new venture failure rate (Freeman et al., 1983). At the same time, the sourcing and hiring of well-matched expertise is difficult and expensive (Bruneel et al., 2012).

Factors that accelerate the learning curve for new firms include business coaching and training (Clarysse & Bruneel, 2007; Kirwan, Van Der Sijde, & Groen, 2006); avoidance of trial and error resulting in faster strategic decisions (Eisenhardt, 1989); and training sessions on targeted business subjects to increase the body of knowledge, which will have a positive impact on performance and development (Colombo & Grilli, 2005; Honig & Davidsson, 2000).

Bruneel et al. (2012, p. 112) believe that “business support services such as coaching and training are crucial elements of learning within business incubators”. Bergek & Norrman (2008) agree that “business development and entrepreneurial training, including coaching and education related to business planning, leadership marketing and sales,” are key to the success of early stage firms.

Incubators assist new ventures by providing a number of relevant support services such as access to capital, devleoping effective entrepreneurs and teams, value proposition development, business and marketing plan development and access to various professional services (Grimaldi & Grandi, 2005). This is supported by Rice (2002), who stated that an incubator provides access to entrepreneurial and industry knowledge, as well as useful resources that entrepreneurs lack, but certainly need.

McAdam & Marlow (2007) argue that the entrepreneur is the driving force behind new venture creation, and the incubator releases the potential of the entrepreneur through providing complementary services that promote and support them when the venture is most at risk to market uncertainty. Hannon (2005) found that in general, incubators are comitted to supporting development of new, entrepreneurial ventures. Providing support in terms of resources allows the entrepreneur to concentrate on core activities, the value proposition, product development, validating the market and sales. Professionals such as accountants, lawyers and finance specialists have been found to be particularly helpful.

Scillitoe & Chakrabarti (2010a) differentiated between two types of business assistance:

1. Business assistance, which consists of an assortment of functions such as accounting, sales and marketing, human resources, tax and legal assitance and strategic business planning.
2. Technical assistance, including space and facilities, research and technology supply chains, intellectual property and patent protection, technology knowledge transfer, access to university research repositories, industry contacts and technology transfer processes.

Bergek & Norrman (2008) add to the literature by highlighting that business support services generally include sales & marketing, legal services, financial and accounting assistance. According to Bollingtoft (2012), incubators seek to provide a supportive enviromnment through the provision of resources that new ventures

cannot afford. This results in reduced overhead costs and significantly improves the survival rate and growth of new ventures.

2.2.3 External networks

Networking has been identified as an important component of the incubation process (Scillitoe & Chakrabarti, 2010a). Incubators provide a broad network of business connections facilitated by incubator management. The contacts are essential for new ventures as they provide access to knowledge, networking opportunities and access to markets. According to Rice (2002), networking interactions are dependent on incubator management providing access to the incubator network. Technical and research establishments and learning institutions such as universities (Mian, 1996; Vedovello, 1997), service providers and government departments organisations (Phillimore, 1999), can form part of the network. Given that incubator managers originate from diverse backgrounds, they frequently act as a gate to networking opportunities.

Scillitoe & Chakrabarti (2010b) found that benefits derived from networking are dependent on the number and frequency of new contacts provided by incubator management. These contacts provide a broad range of knowledge such as market feasibility, business locations, innovations and sources of funding that would not be available to them otherwise.

Bollingtoft & Ulhoi (2005), Hansen et al. (2000), McAdam & McAdam (2008), Scillitoe & Chakrabarti (2010) agree that leveraging of networks by business incubators provides new ventures with crucial advantages such as preferred access to investors, potential customers, suppliers and technology partners. Furthermore, it is suggested that new venture development and growth is largely dependent on the effective us of networks.

Larson (1992) and Zhao & Aram (1995) argue that networks help firms overcome their resource constraints through facilitating access to resources that may not be available to them due to financial constraints experienced during start-up phase. The costs of finding early stage investors such as funding networks and venture capitalists, is reduced through business incubators building and relationships in the entrepreneurial ecosystem (Bruneel et al., 2012).

Gorman & Sahlman (1989), Hellmann & Puri (2002) agree that venture capitalists provide new firms with many value added benefits. They argue that in addition to providing early stage investment, venture capitalists support the ventures growth by

professionalising organisational structure and managerial processes, as well as providing the financial means for firms to afford expensive consultancy fees.

New ventures gain legitimacy in the marketplace and develop capabilities and knowledge through partnering with other well-selected organisations (Aldrich & Fiol, 1994; Lane & Lubatkin, 1998; Yli-Renko, Autio, & Sapienza, 2001). According to (Freeman et al., 1983; Hannan & Freeman, 1984; Singh, Tucker, & House, 1986), "the acquisition of legitimacy through exchange relationships with other organisations increases firms' survival chances."

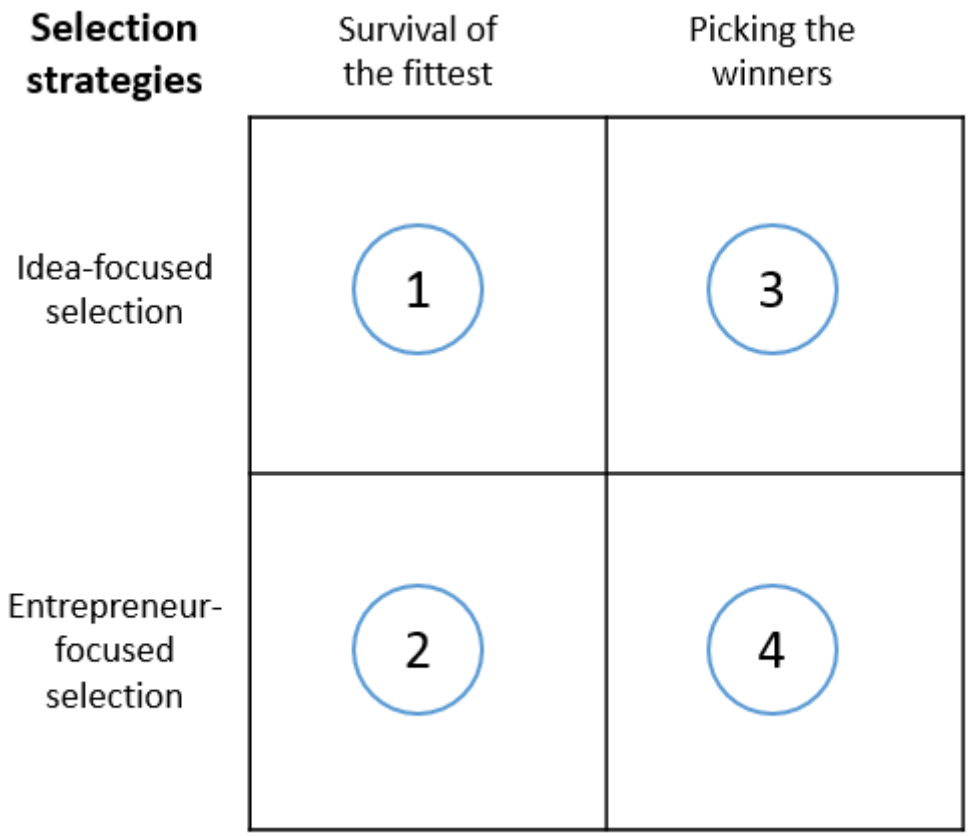
2.2.4 Selection criteria

Aerts et al. (2007), Lee and Osteryoung (2004) and Lumpkin and Ireland (1988) argue that appropriate selection criteria are among a business incubator's most important managerial features. Bergek & Norrman (2008, p. 23) believe that the task of identifying firms that are "weak but promising", while avoiding those that cannot be helped or have no need for support, is a challenge that requires ''a sophisticated understanding of the market and the process of new venture formation'' (Hackett & Dilts, 2004b, p.61).

Opinions are split around what the most effective selection policy should be. Technical expertise of the entrepreneur or team, past employment in a related field, objectives of the new business, or the value proposition and profit potential of the new venture (Hackett & Dilts, 2004b).

Essentially there are two overall approaches: Selection focused on the idea, and selection focused on the entrepreneur or team (Bergek & Norrman, 2008). The two approaches require incubator management to have a different set of knowledge and skills. To take the idea-focused approach, incubator managers must know how to assess the profit potential and market fit of a product. In addition, in order to validate the profitability of ideas, they need deep knowledge of the technologies being employed. For the entrepreneur-focused approach, the ability to evaluate personality as well as entrepreneurial experience, skills and motivation is required (Bergek & Norrman, 2008). When combining the two types of approaches to the selection component, Bergek & Norrman (2008) highlighted the four resulting "selection strategies" that incubators use:

Figure 1: Selection strategies



Source: Bergek & Norrman (2008)

- Quadrant 1 represents a portfolio of a large number of emerging entrepreneurs with business ideas from a large and diverse area.
- Quadrant 2 consists of strong, determined and entrepreneurs or well-balanced teams with a diverse array of ventures.
- Quadrant 3 represents a portfolio ideas from a limited technical area that have been meticulously filtered and have frequently emerged from higher learning institutions.
- Quadrant 4 represents a portfolio of ideas often linked to research of a higher learning institution and driven by a small number of carefully selected entrepreneurs

According to Patton, Warren, & Bream (2009) a major part of selection criteria should be the ability of entrepreneurs to work closely with incubator management, and be both flexible and engaged when developing a business plan. Bruneel et al. (2012) found that

business incubators of all generations seldom implement a structured selection criterion, although exponential growth potential, innovative or differentiated products or services and technology based are largely preferred. In addition they found that selection criteria are often obscure and badly constructed. Furthermore, they found that third generation business incubators tend to select promising new ventures, promoting quick graduation to promote turnover and the ability to support a large number of ventures. Research by Kuratko & LaFollette (1987) support this view by stating that business incubators' exit policy and selection criterion should be aligned with their strategic objectives.

Bruneel et al. (2012) argue that if the objective is to stimulate new ventures, then policy-makers should adjust selection criteria to suit nascent ventures and high tenant turnover. However, it is evident from their research that there is reluctance to execute on the chosen selection criteria due to the risk of reduced rental income from a movement away from settled ventures to more risky entrepreneurs. Vanderstraeten & Matthyssens (2012) agree with previous literature that states that incubators should select new ventures with potential but with clear weaknesses (Hackett & Dilts, 2008). The authors propose that there should be separate selection criteria for generalists versus specialists. Generalists focus more on selection criteria that target the personal attributes of the entrepreneur or team and business finances. Specialists focus on selection criteria that take market related variables into account. Furthermore, Vanderstraeten & Matthyssens (2012) found that having an attitude of "willingness-to-interact" is an important selection criterion.

In contrast to this Ahmad (2014) argues that due to significant differences that exist between incubators, new ventures and target markets served, using selection criteria based on the potential and alignment of a venture proposition to incubator strategy can be problematic.

Lastly, there are two important factors to consider in terms of selection criteria. Firstly, Hansen et al. (2000) and Schwartz and Hornych (2008) argue that achievement of economies of scale through a tailored offering is easier when firms are homogenous in terms of sector. Secondly, firm age is an important consideration as firms have very different needs depending on their age and phase in the business lifecycle (Cieply, 2001; Clarysse & Bruneel, 2007; Vohora, Wright, & Lockett, 2004).

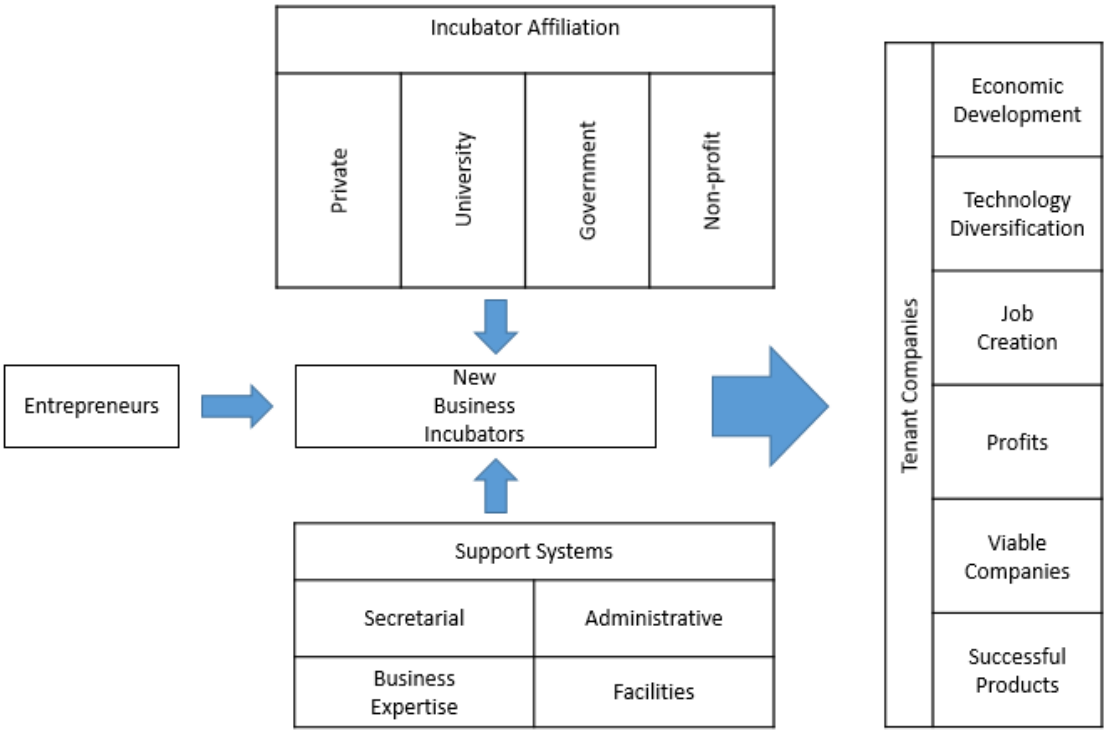
While existing literature stresses the importance of selection criteria, in contrast Buys & Mbewana (2007) found a weak correlation between incubator success and selection

criteria. However, this could be due to the context of the South African government-backed incubator environment that was studied.

2.3 Key success factors for business incubation

In a study on the critical success factors for managing an incubator system Smilor (1987a), found ten factors to be important 1) entrepreneurial education 2) entrepreneurial network 3) on-site business experts 4) access to funding 5) selection process 6) university ties 7) concise program milestones with clear policies and procedures 8) community support 9) in-kind financial support 10) perception of success

Figure 2: Smilor incubator framework



Source: Smilor (1987)

In a review of business incubation research, Hackett & Dilts (2004b, p. 66) found six sources of value that incubators provide to incubates. The sources include “credibility, diagnoses of business needs, selection and monitoring, access to capital, access to network of experts/ support systems and faster learning/solution to problems.” Hackett & Dilts (2004b, p. 66) also identified six critical success factors for incubators: “1) perception of success 2) access to finance 3) in-kind financial support 4) selection & monitoring for incubatees 5) on-site business expertise 6) milestones with clear policies

and procedures." The author goes on to state that the incubate selection process is important.

Bergek & Norrman (2008) argue that selection, infrastructure, business support, mediation and graduation are the key factors to consider when evaluating business incubators. It is interesting to note that no mention is made of access to finance.

In a study on government-backed Godisa incubators in South African, Buys & Mbewana (2007) argue that despite rapid growth, not all incubators are successful. These authors found that eight factors contribute to successful business incubation. 1) Networking; 2) funding availability 3) access to university and technology resources and expertise; 4) quality of entrepreneurs/teams; 5) competent and motivated management; 6) support from stakeholders; 7) sustainable business model; 8) supportive government policies. It is important to analyse these eight factors in more detail and evaluate previous research supporting or opposing them.

2.3.1 The incubator manager

In spite of often not having the technical skills relevant to underlying technology being utilised by a new venture and generally originating from diverse backgrounds, incubator managers are found to contribute value towards the advancement of new ventures and are often facilitators of technological development (Hannon, 2005).

Strong relationships built through frequent touch points and communication, helps the incubator manager to diagnose business issues, understand gaps, facilitate the building and use of valuable networks, validate the business value proposition with customers, commercialise products and services and share industry knowledge of supply chains (Scillitoe & Chakrabarti, 2010a).

The ability of an incubator manager to offer business guidance in the form of customer insights is dependent on having an intimate relationship with the new venture and thus an extensive understanding of the ventures strengths and weaknesses (Scillitoe & Chakrabarti, 2010a). Rice (2002) and Hackett & Dilts (2004b) support this view by stating that frequent interactions with incubator managers result in quality business support.

The incubator manager is often a key facilitator of venture networking as s/he is a dedicated and willing resource with the key objective to support and accelerate the development of new ventures Scillitoe & Chakrabarti (2010a). According to Rice

(2002), the frequency of communication and time spent with the new venture, and the readiness of the start-up team to accept assistance influences the value that an incubator manager can add.

Research by Hansen et al. (2000) and Vedovello (1997) found that facilitating access to incubator networks including access to industry knowledge and expertise is a key role of the incubator manager.

According to Rice (2002), knowledge transfer and resource leverage to enhance development of the new firm is influenced by the frequency and length of direct interactions between the venture and the incubator manager. New ventures have unique and specific needs that must be addressed in order to be successful (Grimaldi & Grandi, 2005) and therefore having a deep understanding of the new venture is paramount for a successful incubation process (Hackett & Dilts, 2004a).

Scillitoe & Chakrabarti (2010b) argue that “more frequent counselling interactions will allow the incubator manager to better understand the needs of the venture and offer more relevant assistance, transfer relevant and specific knowledge and facilitate access to networks in the ecosystem.

2.3.2 Mentorship

In entrepreneurship literature, coaching and mentoring are defined as different kinds of relationships. Coaching is a short-term business relationship with the intention of improving performance of a venture through knowledge transfer. Mentoring is a voluntary long-term relationship focusing on the growth of the entrepreneur’s expertise and capabilities (D’Abate et al., 2003; Clutterbuck, 2004; Audet and Couteret, 2012).

Bozeman & Feeney (2007, p. 731) define mentoring as “a process for the informal transmission of knowledge, social capital, and psychosocial support perceived by the recipient as relevant to work, career, or professional development”.

The needs of small business owners are broad. New ventures face the challenge of both new venture creation and growing existing businesses. New ventures are also exposed to a high failure rate due to basic start-up challenges, they are engaged in day-to-day firefighting and generally lack the skills necessary for financial planning and strategic decision making (McKevitt & Marshall, 2015). This uncertain operating environment has resulted in a preference for informal support such as mentoring rather than formal management training (Gray, 2005).

According to Thompson & Downing (2007), mentoring facilitates personal growth for entrepreneurs which leads to a broader outlook, and the intention is to teach foundational entrepreneurial skills such as decision making, identification of opportunities, change management and ability to network instead of addressing specific needs (Business incubatorsk, 2002; St-Jean & Audet, 2012).

Audet & Couteret (2012) found that it is crucial for mentors to place themselves and function at the entrepreneur's level. Two attributes, the ability to listen and empathy, are needed to achieve this. Furthermore, to gain credibility with entrepreneurs, the mentor must be able to adapt to the world of the entrepreneur in terms of learning style, communication and culture. In addition, Audet and Couteret, found that to be truly effective, the coach must be seen as an "insider" so as to gain trust and credibility. In addition, a mentor must be able to convince the entrepreneur to accept teachings and change behaviour accordingly. The same authors argue that in order for the relationship to be productive, the entrepreneur receiving assistance needs to be receptive to coaching.

2.3.3 Access to university and technology resources and expertise

Buys & Mbewana (2007) found that easy access to science and technology and supporting infrastructure such as universities and organisations is essential to forming a conducive environment for incubation. This type of environment is often referred to as a science park (Chan & Lau, 2005). According to Chan & Lau (2005), a science park is an area that allows collaboration and interconnectivity of technical activities, leading to positive benefits for firms within the science park. According to the IASP (2016), a science park has links with higher education organisations designed to support the growth and development of early stage firms and has a management function with the key role of transferring technical and business skills to tenants

Chan & Lau (20050, Ratinho & Henriques (2010) and Soetanto & Jack (2013) support the view of Buys & Mbewana (2007). Soetanto & Jack (2013) argue that close proximity to a university allows the easy exchange of experiences, information and knowledge. Chan & Lau (2005) site a number of benefits that science parks provide to incubators and tenants. These include cost advantage in the form of rental subsidies, value from pooling resources, sharing structural resources and good public image of science parks.

Similarly, Lofsten and Lindelof (2001) found that ventures located in science parks in close proximity to local higher learning institutions tend to develop close relationships with them.

2.3.4 Access to funding

Buys & Mbewana (2007) argue that access to various forms of low-interest funding such as government grants, crowd-funding, angel and venture capital is essential, as well as business tax and risk management. This view is supported by Bergek & Norrman (2008), Bruneel et al. (2012), Dilts (2004). Dilts (2004) emphasises the fact that access to finance and in-kind financial support are critical factors.

According to Hackett & Dilts (2004b), typically most incubators act as a broker that introduce entrepreneurs to investors when then need arises, versus maintaining their own investment fund. Bollingtoft (2012) found that few incubators provide access to in-house seed and venture capital funds.

2.3.5 Quality of entrepreneurs

Buys & Mbewana (2007) found that the incubation success depends heavily on the knowledge, ability, determination and risk taking of the entrepreneur. It is interesting to note that many of the previous incubation studies due do not emphasise this point. In a study on the person-entrepreneurship fit, (Markman & Baron, 2003) found that the closer the alignment between an entrepreneur's personality and the skills and knowledge needed to be an entrepreneur, the more successful they will be. In addition the authors suggest that entrepreneurs rank highly on self-efficacy, the ability to recognise opportunities, personal perseverance, human and social capital and strong social skills.

2.3.6 Stakeholder support

Buys & Mbewana (2007) found that the commitment and alignment of stakeholders, consisting of sponsors from incubator management and entrepreneurs, venture capitalists, the local community, local business and government are crucial for success. In addition, these authors believe that it is not only important to have alignment between stakeholders and the area they plan to serve but also to have the same vision and objectives. The importance of stakeholder involvement and support is supported by Hackett & Dilts (2004b)

They believe that the incubator must be designed to fit the culture of the community. An incubator must have access to networks, access to sources of capital, good communication with community leaders as well as ties to universities and entrepreneurial networks. This comes through solid stakeholder relationships.

2.3.7 Supportive government policies

Buys & Mbewana (2007) believe that the effectiveness of entrepreneurial services and ventures is largely dependent on supportive government policy. In order for this to happen government needs to acknowledge the link between entrepreneurship and economic growth. There is evidence that this is the case in South Africa (Government, 2015a). Ribeiro-Soriano & Galindo-Martín (2012) support the view that success of entrepreneurial services such as incubators are dependent on government policies. The aforementioned authors found that economic, taxation, education, legislation, industry, employment, technology and government policies all play a key role on growth and development in early stage and in mature businesses.

2.3.8 Competent and motivated management

Buys & Mbewana (2007) found that the success of business incubators is largely dependent on the knowledge, skills, experience and networks of the management team. The management team should have measurable objectives that are linked to an appropriate incentive scheme and overall strategy. In addition, quality well matched talent must be hired and developed. Dilts (2004) supports this view by highlighting on-site business expertise and diagnosis of business needs as a critical component for successful incubation. Bruneel et al. (2012) argues that quality business support is essential for accelerating the learning curve. Bruneel et al (2012), Hansen et al (2000), Mian (1996) found that business support services such as coaching and training are essential to the success of early stage firms. The management team would need to have the appropriate skills and experience to deliver quality training that adds value to tenants' firms.

2.3.9 Financial sustainability

Buys & Mbewana (2007) argue that business incubators should operate as successful businesses in their own right and should mimic the operational efficiencies of a business surviving in the wild. (Lalkaka, 2002) agrees that business incubators should mirror the characteristics of early stage firms, in that they must have a goal of being self-sustainable within five years of operations. Bruneel et al. (2012) believe that there

is a trend for incubators to be unprofitable as they evolve because third generation incubators select nascent ventures over more established firms. Given that these firms are in an early stage of development they cannot cover the incubator's operating costs. The authors argue that these third generation incubators need alternative sources of income such as government funding or taking equity, royalties or revenue %age from tenants.

2.3.10 Networking among entrepreneurs

Bollingtoft (2012) argues that networking among entrepreneurs is one of the most valuable factors of an effective incubator. This is supported by work from Hansen et al. (2000) and Lyons (2000). According to Lyons (2000) both internal and external are important for a new venture in an incubator, as they both help the venture gain access to business networks and markets. According to Bollingtoft (2012), most networks tend to be informal, and collaboration is frequent as tenants are located in the same building thus social networks are developed due to constant interaction and geographic contiguity.

Bollingtoft (2012) pointed out that the development of close relationships with universities is highly dependent on whether the venture is located in a science park. Furthermore, there is evidence that increased facilitation and collaboration among new ventures and activation of the entrepreneurial process is due to physical proximity to fellow entrepreneurs (European Commission, 2002). Bollingtoft (2012) argues that the entrepreneurial environment created within an incubator allows for networking, idea cross-pollination and knowledge sharing. According to work done by the European Commission (2002) and Chan & Lau (2005), business relationship development and knowledge sharing between tenants is dependent on homogeneity of business or technology focus.

2.3.11 Culture

According to (Hannon, 2003), one of the core processes of incubation is building the community, creating the right environment, culture and networks. Vanderstraeten & Matthyssens (2012) highlighted the importance of a "willingness to interact culture" as activities will not be productive if there is resistance to engagement. Due to this, factor incubator management tends to incorporate having an open and collaborative attitude into their incubatee selection criteria. Such an open culture facilitates interactiuons and innovation that support optimal usage of technology, as well as efficient, effective technology transfer.

Ahmad (2014) found that the environment of an incubator is often infused with the occurance of secrecy, power games, changing coalitions, self-interest and even dishonesty. This is due to the close proximity of ventures with comparable business models in similar markets, as well as shifting organisational objectives and priorities which leads to conflict. Ahmad (2014, p.380) believes that “the role of incubators is then to create a collaborative culture by reducing political rivalries and self-interest”.

2.4 Business incubator effectiveness

In order to determine if a factor is responsible for good or bad incubation effectiveness, we need to understand what effectiveness in terms of business incubation means and how it is measured. Many studies have found incubator effectiveness to be questionable. Bollingtoft & Ulhoi (2005, p.272) found that “the real efficiency of business incubators still remains inconclusive”. (Lumpkin & Ireland, 1988) agree that just because you are in an incubator it does not guarantee success. Hansen et al. (2000) and Mian (1997) questioned the value of a business incubator beyond offering shared infrastructure and services. According to Bollingtoft & Ulhoi (2005, p.272) there seems to be little agreement on the definition of success and how to measure effectiveness.

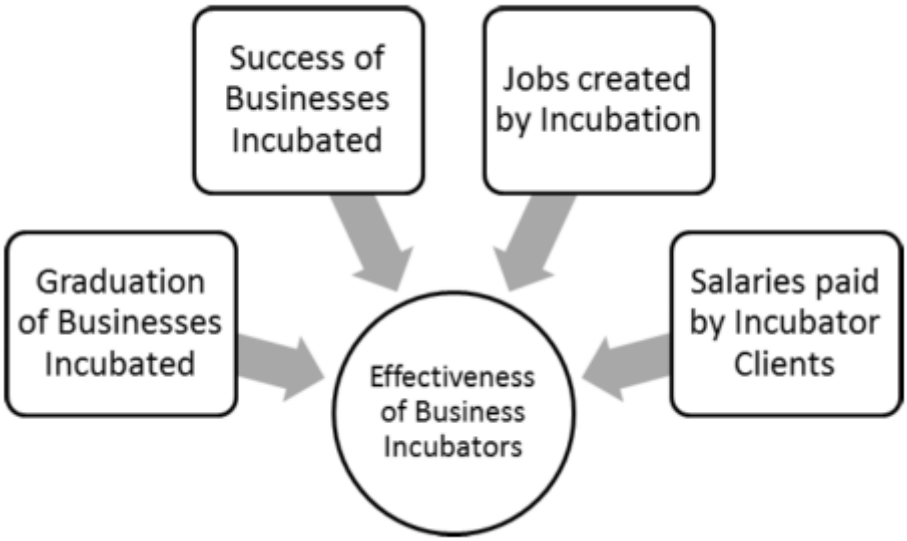
Incubator performance measures have been broadly discussed with no real consensus among authors (Phan, Siegel, & Wright, 2005; Rice, 2002). There have been various models and performance measures used in literature. (Hackett & Dilts, 2004b) found that incubator performance is often measured in terms of growth of a new venture at the time of exit, venture financial performance and venture job creation.

Bigliardi, Dormio, Nosella, & Petroni (2006) propose a model to measure effectiveness based on six components: patrimonial structure, internal development, human resources and technical productivity, economic and financial aspects, repercussion in the territory and international and interregional relationships. Mian (1997) proposes four approaches to address the question of effectiveness: goal approach, system resource approach, stakeholder approach and internal process approach. A large number of studies use input and output research and development (R&D) metrics to evaluate performance (Colombo & Delmastro, 2002; Westhead, 1997). R&D inputs consist of disruptive research, proportion of graduate engineers and scientists, R&D spending/sales, gross R&D investment/sales. R&D output consists of introduction of new products and services and number of patents

Other studies use simple models with several measures to evaluate effectiveness. Siegel, Westhead, & Wright (2003) propose a simple model with three key metrics: survival rate, employment growth and R&D activity. Allen & McCluskey (1990) use occupancy, jobs created and firms graduated as measures. Several studies use survival rate as an indicator of incubation effectiveness (Aerts et al., 2007; Mian, 1997; Storey & Westhead, 1994). Mian (1997) and Peña (2004) propose using growth as a measure of effectiveness. Metrics used include employment growth, sales growth and profit growth. Barbero, Casillas, Ramos and Guitar (2012) argue that profit growth should not be used as an indicator, as early stage firms are often not profitable. Bergek & Norrman (2008, p.22) define incubator performance as "the extent to which incubator outcomes correspond to incubator goals". This creates ambiguity because the goals of one incubator may be very different to from another incubator. It will be difficult to compare incubator effectiveness using this model. Barbero, Casillas, Ramos and Guitar (2012) believe that the use of complex models is limited to smaller, more in depth case studies, while simple models can be used for larger samples.

In a study of incubator effectiveness (Al-Mubaraki & Schrol, 2011) identified a four dimensional model to measure the effectiveness of business incubators: graduation of businesses incubated, success of business incubated, number of jobs created by incubation and salaries paid by incubator clients.

Figure 3: Business incubator effectiveness model



Source: (Al-Mubaraki & Schrol, 2011, p. 445)

In South Africa, the STP was created in 2006 as a special programme to consolidate small enterprise initiatives. The programme aims to stimulate economic growth and development through facilitating technological innovation and technical support for early stage firms with a focus on sustainability (SEDA, 2015). SEDA measures incubation effectiveness in terms of growth, job creation and revenue contribution. Growth is measured by the number of SMMEs (Small, medium and micro enterprises) supported by SEDA. 403 new SMMEs were created by SEDA supported technology incubators in 2015. Job creation is measured in terms of the number of jobs created whilst in incubation. 1963 jobs were created in 2015. Revenue contribution is calculated as the total revenue produced by each SMME.

From the literature review a number of components emerge as key components of the business incubator value proposition. In addition, several critical success factors emerge. This research aims to build on previous literature to explore factors that drive business incubator effectiveness as perceived by incubator managers, tenants and key stakeholders for both private and government backed incubators in South Africa.

2.5 Summary of literature review

The literature review defines a business incubator as a support environment for new ventures and identifies the four components that have featured most strongly in the theory base, namely shared infrastructure, shared business services, business coaching and access to networks, both internal and external. The literature points to a shift away from shared infrastructure and administrative services to a more recent emphasis on the importance of business support in the form of coaching, mentoring and access to resources. Incubators continue to evolve over time and add new dimensions to their value proposition.

What emerges from the literature review is the importance of certain core components that contribute to incubator effectiveness. Tenants reap benefits of economies of scale in terms of shared infrastructure and services. Lack of business acumen and management skills are supplemented by expert coaching to decrease chances of failure. Tenants leverage networks built by incubator management to insert themselves in to markets and supply chains. Interaction among entrepreneurs within the incubator results in idea generation, cross-pollination, knowledge sharing and frequently new business partnerships. Access to funding emerged as a crucial factor that is essential to new venture survival and growth. Incubators often do not provide funding themselves but act as a broker.

The literature points to the importance of stringent selection criteria for both entrepreneur and business idea to ensure the greatest chance of success. Closely tied to selection criteria is the quality of entrepreneurs entering into the process. The successful entrepreneurs tend to have past entrepreneurial experience, personal motivation and determination and strong social skills.

In addition incubator effectiveness is largely dependent on the skills and personality of the incubator manager. An effective incubator manager has the ability to understand and diagnose business issues, offer guidance, actively build and share networks and share knowledge.

Mentorship emerged as a key theme in the literature that produces a different outcome to business coaching. Mentors not only facilitate personal growth for entrepreneurs through sharing of industry and entrepreneurial experience, but provide emotional support through sharing of successes and failures.

Key themes that emerged from the literature in terms of environmental factors include culture, government policies, stakeholder support, competent and motivated management and proximity to universities or technical expertise. All of these components must be conducive to development of new ventures.

Despite the body of knowledge that exists around incubator effectiveness, deeper research is needed to understand the components in more detail.

Chapter 3: Research Questions

3.1 Introduction

The purpose of this study was to explore the components that drive incubator effectiveness and to identify differences in perceptions between incubator managers, tenants and key stakeholders. The objective was to translate the findings into a practical and meaningful framework for effective business incubation.

3.2 Research question one

What are the factors that drive business incubator effectiveness as perceived by incubator managers, tenants and key stakeholders?

3.3 Research question two

What are the differences in perceptions between incubator managers, tenants and key stakeholders with regards to business incubator effectiveness?

Chapter 4: Research methodology

4.1 Introduction

This study aimed to explore the factors that drive business incubator effectiveness from the perspective of entrepreneurs, incubator managers and stakeholders as well as to identify differences in opinions. This chapter discusses and justifies the research methodology utilised in this study to collect and analyse data. The research was exploratory and qualitative in nature, which is evident in the research design, method, sampling and analysis methodologies used. This chapter also highlights the limitations of this research.

4.2 Research methodology

As this research examines a relatively nascent area of thinking in terms of the effectiveness of business incubation, the methods that was employed was an in-depth phenomenological approach, focused on gathering qualitative data from three distinct sample groups, namely entrepreneurs, incubator managers and key stakeholders in the entrepreneurial ecosystem.

According to Creswell (2012, p.76) “a phenomenological study describes the common meaning for several individuals of their lived experiences of a concept or phenomenon”. Furthermore, phenomenology aims to draw out the essence of how individual participants experience a phenomenon. Van Manen (1990, p.177) describes the “essence” as the “grasp of the very nature of the thing,”

Phenomenology is largely based on the studies of Edmund Husserl. A number of authors agree with Husserl on some common assumptions of phenomenology: the study of lived experiences of persons, the view that these experiences are conscious ones, and the development of descriptions of the essences of those experiences, not explanations or analyses (Moustakas, 1994; Stewart & Mickunas, 1990).

Creswell (2012) refers to two main approaches of phenomenology: hermeneutic phenomenology (van Manen, 1990) and empirical, transcendental phenomenology (Moustakas, 1994). Van Manen (1990) describes hermeneutic phenomenology as a focus on people’s lived experiences and the “texts” of life. Moustakas' (1994) transcendental phenomenology is aimed more at obtaining descriptions of the

experiences of participants versus getting the researcher's interpretations. Epoch (or bracketing) is an important concept used by Moustakas. The theory behind epoche is that researchers separate out their own experiences to ensure they have a fresh perspective of the experiences. A common method is for researchers to describe their own experiences first before describing the experiences of others.

Creswell (2012) summarises the procedures illustrated by Moustakas (1994) as the following: identify a phenomenon to study, bracket out one's own experiences, collect data from individuals who have experienced the phenomenon and then analyse the data by picking out significant statements and combining these statements into themes. The researcher then develops "a textural description of the experiences of the persons (what participants experienced), a structural description of their experiences (how they experienced it in terms of the conditions, situations, or context), and a combination of textural and structural descriptions to convey an overall essence of the experience". (Creswell, 2012, p. 88)

4.3 Research design

The study consisted of two phases.

4.3.1 Phase one: Formulation of the framework

Phase one sought to identify the components and characteristics of business incubators that drive effectiveness evident from the theoretical base discussed in Chapter Two. The framework was created by extracting the key themes identified in the literature review.

The value of creating a business incubator effectiveness framework was that it could be used to inform phase two of the research process, namely the in-depth interview process. The framework was used as a foundation for the concept of business incubator effectiveness, and was used to prompt participants' to share their experience of a component if not mentioned in the natural flow of the interview.

4.3.2 Phase two: In-depth interviews

Given the exploratory nature of this study, in-depth, semi-structured, and face-to-face and Skype or telephonic interviews with three distinct sample groups, namely entrepreneurs, incubator managers and key stakeholders were used to seek answers to the research questions posed in Chapter Three. This interview methodology was

selected because it is a flexible, discovery-oriented data gathering methodology that allows participants to contribute openly and freely (Saunders & Lewis, 2012). Furthermore, this interactive methodology is useful for generating in-depth insights on how participants have experiences business incubators. Telephonic/Skype interviews were conducted with incubators outside Gauteng and face to face interviews with those in Gauteng.

4.4 Population

The population of this study consisted of three distinct populations, namely entrepreneurs that are currently working within an incubator, incubator managers employed by an incubator and stakeholders that have close dealings with an incubator. The study was conducted within South Africa, in the cities of Johannesburg and Cape Town. The geographic locations were entirely dependent

4.4.1 Description of participants

- Entrepreneurs
    - Currently working within an incubator or have done so in the past
    - Part of a new venture team
- Incubator managers
    - Currently employed by an incubator
- Stakeholders
    - Some intimate involvement with incubators such as venture capitalists

A total of 16 interviews were conducted in this study. The composition was five entrepreneurs, four incubator managers and seven stakeholders as shown in the respondents list in Table 1. The respondents were selected using a combination of purposive and convenience non-probability sampling.

4.5 Unit of analysis

The unit of analysis for this study are the components that drive business incubator effectiveness as perceived and experienced by entrepreneurs, incubator managers and key stakeholders in the entrepreneurial ecosystem.

4.6 Sampling method and size

Due to the difficulty in gaining access to entrepreneurs, incubator managers and stakeholders it was not possible to establish a sampling frame in which to employ probability sampling techniques. When no sample frame exists, probability-sampling techniques cannot be used, thus non-probability methods must be employed (Saunders & Lewis, 2012).

The researcher therefore used a combination of purposive, convenience and snowball non-probability sampling. Purposive sampling allows the researcher to select the participants based on his/her own judgement (Saunders & Lewis, 2012), convenience sampling allows the researcher to interview participants that are most accessible and snowball sampling allows the researcher to select participants based on referrals during the interview process. Personal contacts in the industry were invited to participate and through the interview process further contacts were provided by respondents. Two of the entrepreneurs were referred by an incubator manager. A total of 24 interview requests were sent out via email. This included seven entrepreneurs of which five agreed to participate, six incubator managers of which four agreed to participate and eleven stakeholders of which seven agreed to participate. All but two interview requests were declined due to respondents' availability and one interview was cancelled by the researcher due to time constraints. In total 16 interviews were conducted.

An adequate sample size for qualitative research is one where data saturation is reached and that answers the research questions posed (M. Marshall, 1996).

4.7 Measurement instrument

According to Creswell (2013) there are several approaches to data collection in qualitative research. Some methods include:

- Semi-structured interviews supported by audio recordings and transcriptions of the recordings
- Unstructured, open-ended interviews backed by interview notes
- Unstructured, open-ended interviews, supported by audio recordings and transcriptions of the interviews
- Focus group interviews, supported by audio recordings and transcriptions of the interviews

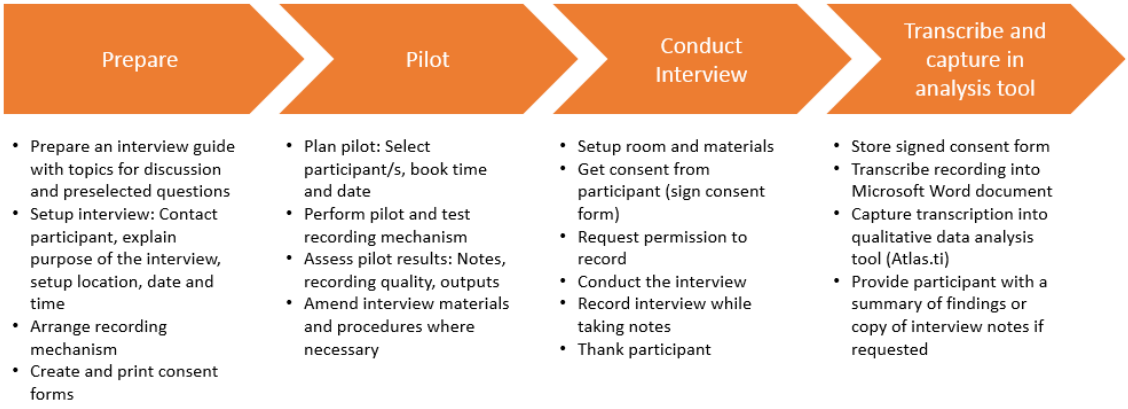
- A combination of interview methodologies through various channels, namely e-mail, face-to-face, focus groups, online focus groups, Skype and telephone interviews

For this study a semi-structured method supported by audio recordings and transcriptions was used. Themes that emerged from the literature were used as a framework on which to guide the discussion. According to Saunders & Lewis (2012), this method is appropriate when the answers from participants is unknown, the path of the interview may change direction without notice. Furthermore, this method allows the interviewer to change the order of questions when needed, add questions and leave pre-planned questions out.

4.8 Data gathering process

The high level process for data gathering is outlined in the below diagram:

Figure 4: Data gathering process



Source: Saunders & Lewis (2012)

4.8.1 Prepare

In order to ensure that participants were prepared, a discussion guide was prepared and emailed to each participant beforehand. According to McCracken (1988), it is essential to phrase the discussion guide questions in an open-ended, nondirective manner. Furthermore he stated that researches should use floating prompts to ensure predetermined important themes are covered in the interview and use fixed prompts to explore important themes that do not emerge naturally during the interview.

In preparation for each interview, participants were contacted by email and invited to take part in the study. The email contained a brief description of the purpose of the research and the research questions. For non-face-to-face participants a consent form was attached to ensure anonymity through reporting without identifiers (refer to Appendix 6 for the informed consent letter). The interviews were schedules on a date, time and location agreed by participants shortly after

4.8.2 Pilot

A pilot interview was conducted to test the interview approach, discussion guide, recording devices and for the researcher to gain practice asking questions in a manner that generates the best responses and achieve a natural flow. This allowed the researcher to gauge the depth of insights generated from the interview as well as test the quality of recordings and device settings. The pilot was useful to ensure that the correct questions were being asked, guided the interviewer to select the best sequence of questions and identified questions to be added or removed. This being said, after analysing the pilot results, questions regarding team performance management and business development lifecycle were moved to the end to ensure themes arising in the literature review were covered. Furthermore, two questions generated similar insights and resulted in duplicate responses, therefore one of them was removed from the questionnaire.

Subsequent to the pilot and assessment of the results, the interview guide and associated materials were amended. The output of the pilot was included in the overall findings as the pilot participant provided quality insights deemed useful to the study.

4.8.3 The interview process

Given the personal and exploratory nature of the topic, it was required that the researcher developed a level of rapport with the participant to build trust to encourage sharing of lived experiences. Part of the trust building process included the presentation and signing of a consent letter which informed participants that participation was voluntary and all data would be reported without identifiers. The interviews were carried out at the entrepreneur's, incubator manager's and stakeholder's workplace, in order for the researcher to gain insights into the context of the working environment and to gauge the influence on findings. During the in-depth semi-structured interviews the researcher captured detailed written notes in a booklet dedicated to this project. This allowed the key themes and interesting points to be

captured to allow ease of coding and analysis of findings. All interviews were conducted face-to-face in Gauteng, except four interviews which were conducted via Skype. Three Skype calls were to participants in Cape Town and one in Stellenbosch. According to Lavrakas (2008), face-to-face interviews reduce non-response bias and allow for clarification of responses. Furthermore, face-to-face interviews allow the researcher to gain insights from contextual observation and body language of the participant. All interviews were conducted in English.

4.8.4 Transcription and input into analysis tool

All interviews were recorded in audio format and then transcribed into Microsoft Word documents. According to Kowal & O'Connell (2014) transcription as a form of written recording of a verbal interview is vital. Furthermore, the abovementioned authors state that it is best to transcribe interview verbatim to avoid selective systematic bias. Over 30 hours were spent transcribing the 16 interviews. Once complete, the transcripts were reviewed and edited to ensure quality and accuracy. The transcripts were then named according to the naming convention used for the three sample groups to ensure anonymity. The transcripts were then uploaded to Atlas.ti qualitative analysis software in order to be coded and analysed.

4.9 Data analysis

Creswell (2012) suggested using the following process of phenomenological data analysis:

Step one of data analysis is called horisontalisation, which is the process of highlighting significant statements, sentences or quotes that reflect participants' experiences of the phenomenon.

The next step is to develop "clusters of meaning from these statements into themes" (Creswell, 2012, p.82). These significant themes are then used to write a description (textural description) of the individual's experiences and of the context that influenced how they experienced the phenomenon (structural description). Creswell suggests that the researcher writes about his own experiences and the context influencing those experiences as proposed by Moustakas (1994).

The researcher consolidates the textural and structural descriptions and writes a description that brings out the essence of the phenomenon, called the "essential

invariant structure". (Creswell, 2012, p.82) The purpose of this component is to identify the common experiences of participants.

Qualitative analysis software (Atlas.ti) and Microsoft Excel were used for the qualitative data analysis phase. (Hughes, Williamson, & Lloyd, 2007) suggested using the following approach when performing data analysis:

1. Develop a frame of reference of a set of broad categories for classifying the key themes
2. Identify categories and sub-categories of critical behaviours
3. Link key quotes and pieces of data to the categories and sub-categories

The purpose of this study was to explore the components that drive incubator effectiveness and to identify differences in perceptions between incubator managers, tenants and key stakeholders. Therefore, a hybrid approach of both inductive and deductive analysis was used in the research.

The deductive approach was used in the literature review to identify key themes and build a framework to inform the interview process and form the basis of data analysis. Given that this research aimed to expand on and provide deeper insights and flavour to current literature, an inductive approach was also used to allow new information and themes to emerge from the interview process.

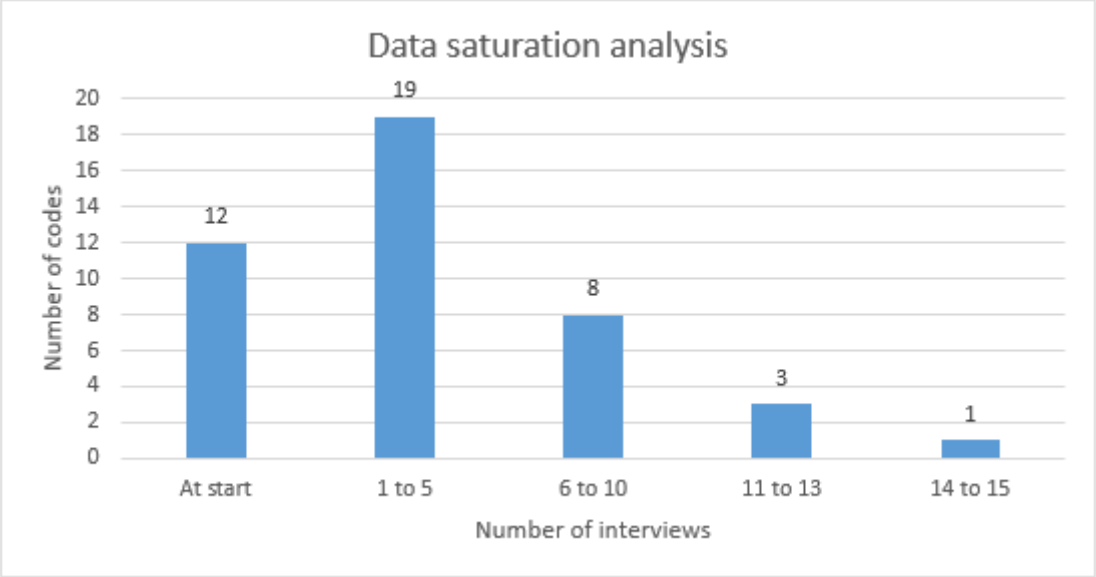
Using the above framework as a base, the researcher utilised the data analysis procedure outlined below:

1. Deductive analysis: Broad themes were defined based on the literature and corresponding codes were added to Atlas.ti. This formed a coding frame which informed the business incubator effectiveness framework
2. Inductive analysis: New themes emerging from the transcripts were given relevant codes with some of being linked to another code or merged with a similar code once analysis was complete
3. Thematic analysis: Direct quotes and comments by the researcher were linked to each code allowing for consolidation and comparison between sample groups
4. Frequency analysis: Comments supporting a particular codes were manually counted and aggregated in Microsoft Excel to get a frequency count which was later used to gauge priority and significance.

According to Marshall & Rossman (2014), there is no specific formula for translating data into prominent themes but a coding frame is required to guide the process of efficient content analysis, allowing for gathering of meaningful data. Twelve codes were added to Atlas.ti initially which formed the coding frame. Once analysis of all data was complete a total of 43 codes had emerged. More than twenty hours of coding was conducted which informed the results in Chapter Five. During the coding process relevant quotes and comments by the researcher were linked to codes. Once coding was complete a report for each code and grouped by each sample group was generated. This report allowed comparative analysis between entrepreneurs, incubator managers and stakeholders which highlighted differences in perceptions.

The use of frequency analysis was to allow for aggregation and prioritisation of the data linked to key themes and forming part of the research questions. The primary data collected from respondents was analysed in order to determine common themes and patterns. The themes and patterns emerging from the interviews were captured into a Microsoft Excel spreadsheet and aggregated to allow significant categories to emerge and to understand frequency and nature of responses. The data was also captured per sample group to allow for comparison.

Figure 5: Data saturation analysis



The above graph shows that 43 codes were created and saturation was reached by the 16th interview that was conducted.

4.10 Data validity

According to Mason (2002), data reliability involves the accuracy and consistency of research methodology. To maximise reliability the interview scripts were consistent across the three sample groups, with small wording changes to ensure the interview was relevant to the target group.

The trustworthiness and credibility of the process in qualitative research results in data validity (Stead, 2001). Moustakas' (1994) stated that transcendental phenomenology is aimed more at obtaining descriptions of the experiences of participants versus getting the researcher's interpretations. Epoch (or bracketing) is an important concept used by Moustakas. The theory behind epoche is that researchers separate out their own experiences to ensure they have a fresh perspective of the experiences.In order to avoid researcher bias as much as possible, the researcher focused attention on the language and perspective of the participants in the interview in contrast to letting the researcher's own interpretation override the interview process. Additional validation of the participant's responses was conducted through repeating of the answers to get clarification and validate key themes.

4.11 Limitations

The limitations of this study are as follows:

- Interpretation of qualitative information is typically judgmental, and could therefore be subject to interpreter bias.
- The researcher's own perspective, assumptions and interpretations may influence the data analysis process
- The research findings are hugely dependent on the validity and quality of data generated by participants during the in-depth interviews including the interview questions, sequencing and procedure.
- The use of non-probability judgemental, convenience and snowball sampling cannot be assumed to represent the entire population (Saunders & Lewis, 2012).
- Given that all the participant in this research reside in either Johannesburg, Cape Town or Stellenbosch, the findings cannot be assumed to be relevant to other counties or geographic locations.

Chapter 5: Results

5.1 Introduction

The concept of a business incubator as outlined in the literature speaks to a number of components that contribute to incubator effectiveness. These components include shared infrastructure, business support, networks, selection criteria, access to university and technology resources and expertise, access to funding, skill set of entrepreneurs/team, support of stakeholders, competent and motivated management and government policies.

In this chapter the results are presented through data from 16 interviews held with entrepreneurs, incubator managers and key stakeholders in the Gauteng and Western Cape entrepreneurship ecosystem.

Table 1: Sample description

Identifier	Role
Entrepreneur_1	Entrepreneur
Entrepreneur_2	Entrepreneur
Entrepreneur_3	Entrepreneur
Entrepreneur_4	Entrepreneur
Entrepreneur_5	Entrepreneur
Manager_1	Incubator Manager
Manager_2	Incubator Manager
Manager_3	Incubator Head
Manager_4	Incubator Manager
Stakeholder_1	Co-Vice Chairperson & Head of Stakeholder Relations
Stakeholder_2	CEO
Stakeholder_3	Specialist: Innovation Strategy
Stakeholder_4	MD
Stakeholder_5	Enterprise Development Manager
Stakeholder_6	Officer Opportunity
Stakeholder_7	Co-founder

5.2 Research question one

Research question one considered the components that contribute to business incubator effectiveness. The specific research question was as follows:

What are the factors that drive business incubator effectiveness as perceived by incubator managers, tenants and key stakeholders?

The results were as follows:

Table 2: Components of business incubator effectiveness ranked by frequency

Rank	Component	Entrepreneurs	Incubator Managers	Stakeholders	Total
1	Personality and skills of the incubator manager	18	20	28	67
2	Business Support	16	12	17	45
3	Mentorship	7	8	12	27
4	Access to funding	5	9	12	26
5	Quality of Entrepreneurs	2	10	10	22
6	External Networking	8	5	7	20
7	Government policies	4	5	8	17
8	Internal Networks	6	3	8	17
9	Shared Infrastructure	6	3	6	17
10	Culture	6	3	8	17
11	Selection Process	1	7	8	16
12	Access to Markets	3	1	4	8
13	Access to university and technology resources and expertise	1	3	3	7
14	Competent and motivated management	2	2	3	7
15	Business Resources	3	1	2	6
16	Location	1	1	4	6

The commentary below comprehensively explains the themes discovered.

5.3 The incubator manager

The participants were asked if the personality and skill set of the incubator manager played a role in the effectiveness of an incubator. The follow up question asked participants to describe which particular skill set or personality traits were important.

Table 3: Aggregated results for the incubator manager

Rank	Component	Frequency
1	Highly networked in the ecosystem with valuable contacts. Extroverted personality. Facilitates access to funding through connections. Ability to build partnerships, identify connections and engage. Collaboration with other spaces and programmes	13
2	Practical entrepreneurial experience. Worked for a start-up or run their own start-up	9
3	Emotional intelligence (EQ); communication and interpersonal skills, relationship building with diverse people	6
4	General business acumen. Understanding of financial statements and general business knowledge	6
5	Empathy. Ability and willingness to provide emotional support to entrepreneurs. Approachable with listening skills	5
6	Altruistic. Passion to help entrepreneurs	5
7	Ability to guide and advise. Ability to give strategic advice and direction to entrepreneurs	4
8	Operational skills such as building operational systems and processes. Project and programme manager skills. Being organised	4
9	Ability to get a deep understanding of the tenants' businesses and abilities to facilitate meaningful introductions, identify where entrepreneurs need assistance and identify opportunities	4

13 respondents from all three samples groups indicated that an effective incubator manager is very well networked with valuable contacts in the ecosystem. Four incubator managers commented that networking is extremely important. This included facilitating access to funding. One stakeholder indicated that an incubator manager must have the ability to build partnerships, identify connections and engage. This includes collaboration with other spaces and programmes

P 3: Entrepreneur_3: "I don't know where Manager_1 gets all these people - highly, highly networked like it's not even funny"

Nine respondents indicated that incubator managers with practical experience working for a start-up business or running their own start-up business are much more effective.

P 8: Manager_3: “So I think it is absolutely critical so you have got to have someone that understands the entrepreneurial landscape. You have got to have someone who understands entrepreneurs that have had sufficient experience in the space of both innovation and entrepreneurship to really make this work.”

Six respondents indicated that effective incubator managers have a high level of emotional intelligence (EQ) and that interpersonal and communication skills were important.

P 7: Manager_2: “The ability to communicate. I think the ability to also build relationships. A large part of our -- I feel – a large part of any person who’s working in an incubator is, they should be able to build a relationship. But also the ability to work with people who come from very different backgrounds.”

Six respondents commented that an effective incubator manager has good business acumen and specifically the ability to understand financial statements. Five respondents commented on how empathy and the willingness to provide entrepreneurs with emotional support are important attributes. It is evident that starting your own business can be a long and lonely road and entrepreneurs need as much support as possible. Three entrepreneurs observed that a successful incubator manager is truly passionate about helping entrepreneurs and small businesses. They are unselfish in nature and are not doing the job for their own gain.

P 1: Entrepreneur_1: “I mean he’s purely doing it because he is saying, I want start-ups to succeed. So he was awesome.”

Four respondents commented on the value of having someone with the ability to see their business from a strategic perspective and provide guidance and advice. It is also helpful if the incubator manager can identify weaknesses.

P 3: Entrepreneur_3: “One of the strengths that she has is her understanding strategy. There are times when she will poke my own strategy where she understands strategy and a lot of times one of the things that she likes saying, is she says: Chris, I look forward to the time where you stop working in your business and start working on your business.”

Four respondents indicated that an incubator manager needs to be organised and ideally have project and programme management skills. This includes the ability to build operational systems and processes. Four respondents stated that the incubator manager need to have the ability to get a deep understanding of the tenants' businesses and abilities to facilitate meaningful introductions, identify where entrepreneurs need assistance and identify opportunities.

5.4 Business support - coaching

The respondents were asked what factors contribute to the effectiveness of an incubator from their perspective. From the literature, business coaching is understood to be one of the factors that accelerate the learning curve for new firms through sessions targeted on business concepts and processes to increase the body of knowledge of entrepreneurs (Claryssee & Bruneel, 2007).

With the objective of gaining a better understanding of what elements of business support is valuable to entrepreneurs, the respondents were asked what they found valuable or not valuable and why?

Table 4: Aggregated results for business support

Rank	Component	Frequency
1	Foundational business training and support. A "mini-MBA" type course for early stage ventures. Training based on leading theory that is relevant to a specific business. Basic training on how to set up a business	14
2	Value proposition and business model construction The use of lean techniques such as lean start-up methodology, business model canvas, human-centred design and design thinking.	9
3	Well-structured programme run by seasoned start-up experts who can identify strengths and weaknesses and set strategic direction	3
4	Pitch training and product packaging	3
5	Training on how to execute effectively	2

14 respondents found that foundational business training and support such as financial training, operations, actuarial, sales and marketing and legal knowledge is an important component of business support. The commented that a "mini-MBA" type course is valuable as long as training is based on leading theory and relevant to the business.

P 3: Entrepreneur_3: “We can’t afford proper legal services. So we try to read something or give it to your buddy who claims to be an attorney and if he says it’s good to go then you just sign and afterwards you find yourself with some serious problems.”

P 3: Entrepreneur_3: “Financial (knowledge) is very important. One of the things I found in the coaching process; the lady who is coaching me, she actually brought in a financial person who looked at my financial statements and who looked at my bank statements and then was like: “Oh my gosh, your bank is milking you, this is a rip-off, you are paying three times what the industry is charging.”

P 9: Manager_4: “I think the second is relevant training, so making sure that the entrepreneurs get training that’s not only relevant to their businesses but it’s kind of taking the leading theory that’s going around.”

Nine respondents from all three groups indicated that validating the value proposition with customers is important. Two of the respondents commented that training on how to engage with customers to validate assumptions about your value proposition was valuable.

P 2: Entrepreneur_2: “One of the big things they also teach you is to engage with your customers. They did it quite hard at the boot camps. Like for two days Saturday and Sunday for four hours a day you’re going to go speak to customers and in Rosebank Mall. And I was like, shit.”

Two incubator managers highlighted the importance of constructing a viable value proposition and business model that is focused on the customer as opposed to writing a long business plan. One respondent remarked how the use of lean techniques such as lean start-up methodology, business model canvas, human-centred design and design thinking is crucial to being effective.

P 7: Manager_2: “That's linked to that value proposition so being able to construct a value proposition that is viable to the customer. They're always running around with the assumption that I've just got this grand idea, this is the best thing in the world, and no one else has ever done it, when in actual fact a hundred other people have.”

P12: Stakeholder_3: “And that is the advisory, so the market advisory, understanding in itself defining the value proposition at a very early stage, so that’s the core of it and really defining the value proposition is really 80% of what the incubator works on.”

P16: Stakeholder_7: “I feel like the most successful incubation programmes are ones where you create a shared working space and you give people access to talks, resources and mentors to shape an idea into a product and some initial market validation.”

P16: Stakeholder_7: “Sort of like issues around market size, customer segment, product and what your value proposition is. Do you even have the skills necessary to execute your final ideas, what does the competitive landscape look like, what does your revenue model look like and are you able to create a defensible position.”

One manager supported this view by highlighting the importance of taking a customer-centric approach to achieve “product market fit”.

P 9: Manager_4: “Doesn’t matter if it is the latest or greatest story, even business strategy from the eighties starts with the customer or the market, so that’s what we really try to focus on: getting an understanding, getting a kind of market orientation, really understanding what features and factors customers value in that market.”

Furthermore, the respondent commented that entrepreneurs need to be constantly validating their value proposition in the market. They must look across the whole product life cycle and identify where they can add value.

P 9: Manager_4: “Meeting their needs. And not in your own mind creating a customer to value proposition, keep checking it the whole time because often in your mind you’re creating an insane value once you hit the market. The market is like this, not what I want. “

Three respondents from the entrepreneur and stakeholder groups indicated that it was best to follow a structured approach where entrepreneurs are exposed only to the concepts they need at the time. The programme must be tailored to the particular business or entrepreneur and have specific stage gates and milestones to keep entrepreneurs accountable and on track.

P 9: Manager_4: “We’ve given it a very structured approach where we just expose them to probably the key things that they need to be exposed to. Inundating them with random work and overwhelming them with concepts they don’t even understand or may cause conflicts is pointless.”

P11: Stakeholder_2: “Okay so never mind the intervention, so you have to have a proper programme to put these guys through, so there's different gates or hurdles in the process.”

Lastly, one respondent observed that often entrepreneurs are often not funding ready. They cannot produce the financial, metrics or plans necessary for an investor to make a decision.

P10: Stakeholder_1: “A lot will say: I can’t grow my business, and I will ask: Well, how much funding do you need? Well I don’t know. What are you going to spend it on and then I’ll say: well then you don’t need funding, you actually need a plan and then you can raise funding.”

5.5 Mentorship

The participants were asked if mentorship played a role in the effectiveness of an incubator. The follow up question asked to describe which attributes make a mentor effective.

Table 5: Aggregated results for mentorship

Rank	Component	Frequency
1	Entrepreneurial experience	8
2	Highly networked	5
3	Long-term commitment	3
4	Multiple mentors	3
5	Choose mentors strategically	2
6	Soft skills	2

Eight respondents from the three sample groups indicated that the ideal mentor has a wealth of entrepreneurial experience. Respondents gained value from mentors who have been on the journey and who can share stories of success and failure. Incubator managers observed that entrepreneurs also get value from peer-to-peer mentorship from fellow entrepreneurs that are slightly ahead on their journey. Respondents also commented that a mentor should ideally have a both a high degree of technical skill and understanding of the broader landscape.

P 1: Entrepreneur_1: “Where it was kind of a one on one session with him where you basically ask him whatever you want to ask. And he would basically go through his

experience. Yassi owns, he started SEMAC and then sold that to Di Data. So again he would just basically sit there and say look, this is what I've done. This is what the story is."

P 6: Manager_1: "There's mentorship that comes out of grey-haired wisdom but there's peer to peer mentorship. So it's someone that has been running a business for five years can mentor someone who is in their first year, second year of business. So we've found that the mentorship is across the board."

Respondents commented that mentors must have experience in commercialisation and taking an emerging technology or new product to market. They must also have experience of building a business, running a business, developing opportunities and value propositions, getting ready for market, building up a market and capturing a market. Deal making ability is also important as well as having seasoned life experience.

P12: Stakeholder_3: "We're looking for someone who has commercialization experience, so taking an emerging technology or new product to market, whether it's in a corporate environment or being their own entrepreneur in their own business."

P12: Stakeholder_3: "Building a business and developing opportunities and value proposition, getting that ready for market and building up a market and capturing a market is, I think there is a challenge for entrepreneurs. It's difficult to find mentors that really fit that."

Five respondents indicated that a mentor must be highly networked and be able to provide access to markets to allow validation of the new venture's value proposition with customers.

P 7: Manager_2: "But networking, someone who's -- who knows a lot of people, I would say an extravert as opposed to an introvert, highly networked individual, especially for that mentorship role."

P11: Stakeholder_2: "Outside mentors that work with them on a less frequent basis but have got the grey hair and can actually identify with the business and can open doors so you're entrepreneurs in residence and the incubator should open doors and meetings."

Three respondents across the three groups stated that mentors need to give time and long-term commitment to entrepreneurs in order to be effective.

P 2: Entrepreneur_2: “So I followed him right afterwards in his Aston Martin, “can you be my mentor type of thing,” and then he’s like, “Oh, ja”. But then whenever I go meet him he’s always on his phone and doesn’t have any fucking time for me. Now he’s shitting bricks because he wanted to be involved in the funding and he’s missed the boat completely but it’s because whenever I was there he made me feel like I was one of 200 people that he was considering and that’s not what you want in that sense.”

Both entrepreneurs and incubator managers commented on how having multiple mentors is more valuable than only one as people bring different skill sets and experiences to the table.

P 1: Entrepreneur_1: “So then we chose 5 or 6 of the guys that said yes, and obviously it’s strategic to what you want in your business. So we took a guy who is a VC in the years, purely because if we want to go into that market then we have a connection. We took quite a lot of old school guys who had been around the block a few times, just because they’ve got connections in every single business possible.”

Entrepreneurs and stakeholders commented that it is more effective to choose mentors strategically for the need of the entrepreneur at a particular point in time.

P14: Stakeholder_5: “But in terms of mentorship, it needs to be very, quite focused to the need of the entrepreneur at each particular point in time.”

One incubator manager mentioned that mentors need to be adaptable and relatable. Stakeholders commented that mentors with project management skills and a delivery focus are needed. Furthermore mentors should be leaders in their chosen field and continue to work in the industry so they do not lose touch with current trends and methodologies. In addition mentors should be measured on the entrepreneur’s performance so they have incentive to really want to make it work.

5.6 Access to funding

The participants were asked if the ability to provide access to funding played any role in the effectiveness of an incubator. As a sub-question the participants were asked to describe any challenges faced in terms of getting access to funding.

Table 6: Aggregated results for access to funding

Rank	Component	Frequency
1	Access to funding is important to get traction and to survive in early stages. It also drives growth	6
2	SMEs not funding ready	6
3	Seed funding gap	5
4	Poor alignment between types of funding and SMEs	4
5	Government funding agencies have insufficient capability and competency	3
6	Ability to unlock funding	2

Six respondents indicated that access to funding is important to get traction, survive in the early stages and drive growth. It's about covering operating costs and living expenses. An incubator manager stated that access to funding is important to drive the growth of a new venture.

P 3: Entrepreneur_3: "It was a very, very hectic process but we ended up walking with some money which helped us grow our business and get somewhere."

P 6: Manager_1: "This particular data science company got a million rand and they turned it into five million in a year and they can prove that so that's growth right there."

Six respondents from all three sample groups agreed that it is important to get a new venture to the point where it is funding ready. Funding ready means that where the financials, metrics and documentation of a company are in a state that can be used by an investor to do due diligence and make a decision to invest. Incubator managers and stakeholders agree that new ventures are often not funding ready and they require support to get there. This includes building a plan for how the funds will be spent and preparing for due diligence. Stakeholders observed that in some cases, by the time the new venture is funding ready, it is too late and they have missed the opportunity. In addition they observed that national government funding agencies such as TIA and IDC have large funds to invest but the challenge is finding investable businesses.

P 2: Entrepreneur_2: "So it's more to say… to get to the point that there is an abundance of funding. It's more, "is my business fundable?" So in the back of your

mind you close off and say, “yes there’s funding”. Now all I do is develop my business to the point that lots of people want to throw their money in…”

P 7: Manager_2:” I think funding is there. I know that. It's just that getting the businesses to a stage where they can fully utilize those funding -- that funding in a manner that is in line with what they state in these application forms is very difficult.”

P13: Stakeholder_4: “To get access to funding you need to be funding ready. Often these companies are not.”

Four respondents from across the three sample groups agree that there is often poor alignment between types of funding and new ventures. They indicated that is important to understand the funding landscape in South Africa so that you can connect a business with the right type of funding.

P 8: Manager_3: “So it’s about understanding the funding landscape but through the lens of what the funders are looking for from entrepreneurs, so there’s your dormant funders, there’s your state owned entities, there’s your traditional financial services based and then there’s your VC.”

Stakeholders remarked that it is important to understand the fundraising process so that the right opportunity is presented to the right funders at the right time. In addition, they observed that investor’s expectations are often not aligned with that of entrepreneurs.

P10: Stakeholder_1: “To understand the fundraising process, I think, is important. Because funders also want you to present them with really decent opportunities, it’s also about you presenting the right opportunities to the right funders at the right time.”

Five respondents from the incubator manager and stakeholder groups believe that there is a huge gap in the venture capital space, especially for early stage firms. They observed that there is generally a lack of private funding in South Africa when compared with other countries such as the United States, and therefore not enough competition between investors. Entrepreneurs should have access to some form of grant funding to get them through the market validation phase. Stakeholders argue that new ventures are entering into incubators/accelerators too early. There needs to be some early stage funding to help them build an MVP and perform market validation before going into incubation

P 9: Manager_4: “And I think there’s a huge gap in South Africa especially considering the legacy in apartheid or the rest of it. There’s not a lot of disposable income so raising that first tier income from family, friends, friends and founders doesn’t really exist.”

P13: Stakeholder_4: “For example if you look at the US there is a massive private funding component in the market. That’s why it’s where it is. Every accelerator can find funding for anything that you come up with tomorrow. It’s because in the states you have very high competition from lenders. In South Africa you don’t. I mean you’ll be literally sitting with just 4 VC’s.”

P15: Stakeholder_6: “There is very little actual seed or VC type investors in South Africa, they put in that level of money but their risk appetite is nowhere close to what that requires. So the massive gap in the proper seed funding.”

Three respondents from the incubator manager and stakeholder groups mentioned that government funding agencies do not have the capability or competency to disperse the funds that are needed. Also the time taken to receive funding is too long for entrepreneurs. One stakeholder observed that while TIA has competency problems, the IDC has a well organised team. Incubator managers and stakeholders indicated that the ability to unlock funding is one of the greatest challenges facing entrepreneurs. Entrepreneurs need to know how to write proposals and be smarter about engaging with the right entities. They commented that it is important to know how to play the system to unlock funding.

5.7 Quality of entrepreneurs

The participants were asked how the quality of entrepreneurs contributes to the effectiveness of an incubator and ultimately, the success of new ventures.

Table 7: Aggregated results for quality of entrepreneurs

Rank	Component	Frequency
1	Work ethic and self-motivation	5
2	Execution	5
3	Entrepreneurial experience	2
4	Technical skill related to the new venture	2
5	Lack of quality entrepreneurs	2

Five respondents from the three sample groups indicated that the success of a new venture comes down to the work ethic, drive and self-motivation of the individual.

P 2: Entrepreneur_2: “It’s more like - are you accountable for yourself? Because then you can fix it. Or are you blaming someone else? And if you distinguish between those two then you can get the mentorship thing successfully. But I don’t think an incubator is going to solve somebody’s problems. It’s a tool that somebody of the right paradigm is going to use to their advantage. But inherently it still comes down to the individual.”

Respondents observed that successful entrepreneurs are bold, stubborn, fearless, and tenacious, determined, focused, and have passion and purpose.

P 6: Manager_1: “I think they are very bold, very stubborn as well, they’re fearless, and most of them are hungry, they are visionaries as well but they also have -- they go through some very terrible moments as with any start-up when your runway gets shorter and shorter and there’s no funding in sight, you’re not cash positive yet or helping them work through cases where shareholders or early investors want to get a return on their money and they haven’t been able to prove that.”

Respondents from all three groups observed that often the difference between being successful or not is the ability of the entrepreneur to execute. They observed that entrepreneurs frequently have too many ideas and do not execute any of them. Furthermore, they believe it is better to fail early and often than not execute at all. Being adaptable to changing conditions and landscape is also important.

P 6: Manager_1: “For me entrepreneurship is about execution. There’s no shortage of good ideas. I can wake up with a good idea every single day if you pay me to but I will say the difference is in execution, and entrepreneurs execute. Entrepreneurs execute, entrepreneurs are focused. Entrepreneurs want one single thing and that’s to see that thing come to life and you see that in them.”

P 9: Manager_4: “They’re always getting thing done, so you see them a week later and they have done a redesign or sold to 40 customers. They’ve just gone out and done things, they don’t just sit behind the desk and play with their Excel or bottle.”

P14: Stakeholder_5: “Yeah, and do it, and get out, get their hands dirty, stop talking shit that they’re dreaming, and go out and do it. And then integrate. You know, go fail,

great, and integrate. Go succeed, great, integrate. Always keep, keep yourself um… you know, on the ground, learning from mistakes, and just doing things, you know."

Respondents from the incubator manager group commented that having a technical skill related to the new venture is helpful. In addition they observed that older, more experienced entrepreneurs with a degree tend to be more successful.

P 7: Manager_2: "To be honest, and maybe I'm a bit biased, I think someone who's got at least some related skill set to that business that they want to start has got a higher chance of actually succeeding."

P 9: Manager_4: "Generally they are slightly older, probably have a degree of some sort, I think you can see some of the orientations that they've got, like experience in the field or a skill set that's easily translatable so they don't have to relearn while building this new venture."

Stakeholders made a number of important comments on attributes that entrepreneurs should have to increase their chance of success. They observed that entrepreneurs need to be coachable. That is, they need to be willing to take the advice of more experienced people around them. Stakeholders observed that it is ideal for the new venture to have a balanced team with a combination of technical, operational and leadership skills related to the new venture.

P11: Stakeholder_2: "We don't like to work with individuals because you're much more successful in teams, so we want teams, we want a balanced team and there should be a technical guy, in other words you don't want them to outsource tech. So the filter of your team search, someone on the team to get them to the programs, was most important. Are they coachable, are there leadership skills, is there a balanced team?"

5.8 External networking

The participants were asked if external networking played a role in the effectiveness of an incubator. The follow-up question asked to give reasons for their answers.

Table 8: Aggregated results for external networking

Rank	Component	Frequency
1	Networks provide access to markets, corporates customers and opportunities	15
2	Knowledge sharing	5

Fifteen respondents across all groups indicated that networking externally is vitally important for new ventures. They stated that firstly, networking facilitates access to markets and customers that may not be available to entrepreneurs. Secondly, networking facilitates engagement with corporates that are not accessible to entrepreneurs. Through networks, entrepreneurs come across new opportunities, new customers, new clients, new suppliers, new partners and potential employers.

P 1: Entrepreneur_1: “Well, me and the position that our business was in was the network. Especially being in the property industry. We find out very quickly that it’s kind of an old boys group. 10 guys you can’t just roll together and—if you get into 1 then 1 guy decides they will take it. If you don’t get to the 1 then none of them take it. So for me it was kind of getting, opening up a network so we can get in touch with the right people.”

P 2: Entrepreneur_2: “I suppose one of the most important things this incubator offers is access to market.”

P 8: Manager_3: “The seventh pillar is one of the most important pillar that you look at, what we call access to markets and this is the role that big corporates can play and this is the role that we started playing.”

P12: Stakeholder_3: “The priority, the biggest thing the entrepreneurs come to us with, is access to markets. They believe they’ve got everything else covered, typically. Normally they don’t but normally they come in saying they need access to markets and we spend a lot more time on that side of things.”

An incubator manager stated that that the South African incubator and entrepreneurial ecosystem is very fragmented. There is a need to consolidate and collaborate. Both incubator managers and stakeholders commented that there are too many big egos in the ecosystem and a lack of open collaboration. If incubators, accelerators and funders all worked together for the good of the entrepreneur instead of themselves, it would be better for all involved.

5.9 Government policies

The participants were asked if government policies played a role in the effectiveness of an incubator.

Table 9: Aggregated results for government policies

Rank	Component	Frequency
1	Ease of doing business is poor in South Africa	4
2	Government policies support entrepreneurs	3
3	Government regulation supports corporates over entrepreneurs	2
4	Poor execution	2
5	Government agencies are organised	2
6	Funding is available but pipeline is lacking	2

There were conflicting views on whether government policy is supportive of incubators and new ventures. Three entrepreneurs and an incubator manager commented that setting up a business is difficult and expensive.

P 2: Entrepreneur_2: “It’s not easy for an intelligent person, maybe it’s… I would consider myself intelligent. I didn’t find it easy and it was a pain in the arse. It was very difficult to deal a lot of people… even my fiancée the whole time was like, ‘I would’ve given up already’.”

P 6: Manager_1: “The GEM report, not this year’s one, last year’s one, ranked South Africa forty-first in terms of the most difficult places to do business. That tells you already we don’t have a strong entrepreneurial culture or understanding.”

Another incubator manager and stakeholder contradicted this view. They argue that government policies do support start-ups. They commented that the government is aware that entrepreneurship is a big driver of economic growth and they are therefore trying to support incubators as much as possible. Two stakeholders commented that some government funding agencies are in fact quite organised.

Two incubator managers commented that government regulation supports big corporates instead of entrepreneurs.

P 6: Manager_1: “One thing that I’m seeing in the financial services landscape is regulation so our banks haven’t been disrupted much because the regulation supports them but because the global financial system is under scrutiny you’ve got people that are looking outside or elsewhere for solutions.:”

Incubator managers and stakeholders indicated that the time it takes to get funding from government agencies is too long. The process can take up to ten months. They remarked that a business might die by the time it gets funding. They observed that government is willing to support entrepreneurship but unfortunately unable to execute their intention. It is evident that government is unwilling to give funds to private partners that may do a better job.

P11: Stakeholder_2: “I think our government is willing but unable to execute and I don't think that the public sector is working sufficiently well with the partners so the public sector should give money to the private sector and they don't.”

Two stakeholders observed that the government is pumping a lot of money into the entrepreneurial ecosystem but there is no pipeline of investable businesses.

P14: Stakeholder_5: “There is money, there is a lot of money. I mean, we’re working now with a company who raised 100 bar for seven entrepreneurs, seven companies, in a space of 6 months.”

5.10 Networking among entrepreneurs

The participants were asked if networking between entrepreneurs played any role in the effectiveness of an incubator. They were asked to give reasons.

Table 10: Aggregated results for networking among entrepreneurs

Rank	Component	Frequency
1	Collaboration, knowledge transfer, access to markets, new business creation	12
2	Poor collaboration between entrepreneurs	3
3	Entrepreneurs as suppliers or customers	1

Twelve respondents across the three groups of entrepreneurs, incubator managers and stakeholders indicated that networking between entrepreneurs and SMEs has a powerful positive effect. The respondents observed that mutually beneficial transactions take place between entrepreneurs and they learn from each other’s successes and failures. In general they observed that entrepreneurs are very collaborative.

P 2: Entrepreneur_2: “It’s mutually beneficial. I wouldn’t say its give and take. Most of

the people generally give more than they take. Something that I understand personally is value versus cost. So there're things and people that I know and things that I may know or things that I have access to that I don't value but are of high value to you. I may give you something that is of R10 value to me, but of R1000 value to you. People understand that. Whereas outside of these walls there must be something of a monetary transfer, whereas here it's somewhat of an intrinsic transfer and networks."

P 2: Entrepreneur_2: "So I'd say the value for dealing with other start-ups is either they've done something before and you can learn from their mistakes or you can bounce ideas off them and they can introduce you to people, but I wouldn't depend on them from a business input."

P 3: Entrepreneur_3: "I would engage with the other entrepreneurs and start talking about possible collaborations or anything like that. I always see an opportunity in everything."

The respondents commented that collaboration often leads to referrals, access to markets and leads.

P 4: Entrepreneur_4: "Good question. We found a provider here that specialises in stores for our market. So we helped him find his underwriter, for a business that deals with cash flow stuff we helped him do the deal. We sat through the meeting and helped him do the deal. For us it gives us access to that market as well because we have helped him grow his business and now we are also enabling his market. Because going into financial markets the first thing you need is education or else you won't get access to customers."

The respondents also commented that networking breeds creativity, helps to identify opportunities and has sometimes led to the creation of new businesses.

P 8: Manager_3: "You have got to create spaces for other entrepreneurs to network with one another. They always say that chaos breathes chaos so you should not actually collaborate with another start up, but we have actually found the opposite. So however many studies there are against it, there are studies to show that it can actually work."

The respondents also mentioned that entrepreneurs learn a lot from each other. They share tools that have helped their businesses. They share stories of success, failure

and lessons learned. There is transfer of knowledge and experiences. Collaboration breeds ideation and cross-pollination. They also give emotional support to each other.

P14: Stakeholder_5: “The real secret recipe and the stuff that happens on the back ends is actually between the entrepreneurs. You can’t quantify that. Even guys who are competitors, the amount of learning that takes place, you know, at the story sharing and the transfer of knowledge and experiences, and the pitfalls, and the successes, and failures, you know, you can never quantify that, but it happens naturally, and it’s, it’s a powerful factor.”

Three respondents have views that conflict with those above. They indicated that there is not much collaboration between entrepreneurs due to being too busy working on their own business. Some entrepreneurs are secretive and do not collaborate.

P 1: Entrepreneur_1: “It was actually bad. Because there were 10 companies and a lot of the mentors were saying to me, you guys need to talk to each other because there’s so much overlap between your businesses where you could be helping each other out. But no one actually ever did. The intention was yes, yes guys, we need to set up meetings and we need to chat to understand what everyone is doing, but it never ever happened.”

One entrepreneur commented that it is not a good idea to partner with fellow entrepreneurs as clients or suppliers due to the risk of them being an early stage firm. An incubator manager contradicted this view by stating that entrepreneurs can offer services to each other where it makes sense.

5.11 Shared infrastructure

The participants were asked how shared infrastructure played a role in the effectiveness of an incubator.

Table 11: Aggregated results for shared infrastructure

Rank	Component	Frequency
1	Shared infrastructure such as Wi-Fi, printers, phones, meeting rooms	7
2	Food and drinks	3
3	Combination of formal and informal meeting spaces	2

Seven respondents from all three sample groups indicated that having shared infrastructure is a key component of an effective incubator. Free or subsidised rental allows new ventures to stay in business for longer and increases their chance of survival at the critical early stage. Entrepreneurs commented that having access to shared services such as printing, Wi-Fi, phones and meeting rooms are extremely useful for business operations.

P 3: Entrepreneur_3: “So it’s that and then the facility is very useful, we communicate a lot with our clients so for us to be able to have one access and connect and manage to get our emails and print, I mean we are in insurance so we print policy documents that we can prepare to post to clients and the incubation centre really, really helps a lot because those things are there and they are in place.”

P 5: Entrepreneur_5: “Just giving us infrastructure. It was a major major, major help and pro for me; kept us in business longer than we should have been.”

Three respondents from all three groups commented that having quality food and drinks, and especially good coffee, is conducive to a good incubation environment. Two stakeholders commented that a combination of formal and informal meeting spaces are most effective as they give entrepreneurs the opportunity to collaborate as well as provide privacy when needed.

P10: Stakeholder_1: “What really works is the combination of formal and informal meeting spaces so that you can sit in a fairly public, shared space and have a coffee or you can have a fairly intense, private meeting with the board and it’s really very private which is great. So that what’s important, is that ability to have those private conversations and I don’t think many incubators get that right, actually.”

One entrepreneur commented on how having an upmarket physical address and impressive building and meeting rooms has helped to secure deals and give the new venture credibility.

P 3: Entrepreneur_3: “I have also used that to cement very large deals because I would say: just come to my office; and this place sells itself.”

5.12 Culture

The participants were asked how the quality of entrepreneurs contributes to effectiveness of an incubator and ultimately, the success of new ventures.

Table 12: Aggregated results for culture

Rank	Component	Frequency
1	Open, friendly and relaxed environment	7
2	Optimistic, freedom to fail and creative	4
3	Community	4

Seven respondents across the three sample groups indicated that culture is an important component that drives incubator effectiveness. Respondents commented that the ideal culture is relaxed, open and friendly. It is a culture that encourages collaboration, communication, sharing and networking.

P 1: Entrepreneur_1: “No, it was a very relaxed environment. It was never a culture of taking things too seriously. It wasn’t like suits and ties and everyone is like ‘shhh’ as they do in a bank environment. It was very laid back and relaxed. But then at the same time, you have work to do, so do your work. It’s not just all fun and games. It’s like work hard and do what you have to do and afterwards we’ll have that kind of chill out session. We’ll go out have drinks and jol.”

P10: Stakeholder_1: “So if you have that kind of culture of sharing information and making connections, your incubator manager will stop having to do that job and your older members will start connecting people.”

One entrepreneur stated that “The culture has been inherently optimistic, solution driven, courage to fail, fail fast-forward, sharing, networking, curiosity and willingness to learn. Those would be the general culture vibes.”

One incubator manager and three stakeholders observed that it is important to create a culture where entrepreneurs feel ownership and a sense of community. Entrepreneurs want to be part of something that they resonate with.

P 8: Manager_3: “You have got to create the right culture. It plays a huge role in making entrepreneurs feel like they are part of the community.”

P14: Stakeholder_5: “But if I describe it to you in words, everybody’s look and feel is different, um… but it’s just being part of something that you can resonate with.”

5.13 Selection criteria

The participants were asked how the selection process for entrepreneurs and new ventures contributes to the effectiveness of an incubator.

Table 13: Aggregated results for selection process

Rank	Component	Frequency
1	Business model, scalability, differentiated, innovative	5
2	Team	4
3	Strategic objectives	2
4	Entrepreneurial character	2

Five respondents from the incubator manager and stakeholder groups indicated that the selection process and criteria are critically important to the effectiveness of an incubator. Incubator managers stated that they will analyse a number of criteria when assessing a new venture. Firstly, they will check to see of the business has a viable business model. Secondly, they will assess the idea to test whether it is scalable and different to competitors in the market. The idea must ideally be innovative and productizable. Thirdly, they will check for any potential barriers such as a large capital expenditure.

P 6: Manager_1: “We also want businesses that can add any form of portfolio value so if you help us meet our strategic objectives at Alpha Code then you’ll be a member, but we also look at the team, the idea, the concept, the market, the revenue model.”

P 9: Manager_4: “Does this idea have the potential to be a big idea or is it very niche and you can only reach a couple of people. Is the market already saturated? And then I think the final one is any barriers to entrepreneurs like massive Capex or where you need to set up a bedded education plant for 100 bar. Well then you’re like, this product probably isn’t for us even if it’s a very good team. Even if the products are hard to differentiate and the potential might be there but it’s not our mandate particularly for that kind of size of a deal.”

P15: Stakeholder_6: “It needs to be an innovative product, we don’t do development shops really. Or it needs to be productisable like this lawyer thing. It’s helping people sell a service but it’s a product for lawyers to sell their service.”

Four respondents commented that the composition of the team is very important. The team should have a combination of market and industry experience. They must have a good understanding of their product. The team must also be honest and coachable.

P11: Stakeholder_2: “They go through quite a lot of filters before they get on, so we have to client test block them, and if you do think that the team is coachable. There's a business model, there's something that we can do with it.”

P15: Stakeholder_6: “If the team-- a good team can pivot to about anything and get it done so that’s not really, it’s not so much about the idea, it needs to be roughly within that but then the team is going to pivot a few times before they leave the launch lab anyway, and we’re working with them, we’re not working with the business idea.”

One incubator manager and one stakeholder highlighted the importance of new ventures being strategically aligned with the objectives of the incubator.

P 6: Manager_1: “We also want businesses that can add any form of portfolio value so if you help us meet our strategic objectives at Incubator 1, then you’ll be a member, but we also look at the team, the idea, the concept, the market, the revenue model.”

Two stakeholders mentioned that having entrepreneurial character and flair is one of the key selection criteria.

P12: Stakeholder_3: “An entrepreneurial character or an entrepreneurial flair. We work more on gut feel for now but it’s something that our incubators looking at to follow what some of our other incubators are doing in terms of through assessment of aptitude etc.”

It is interesting to note that an incubator manager from a government backed incubator stated that their only selection criteria is the ability of the entrepreneur to afford rent and they must be a BEE candidate.

5.14 Access to markets

The participants were asked how having access to markets contributes to effectiveness of an incubator.

Table 14: Aggregated results for access to markets

Rank	Component	Frequency
1	Access to markets is an important factor. Entrepreneurs must be market ready and purchase order ready	8

Eight respondents indicated that having access to markets is vitally important for new ventures. One incubator manager stated that “one of the most important things this incubator offers is access to markets.” The same incubator manager indicated that access to markets is the most important pillar of the incubation model as it facilitates access to corporates and access to clients. One stakeholder concurred that access to markets is most important.

P 5: Entrepreneur_5: “partner with the right guys that actually have access to markets, have access to developers, to the right people.

P 8: Manager_3: “The seventh pillar is one of the most important pillars that you look at, what we call access to markets.”

P12: Stakeholder_3: “The priority, the biggest thing the entrepreneurs come to us with, from a new perspective, is access to markets, they believe they’ve got everything else covered, typically.”

One incubator manager indicated that business development companies are using the wrong approach. They are focusing on getting entrepreneurs funding ready when they should be getting them purchase order ready. This means that incubators should support entrepreneurs until they secure a purchase order and deliver on the purchase order.

5.15 Access to university and technology resources and expertise

The participants were asked how having access to science and university expertise and facilities contributes to effectiveness of an incubator.

Table 15: Aggregated results for access to university and technology resources and expertise

Rank	Component	Frequency
1	No need for access to science or university expertise	3
2	In support of working closely with universities	2
3	Need to develop a body of knowledge	1
4	Access to technical expertise	1

Three respondents from across the three groups indicated they did not have a need or did not currently have ties with technology organisations or universities.

P 2: Entrepreneur_2: “I think they’re good to bounce an idea off of or seek abstractly or generally how to go about something but I wouldn’t use them for my development. Because again they’ve got their ulterior motives, where if you go at Wits, you’re probably finishing off your PHD or masters or going somewhere.”

One incubator manager and one stakeholder contradicted this view. They indicated that working closely with universities is important.

P 8: Manager_3: “Both, so from a university level perspective is where the tech transfer offices has a huge gap in term of commercialising innovations so as an example we are working with North West university and a couple of other universities. With North West we are furthest down the line - we are trying to help them to replicate what we are doing with the incubator model.”

One incubator manager indicated that it is important to develop a body of knowledge which universities can help to facilitate.

P 6: Manager_1: “We’ve got GIBS, UCT -- and do you think it’s important? -- yeah it’s important because we need to develop the body of knowledge.”

One stakeholder stated that they get huge value from having access to technical expertise such as 3D printing.

5.16 Competent and motivated management

The participants were asked if competent and motivated management contributes to the effectiveness of an incubator.

Table 16: Aggregated results for competent and motivated management

Rank	Component	Frequency
1	Motivated and passionate management is important	2
2	Entrepreneurial experience	2
3	Competency is important	2
4	Focus on strategic objectives	1

Two respondents indicated that motivated and passionate management is important. Two respondents stated that being more experienced than entrepreneurs in the incubator gives them credibility.

P 2: Entrepreneur_2: “The motivation is important, because you’re not going to speak to somebody that doesn’t care about something, you’re going to be talking to a brick wall. So you can feel if somebody is motivated and has passion or interest.”

Two respondents indicated that management competency is important

P10: Stakeholder_1: “I think it’s very important; if you run a business and at half past four, you can’t even get a coffee because everyone has pushed off or if you’ve got to leave because the security’s locking up or you don’t feel safe or things like that – that’s not acceptable. I think it’s all about what your members need and it’s how to accommodate them and their requirements, which is so important.”

5.17 Business support – access to resources

The participants were asked how business resources contribute to the effectiveness of an incubator.

Table 17: Aggregated results for business resources

Rank	Component	Frequency
1	Access to multiple resources such as legal, actuarial, design, accounting, marketing support	6

Six respondents indicated that having access to multiple resources such as legal, actuarial, graphic design, accounting and marketing is valuable. One entrepreneur commented on the value of having access to 3D printing resources for prototyping.

P10: Stakeholder_1: “There could also be tech desk services or something like web design, graphic design, that’s all quite important as well.”

P 8: Manager_3: “With that said, if I continue on the access to resources pillar which is the second pillar, what is important is having the right level of business development support for entrepreneurs.”

5.18 Location

The participants were asked if location contributes to the effectiveness of an incubator.

Table 18: Aggregated results for location

Rank	Component	Frequency
1	Location is important. This includes proximity to urban areas and transport links as well as location in South Africa	6

Six respondents indicated that location is an important factor in the effectiveness of an incubator. One entrepreneur complained that being far from urban areas and transport links is inconvenient. An incubator manager commented that some government incubators are in the middle of nowhere and considered white elephants. The stakeholder stated that being in a central location, close to transport links, allows ease of engagement and networking with multiple stakeholders.

P 8: Manager_3: “So geography plays a huge role.”

Four stakeholders concurred with the view of the incubator manager. One stakeholder indicated that geography is conducive to incubator effectiveness. He commented that Stellenbosch has the right combination of money and innovation, similar to Silicon Valley. An interviewee indicated that incubators in Johannesburg and Cape Town have created much momentum but Durban and Port Elizabeth are disconnected from the rest of the country.

P15: Stakeholder_6: “Yeah, it’s a place where really clever people and really rich people all want to live and they’re happy to live together. So you get all of that brain and all that cash in one place, you’re going to get cool stuff.”

5.19 Conclusion of results

Chapter five presented the results that surfaced from semi-structured interviews of 16 participants across three sample groups namely entrepreneurs, incubator managers and key stakeholders in the ecosystem. The research questions generated aggregated results that when ranked and ordered showed significance and priority. The results demonstrated both support for the existing theory around business incubators as well as unique and insightful findings into the components and differences in perspectives between entrepreneurs, incubator managers and stakeholders. The results from the research process and the components of incubator effectiveness are discussed in more detail in Chapter 6.

Chapter 6: Discussion of results

6.1 Introduction

The previous chapter presented the results from the research process, in which two research questions were posed through sixteen semi-structured interviews of three sample groups, namely entrepreneurs, incubator managers and stakeholders The aim of this chapter is to conduct a more detailed discussion of the research findings from chapter five and connect to the relevant pieces of literature to identify where previous research either supports, contradicts or enhances the findings. Existing literature on business incubators and the factors that drive effectiveness formed the foundation for the research questions and informed the in-depth semi-structured interview questions. The data coding and content analysis procedure generated aggregated results that were ranked and ordered to show significance and provide insights into the components of business incubator effectiveness.

6.2 Research question one

The objective of research question one was to identify the components that drive incubator effectiveness from the perspective of entrepreneurs, incubator managers and key stakeholders in the ecosystem. The results from the in-depth semi-structured interviews, data coding and analysis produced the following results.

6.2.1 The incubator manager

The results showed the importance and significance of the personality and skill set of the incubator manager in terms of driving incubator effectiveness, with 67 responses (refer to Table 2) across the three sample groups. This is supported by Hannon (2005), who stated that incubator managers provide valuable input towards venture development. The incubator manager must be highly networked and importantly facilitate access to funding and markets. The individual must have the ability to identify valuable connections, engage with diverse people, build partnerships and collaborate with other spaces and programmes in the ecosystem. This concept is consistent with work from Scillitoe & Chakrabarti (2010a) who found that continual interactions with the incubator manager will result in stronger relationships that will help them to better diagnose incubatee problems, understand business needs, facilitate the building of solid network relationships, help the entrepreneur to utilise the incubator network, and

transfer knowledge and insights regarding supply chains, commercialisation of products or services and testing the value proposition with customers.

An individual with practical experience of starting a new venture or working for one commands credibility with entrepreneurs. An understanding of the entrepreneurial landscape is essential. Emotional intelligence (EQ) is a fundamental skill which extends to having empathy and the willingness to provide emotional support as well as passion to help entrepreneurs. An effective incubator manager has good business acumen, can identify strengths and weaknesses, and can guide and advise from ground to strategic level. Managing a portfolio and having delivery focus is shown to be a key skill, as is the ability to build operational systems and processes.

6.2.2 Business support - coaching

The findings shows that the second highest ranked component driving incubator effectiveness is business support, with a frequency of 45 counts across the three sample groups. Within the construct of business support, the sample groups indicated a number of features that add the most value. Firstly, foundational business training and support that is founded in leading theory and tailored to a specific business was important. Secondly, training on how to construct a viable value proposition and business model was vital. This includes the use of lean techniques such as the lean start-up methodology, a business model canvas, human-centred design and design thinking to test the value proposition in the market and pivot accordingly. Thirdly, a well-structured programme run by seasoned start-up experts who can identify strengths and weaknesses and set strategic direction was needed. Fourthly, training on how to pitch to investors and package the product and lastly, training on how to execute ideas effectively all had to be present.

In addition, Table 4 shows the differences in rankings of sub-components by each sample group. All three sample groups ranked foundational business training first and value proposition development and validation second. Interestingly, entrepreneurs ranked support on execution fourth, but did not appear in results from incubator managers and stakeholders.

These findings are supported by Bruneel et al. (2012, p. 112), who found that new firms often lack the management skills and experience to cope with sudden environmental shifts and rapidly changing environments. Factors that accelerate the learning curve for new firms include business coaching and training (Clarysse & Bruneel, 2007; Kirwan,

Van Der Sijde, & Groen, 2006); avoidance of trial and error resulting in faster strategic decisions (Eisenhardt, 1989); and training sessions on targeted business subjects to increase the body of knowledge which will have a positive impact on performance and development (Colombo & Grilli, 2005; Honig & Davidsson, 2000).

These findings contribute to the work of Bruneel et al. (2012, p. 112) who stated that "business support services such as coaching and training are crucial elements of learning within Business incubators". In addition, it contributes to the work of Bergek & Norrman (2008, p. 24) who stated that "business development and entrepreneurial training, including coaching and education related to business planning, leadership marketing and sales", are key to success of early stage firms.

It thus becomes evident that business support is a key component driving incubator effectiveness. The results showed that validating the value proposition in the market frequently is key and suggests the importance of a customer-centric "lean" approach.

6.2.3 Mentorship

Ranked third, with 27 responses across the three sample groups, is mentorship. The results show that having entrepreneurial experience with the ability to share learnings of success and failure is valuable to entrepreneurs. This includes having both a high degree of technical skill and understanding of the broader landscape. Respondents indicated that an effective mentor must have experience in commercialisation and taking an emerging technology or new product to market. They must also have experience of building a business, running a business, developing opportunities and value propositions, getting ready for market, building up a market and capturing a market. Deal making ability is also important, as well as having seasoned life experience. This speaks to the broad needs of entrepreneurs as expressed by Audet & Couteret (2012), who argued that new ventures face a variety of challenges from new venture creation to growing an existing business. In addition the results contribute to work from (Clutterbuck, 2004; D'Abate, Eddy, & Tannenbaum, 2003; St-Jean & Audet, 2012) who stated that mentoring is a voluntary long-term relationship focusing on growth of the entrepreneurs' expertise and capabilities, and work by Bozeman & Feeney (2007, p.731)) who defined mentoring as "a process for the informal transmission of knowledge, social capital, and psychosocial support perceived by the recipient as relevant to work, career, or professional development".

Interestingly respondents found value in peer-to-peer mentoring from fellow entrepreneurs that are slightly ahead in their journey. This concept is supported by Audet & Couteret (2012), who found that it is essential for the mentor to place themselves at the same level of the entrepreneur. Literature states that empathy and the ability to listen are required to achieve this. Furthermore, the mentor must be seen as an “insider” to be accepted by entrepreneurs and entrepreneurs must be willing to accept assistance.

The results show that being highly networked with specifically the ability to provide access to markets and the ability to provide long-term commitment is an important component of mentorship. Respondents indicated that having multiple mentors selected specifically to match skills to unmet business needs is more valuable than having a single mentor. The ideal mentor should be a leader in their chosen field and be actively working in the industry to stay abreast of market trends. Some interviewees mentioned that mentors need to have delivery focus and be measured against performance of entrepreneurs as an incentive. In terms of personality, results show that being adaptable and relatable is important in order to build strong relationships with entrepreneurs.

6.2.4 Access to funding

Ranked fourth with a count of 26 across the three samples groups is access to funding, as shown in Table 2. Funding is crucial, both to get early traction and drive growth later on. This result contributes to work by (Buys & Mbewana, 2007) who stated that access to various forms of low-interest funding such as government grants, crowd-funding, angel and venture capital is essential. This view is supported by Dilts (2004) who emphasised the fact that access to finance is a critical success factor for new ventures.

The results show that while there is huge amount of government funding available for BBBEE candidates, there is a severe lack of private seed funding for early stage firms in South Africa. The lack of private funding competition results in limited options for new ventures. Entrepreneurs ideally should have access to some form of grant funding to get them through the market validation phase. Stakeholders argue that new ventures are entering into incubators or accelerators too early. There needs to be some early stage funding to help them build an MVP and perform market validation before going into incubation

Entrepreneurs face further challenges in that they are often not funding ready and there is often poor alignment between the type of funding and the requirements of the new venture. It is important for entrepreneurs to be funding ready when opportunities arise, and have an understanding of the funding landscape to ensure a good match. A further challenge to entrepreneurs, incubator managers and stakeholders is the fact that government funding agencies do not have the capability or competency to disperse funds in an effective manner. Entrepreneurs need to understand how to unlock funding from these institutions in order to cut out intermediaries that are self-serving and ineffective. It is evident that in order for the incubator to be effective, it must be able to understand and navigate the funding landscape so as to facilitate access to funding for entrepreneurs.

6.2.5 Quality of entrepreneurs

The quality of entrepreneurs ranked fifth, with 22 responses across all three sample groups. An individual's work ethic, drive and self-motivation is the most important attribute for success. This view is supported by Buys & Mbewana (2007) who found that incubation success depends heavily on knowledge, determination and risk taking of the entrepreneur. Interestingly, risk-taking did not feature in the results of this research. While entrepreneurial experience is important, the ability to focus and execute on an idea is key to being successful. It is evident that possessing a technical skill that is directly related to the business concept contributes to success. Having a well-balanced team that is adaptable and coachable is shown to be fundamental to success.

The literature also suggests that entrepreneurs should rank highly on self-efficacy, ability to recognise opportunities, personal perseverance, human and social capital and strong social skills (Markman & Baron, 2003). While the results support the personal perseverance factor, social capital and strong social skills did not feature. Interestingly one of the successful entrepreneurs interviewed is a self-confessed introvert.

6.2.6 External networking

Ranked sixth with 20 responses across the three sample groups was external networking, as shown in Table 2. The results show that networking facilitates access to markets, and engagement with corporates that are not accessible to entrepreneurs. Through networks entrepreneurs are exposed to new opportunities, customers, clients, suppliers and partners. The results are supported by Buys & Mbewana (2007), who stated that networking can provide access to market opportunities that may not

otherwise be accessible to early stage firms. Both Bollingtoft (2012) and Bruneel et al. (2012) concur with this view that networks are critical success factor. Furthermore access to networks is one of four dimensions in the Smilor Incubation Framework (Smilor, 1987b).

Interestingly, it is evident that the South African incubator and entrepreneurial ecosystem is very fragmented, with a lack of open collaboration, due to players looking after their own interests instead of those of entrepreneurs.

6.2.7 Government policies

Ranked seventh, with 17 responses across the three sample groups, is government policies. It is clear from the results that the ease of doing business in South Africa is poor. Whilst it is evident that government is supportive of entrepreneurs and incubators, execution is poor. There is also evidence that government legislation favours corporates over entrepreneurs. Large amounts of government funding is available but agencies are incapable of disbursing the funds effectively and many new ventures suffer as a result. Buys & Mbewana (2007) argue that the effectiveness of entrepreneurial services is largely dependent on government policy. However, these results suggest that entrepreneurial services and specifically incubators are successful in spite of ineffective government policy. Although government has acknowledged the fact that economic growth is linked to entrepreneurship (Government, 2015a), inadequate capability and execution is preventing the benefits from being realised. Interestingly, most government money is given to BBBEE candidates where often they are not the best option. Non-BEE candidates who are better positioned to be successful may very well create more jobs for disadvantaged people but are prevented from doing so.

6.2.8 Networking among entrepreneurs

Networking amongst entrepreneurs and new ventures was ranked tie seventh with 17 responses across the three sample groups. The results show that networking between entrepreneurs has a powerful positive effect. This speaks to work by Bollingtoft (2012), Hansen et al. (2000), Lyons (2000) who believe that networking among entrepreneurs is one of the most valuable factors of an effective incubator.

Collaboration often results in referrals, access to markets and leads as well as breeding creativity, helping to identify new business creation. Entrepreneurs transfer knowledge through stories of success and failure and provide each other with

emotional support. Bollingtoft (2012) supports these results by stating that the incubator environment is conducive to cross-pollination of ideas, knowledge and networking.

It is evident that entrepreneurs do not always collaborate, the main reason being that they are focused on their own businesses. Evidence suggests that partnering with fellow entrepreneurs as clients or suppliers has been both successful and unsuccessful.

6.2.9 Shared infrastructure

Also tied seventh with 17 responses across all three sample groups is shared infrastructure. Free or subsidised rental allows new ventures to stay in business for longer and increases their chance of survival at the critical early stage. A combination of formal and informal meeting spaces are ideal to allow for collaboration and privacy when needed. The physical address and infrastructure is helpful in building credibility with clients and therefore securing business.

In support of these results one must refer back to the work done by Chan & Lau (2005), who identified rental subsidies and shared resources as the most critical components of business incubation. This concept is further supported by Bruneel et al. (2012) who expressed how tenants benefit from economies of scale which reduce tents' overhead costs through sharing of basic business resources. They can then focus on core income generating activities.

6.2.10 Culture

Also ranked seventh with 17 responses across three sample groups is culture. Respondents indicated that culture is an important component of incubator effectiveness. This concept is supported by Hannon (2003), who stated that one of the core processes of incubation is building the community, creating the right environment, culture and networks. The results showed that the ideal culture is relaxed, open and friendly. It encourages collaboration, communication, sharing and networking. This contributes to work from Vanderstraeten & Matthyssens (2012), who highlighted the importance of a "willingness to interact culture" as networking activities will not be productive if there is resistance to engagement.

It is interesting that the culture unlocks other important components such as networking among entrepreneurs. If the culture is closed then networking will be affected

negatively. This speaks to work from Ahmad (2014) who found that the environment of an incubator is often interspersed with power struggles, shifting coalitions, self-interest, secrecy and even lying. Ahmad (2014, p.380) went on to state: “The role of incubators is then to create a collaborative culture by reducing political rivalries and self-interest”. This is aligned with results that show that an inherently optimistic, solution driven, learning culture is conducive to new venture success. .

6.2.11 Selection criteria

Selection criteria is ranked eighth with 16 responses across all three sample groups and respondents indicated that it is a critical factor in incubator success. This concept is supported by Aerts et al. (2007), Lee and Osteryoung (2004) and Lumpkin and Ireland (1988) who argue that appropriate selection criteria are critical factors in terms of business incubation.

Incubator managers and stakeholders analyse a number of criteria when assessing the suitability of a new venture. The new venture’s business model is a key factor in the selection process. It must ideally be scalable, innovative and differentiated from competitors. In addition the model must be free of potential barriers such as extremely large capital expenditure. In terms of the idea-focused approach, in order for incubator managers to assess feasibility of ideas, they must have experience of calculating potential profits that can be generated, evaluating market product fit and have access to information relevant to the particular technologies being employed.

The results show that the entrepreneur and composition of the venture team is critical in the selection process. Ideally the team will have a combination of market and industry experience and a good understanding of their product, and be honest and coachable. Interestingly it is evident that candidates with entrepreneurial experience and character are seen to have a better chance of success than those with only technical skill. This speaks to taking an entrepreneur-focused approach proposed by Bergek & Norrman (2008). For the entrepreneur-focused approach, the ability to evaluate personality as well as entrepreneurial experience, skills and motivation is required.

The results highlighted the importance of new ventures being aligned with the incubator’s strategic objectives. Kuratko & LaFollette (1987) supported this view by stating that business incubators’ selection criteria and exit policies should be aligned with their objectives. In contrast to this Ahmad (2014) argues that due to significant

differences that exist between incubators, new ventures and target markets served, using selection criteria based on the potential and alignment of a venture proposition to incubator strategy can be problematic.

It is evident from the results that the selection process is challenging for management and requires particular experience and skill set. This is echoed by Bergek & Norrman (2008) who believe that the task of identifying firms that are “weak but promising”, while avoiding those that cannot be helped or have no need for support is a challenge that requires ‘‘a sophisticated understanding of the market and the process of new venture formation’’. (Hackett & Dilts, 2004b, p.61)

6.2.12 Access to markets

Ranked ninth with eight responses across the three sample groups is access to markets. Whilst this component forms part of networking, it is significant enough to be shown separately. Some respondents stated that access to markets is one of the most important components of incubator effectiveness due to the fact that it gives access to corporates, clients and supply chains that may not be accessible to entrepreneurs outside the incubator. Results show that many incubators are using the incorrect approach. They are focusing on getting entrepreneurs funding ready when they should be getting them market ready and purchase order ready. This means that incubators should support entrepreneurs until they secure a purchase order and deliver on the purchase order. Corporate investors should do the same. It is evident that corporates support new ventures as a tick box exercise and do not integrate them into their supply chain or secure purchase orders with clients. This result contributes to work by Scillitoe & Chakrabarti (2010a) and Lyons (2000) who highlighted the importance of facilitating access to markets.

6.2.13 Access to university and technology resources and expertise

Access to university and technology resources and expertise ranked tenth with seven responses across all three sample groups. The results were split regarding this component. Some respondents stated that they were successful in spite of not having close ties with universities or technology facilities, while other incubators had very close relationships with these types of facilities and emphasised their importance. Some respondents expressed that it is important to develop a body of knowledge which research institutions such as universities can facilitate. Other respondents spoke to the value of access to technology such as 3D printing for quick prototyping. Quick

prototype development is an enabler for lean techniques used to validate a value proposition in the market quickly and get customer feedback.

Work from Buys & Mbewana (2007) is supportive of the above concept, however results show that incubators are successfully in spite of not having close ties with science or technology institutions. Soetanto & Jack (2013) support the view of some respondents that close proximity to a university allows the easy exchange of experiences, information and knowledge. This is particularly evident at Stellenbosch University in the Cape. Furthermore, results show that the combination of innovation from universities such as Stellenbosch and availability of funding is conducive to a "Silicon Valley" type of environment.

6.2.14 Competent and motivated management

Competent and motivated management was ranked tie tenth with seven responses across all three sample groups. Interestingly, having passion was expressed as an important attribute of incubator management. It is evident that being passionate about entrepreneurship and helping people to be successful is an important for all parties involved, as the entrepreneurial ecosystem can be a tough and lonely environment. The results show that managers with entrepreneurial experience carry more weight than those that don't. Entrepreneurs value the opinions of managers that have more entrepreneurial experience than them. To a lesser extent results show that competency is important.

This concept is well supported by Buys & Mbewana (2007) who are of the opinion that the success of business incubators is largely dependent on the knowledge, skills, experience and networks of the management team. The results contribute to this work by suggesting that entrepreneurial knowledge and skills are of particular value. This component is linked strongly to business support and networking as the management team plays an important role in these highly ranked factors.

6.2.15 Business support – access to resources

Ranked eleventh with six responses across all three sample groups is business resources. All respondents indicated that having access to various types of resources are crucial to overcoming challenges and freeing up the entrepreneur to concentrate on revenue generating activities. Results show that types of resources that are popular are legal support, actuarial help, graphic design facilities, accounting and marketing expertise and access to 3D printing resources for prototyping.

This result is aligned with work by Grimaldi & Grandi (2005) and Rice (2002), who stated that a key role of an incubator is to provide much needed resources. The concept of freeing up the entrepreneur speaks to research by McAdam & Marlow (2007), who argue that the incubator seeks to release the potential of the entrepreneur through providing complementary services that promote and support them when the venture is most at risk of market uncertainty. The results reveal that entrepreneurs utilise a mix of business assistance and technical asssitance, as analysed by Scillitoe & Chakrabarti (2010a).

6.2.16 Geographic location

Ranked tie eleventh, with six responses across all three sample groups, is location. Respondents indicated that an incubator in a central location, close to transport links, allows ease of engagement and networking with multiple stakeholders. Results show that geography contributes significantly to the effectiveness of an incubator. This has been shown to be the case in Silicon Valley. In South Africa, a location such as Stellenbosch which has a mix of innovation and availability of funding creates a prosperous entrepreneurial ecosystem with a hotbed of new ventures. The area of geographic location was not strongly supported in the literature presented in Chapter 2 and could perhaps be an area of future investigation.

6.2.17 Conclusion for research question one

In summary the predominant components driving business incubator effectiveness include:

- An incubator manager who is highly networked, with entrepreneurial experience, emotional intelligence (EQ), business acumen, empathy, interpersonal skills, communication skills and passion.
- A well-structured coaching programme on foundational business concepts, value proposition and business model development, lean concepts, pitching and execution
- Multiple mentors chosen strategically to suit the new venture, who are seasoned entrepreneurs with excellent soft skills who are willing to commit long-term
- The ability of new ventures to get funding ready, access the type of funding that is best suited to the new venture and the ability to unlock funding from investors

- Quality of entrepreneurs, which includes individual work ethic and motivation, ability to execute, entrepreneurial experience, and a well-balanced team with technical skill related to the new venture that is coachable and adaptable.
- External networking which provides access to markets, corporates, customers and opportunities
- Supportive government policies
- Networking among entrepreneurs, which includes collaboration, knowledge transfer, access to market and new business creation
- Shared infrastructure that is subsidised, in an environment that contributes to credibility and with formal and informal meeting spaces
- A culture that is optimistic, solution driven, open, friendly and that encourages collaboration, learning and networking
- Stringent selection process that evaluates the new ventures business model, team makeup and alignment with strategic objectives of the incubator
- Access to markets, including getting firms market ready and purchase order ready
- Access to science and technology expertise, including universities
- Competent and motivated management with some entrepreneurial experience, networking skills and true passion to help entrepreneurs
- Access to business resources that free up the entrepreneur to work on revenue generating activities
- Geographic location ideally situated close to a university, close to transport links and in an area with wealthy entrepreneurial individuals.

6.3 Research question two

The objective of research question two is to establish whether differences exist in perceptions between incubator managers, tenants and key stakeholders with regards to business incubator effectiveness.

Table 19: Components of incubator effectiveness ranked and ordered by sample group

Rank	Entrepreneur	Rank	Incubator Managers	Rank	Stakeholders
1	Personality and skills of the incubator manager	1	Personality and skills of the incubator manager	1	Personality and skills of the incubator manager
2	Business Support - Coaching	2	Business Support - Coaching	2	Business Support - Coaching
3	External Networking	3	Quality of Entrepreneurs	3	Access to funding
4	Mentorship	4	Access to funding	4	Mentorship

5	Networking among Entrepreneurs	5	Mentorship	5	Quality of Entrepreneurs
6	Shared Infrastructure	6	Selection Process	6	Selection Process
7	Culture	7	External Networking	7	Government policies
8	Access to funding	8	Government policies	8	Networking among Entrepreneurs
9	Government policies	9	Networking among Entrepreneurs	9	Culture
10	Access to Markets	10	Shared Infrastructure	10	External Networking
11	Business Support - Resources	11	Culture	11	Shared Infrastructure
12	Quality of Entrepreneurs	12	Access to university and technology resources and expertise	12	Access to Markets
13	Competent and motivated management	13	Competent and motivated management	13	Location
14	Selection Process	14	Access to Markets	14	Access to university and technology resources and expertise
15	Access to university and technology resources and expertise	15	Business Support - Resources	15	Competent and motivated management
16	Location	16	Location	16	Business Support - Resources

6.3.1 The incubator manager

The personality and skills of the incubator manager ranked first by entrepreneurs, incubator managers and stakeholders. In terms of the incubator manager, all three sample groups ranked being highly networked first, showing strong agreement in this area. In Table 21 (Appendix 2) the results show that having deep passion to help entrepreneurs was highly rated by entrepreneurs, but not by incubator managers and stakeholders. This attribute can potentially be added to the requirements when recruiting incubator staff. Interestingly, emotional intelligence (EQ), interpersonal skills, conflict resolution, communication, being adaptable and the ability to build relationships with diverse people are rated highly by incubator managers and stakeholders, but did not appear in the results from entrepreneurs. Being a natural servant leader and acting with authority is key for stakeholders but did appear in the results for entrepreneurs and incubator managers. Incubator managers were concerned with building an investment pipeline for the incubator while predictably this did not feature in the other two groups. Entrepreneurs found the ability to motivate and negotiation skills particularly helpful. This suggests that activities to help motivate entrepreneurs can increase incubator effectiveness. Lastly, entrepreneurs placed importance on the incubator manager being

able to guide and give strategic direction to a new venture. Incubator managers and stakeholders did not rank this component as highly, suggesting that they must continue to provide this support.

6.3.2 Business support - coaching

Results from Table 22 (Appendix 2) show that foundational business training and support was ranked number one across all three sample groups, confirming its significance. Ranked second by all three groups was construction of a viable value proposition and business model that is focused on the customer, as well as the use of lean techniques such as lean start-up methodology, business model canvas, human-centred design and design thinking. Pitch training is seen as important by entrepreneurs and stakeholders but not by incubator managers, suggesting a potential training gap. Entrepreneurs and stakeholders consider having a structured training programme, including weakness identification and strict deliver timelines as more important than incubator managers. The results show that stakeholders believe there is a need for much training, namely in support to get new ventures “funding ready”, revenue model development, entrepreneurial training, weakness identification, selling a product, building a business around a product and focusing on core competencies. The data shows that incubator managers stressed the importance of media training, having reactive training based on needs versus the accelerator model, and following a data-driven approach. Components considered key by entrepreneurs include training on how to execute and having access to on-demand international training modules. Furthermore, entrepreneurs did not see the value in high-level master class sessions and fifteen minute sessions with corporate sponsors. Incubator managers may consider tailoring their program based on these learnings

6.3.3 Mentorship

Results from Table 23 (Appendix 2) show that a mentor with entrepreneurial experience, including commercialisation, taking an emerging technology or new product to market ranked first, first and second for incubator managers, stakeholders and entrepreneurs respectively. Being highly networked and providing long-term commitment is also ranked highly by all three groups. Interestingly, choosing mentors strategically to suit the venture and having soft skills were ranked by both entrepreneurs and stakeholders but not considered by incubator managers. Stakeholders raised the importance of a mentor not only being a leader in their chosen field, but actively working in the industry so as to stay on top of the latest trends and

methodologies. Furthermore, stakeholders believe that mentors should be measured on the new venture performance to incentivise them. Incubator managers felt that mentors should be both approachable and relatable. Having multiple mentors ranked top for entrepreneurs, bottom for incubator managers and did not appear in results for stakeholders.

6.3.4 Access to funding

Results from Table 24 (Appendix 2) show that getting access to funding for survival and growth is ranked highest by entrepreneurs and incubator managers. Stakeholders ranked getting new ventures to a position where they are funding ready highest, in contrast to entrepreneurs and incubator managers, who ranked this factor near the bottom. The data shows that both incubator managers and stakeholders consider the lack of early stage funding in South Africa to be a problem, however this did not appear in the results from entrepreneurs. Interestingly, all three groups believe that there is poor alignment between types of funding and ventures. Thus, it is essential to understand the funding landscape and process in South Africa so that more suitable matches are made. Results show that incubator managers and stakeholders consider poor competency and capability in government funding agencies to be a problem, as well as the ability of entrepreneurs to unlock funding. This suggests a gap for entrepreneurs, where if filled, could help to solve their funding needs.

6.3.5 Quality of entrepreneurs

The results from Table 25 (Appendix 2) show that the entrepreneurs' work ethic, self-motivation and determination rank first for all three groups. Interestingly, entrepreneurs rank poor execution as equally important, while stakeholders and incubator managers rank execution as first and second respectively. Incubator managers and stakeholders agree that having entrepreneurial experience, thinking and character are essential to success. However, this factor does not appear in results for entrepreneurs. This suggests that there is a mismatch between the skills and experience that entrepreneurs believe they have versus the reality. The data shows that stakeholders consider having a balanced team that is coachable, and adaptable in both business, technical and leadership skills, to be key. Incubator managers however believe that older, more experienced individuals with a degree of some sort and a skill that is relevant to the new venture tend to be more successful.

6.3.6 External networking

Results from Table 26 (Appendix 2) show that access to markets, corporates, new customers and opportunities are ranked the highest by all three sample groups. Knowledge sharing was ranked by entrepreneurs and stakeholders but not incubator managers.

6.3.7 Government policies

The results from Table 27 (Appendix 2) show that opinions are split regarding whether government policies are supportive of incubators and entrepreneurs. Both entrepreneurs and incubator managers believe that setting up a business is difficult and expensive and government regulation supports corporates over entrepreneurs. Conversely, stakeholders believe that setting up a business is straightforward and government has to create an enabling environment. The results show that incubator managers and stakeholders believe government is willing but unable to execute and provision of funding takes far too long. These results did not appear for entrepreneurs.

6.3.8 Networking among entrepreneurs

In Table 28 (Appendix 2) the results show that collaboration, knowledge transfer, access to markets, new business creation are seen as critical benefits of networking among entrepreneurs by all three groups. It is evident that entrepreneurs and stakeholders believe there is not much collaboration between entrepreneurs due to competitiveness and focus on their own business, however incubator managers did not mention this. Interestingly, incubator managers argue that entrepreneurs can offer services to each other where it makes sense. In contrast, entrepreneurs do not believe it is a good idea to partner with other entrepreneurs due to the risk of early stage uncertainty.

6.3.9 Shared infrastructure

Results from Table 29 (Appendix 2) show that subsidised infrastructure is ranked highest by all three groups. Stakeholders considered a combination of formal and informal meeting spaces to be important, but this did not appear in results for entrepreneurs and incubator managers. Entrepreneurs found value in having a physical address that provides credibility and a space to encourage creativity while the other two groups did not mention this.

6.3.10 Culture

The results from Table 30 (Appendix 2) show that all three groups consider having an open, friendly and collaborative culture as essential for success. Incubator managers and stakeholders rank belonging to a community, having ownership and something you can resonate with as important. Entrepreneurs ranked having an optimistic, solution driven, encourage to fail, curiosity and willingness to learn, and work hard play hard culture as key to success. This did not appear in results for the other two groups. Being in a creative culture was considered y entrepreneurs and stakeholders as important.

6.3.11 Selection criteria

The results from Table 31 (Appendix 2) show that both incubator managers and stakeholders rank a scalable, differentiated and innovative business model as the number one selection criteria. Ranked second by the same groups is having a balanced team that is both coachable and adaptable. Interestingly, stakeholders believe that having entrepreneurial character and flair is critical, while this concept did not appear in the results of the remaining two groups.

6.3.12 Access to markets

From Table 32 (Appendix 2) it can be seen that all three groups rank access to markets as a vital component including access to corporates, clients and supply chains. Incubator managers and stakeholders stressed the importance of new ventures being market ready and purchase order ready, while this concept did not appear in the results for entrepreneurs suggesting a knowledge gap.

6.3.13 Access to university and technology resources and expertise

The results from Table 33 (Appendix 2) show a split in opinions regarding the value of having access to university and technology resources and expertise. This suggests that some incubators and new ventures are successful in spite of not having close ties with science expertise and universities, however others have benefited greatly from a close relationship.

6.3.14 Competent and motivated management

The results from Table 34 (Appendix 2) show that all three groups ranked having motivated, passionate management with entrepreneurial experience as important. Incubator managers and stakeholders considered competency to be important, while

incubator managers felt that management must be focused on the strategic objectives of the incubator.

6.3.15 Business support – Access to resources

The results from Table 35 (Appendix 2) show that all three groups believe that having access to resources is crucial to overcoming challenges and freeing up the entrepreneur to concentrate on revenue generating activities.

6.3.16 Geographic location

The results from Table 36 (Appendix 2) show that all three groups found being close to urban areas and transport links as important. Stakeholders believe that geographic location in terms of being in a part of the country that is innovative and wealthy is essential to success.

6.3.17 Conclusion for research question two

In summary, the key differences in perspectives between entrepreneurs, incubator managers and stakeholders were the following:

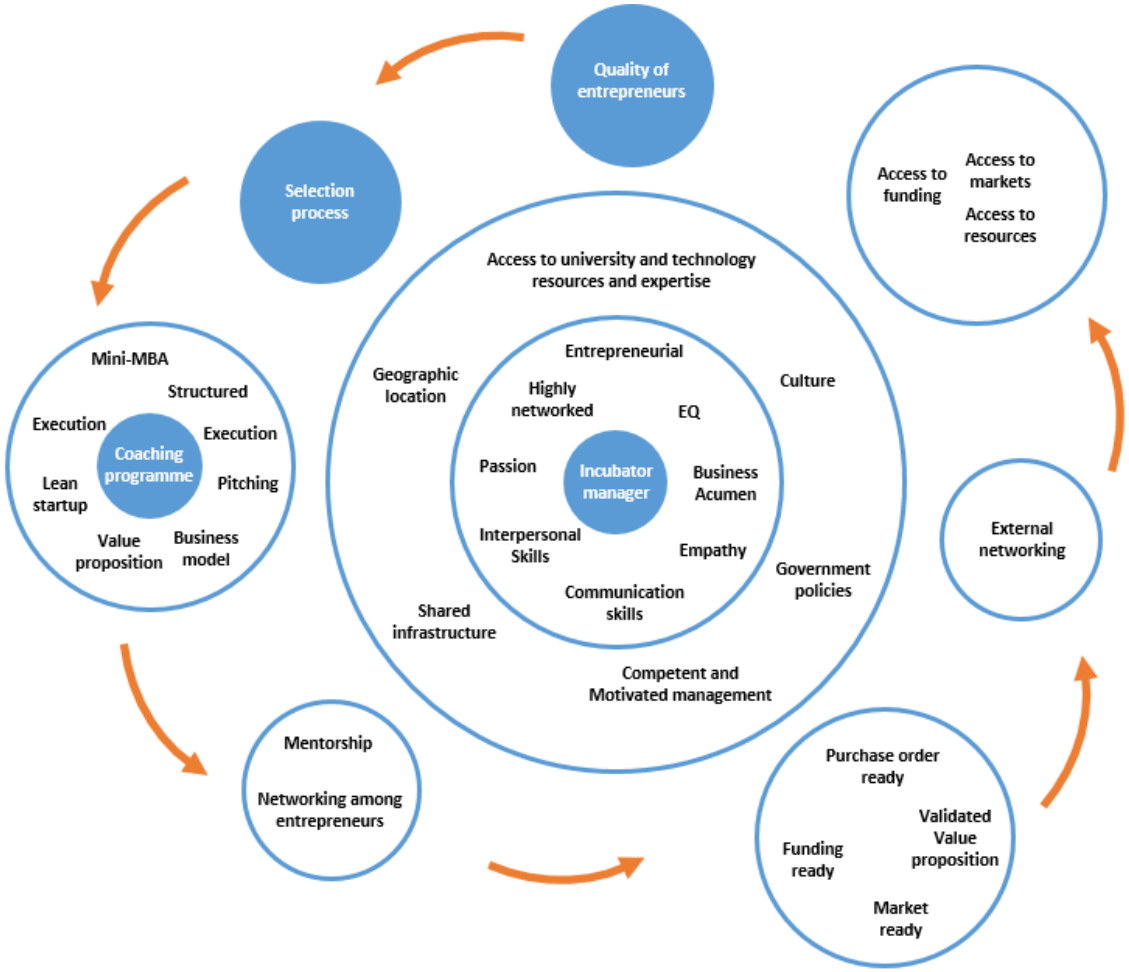
- Having deep passion to help entrepreneurs was highly rated by entrepreneurs
- Emotional intelligence, interpersonal skills, conflict resolution, communication, being adaptable and the ability to build relationships with diverse people are rated highly by incubator managers
- Being a natural servant leader and acting with authority is key for stakeholders
- Incubator managers were concerned with building an investment pipeline for the incubator
- Entrepreneurs found the ability to motivate and negotiation skills as particularly helpful
- Ability for the incubator manager to guide and give strategic direction to a new venture
- Stakeholders believe there is a need for a number of trainings, namely support to get new ventures “funding ready”, revenue model development, entrepreneurial training, weakness identification, selling a product, building a business around a product and focusing on core competencies
- Entrepreneurs consider training on how to execute on plans as key
- Choosing mentors strategically to suit the venture and having soft skills were ranked by both entrepreneurs and stakeholders

- Stakeholders raised the importance of a mentor not only being a leader in their chosen field but actively working in the industry so as to stay on top of the latest trends and methodologies
- Stakeholders believe that mentors should be measured on the new venture performance to incentivise them
- Incubator managers felt that mentors should be both approachable and relatable. Having multiple mentors ranked top for entrepreneurs
- Stakeholders ranked getting new ventures to a position where they are funding ready highest
- Both incubator managers and stakeholders consider the lack of early stage funding in South Africa to be a problem
- Incubator managers and stakeholders consider poor competency and capability in government funding agencies to be a problem, as well as the ability of entrepreneurs to unlock funding
- Incubator managers and stakeholders agree that having entrepreneurial experience, the ability to think and a strong character are essential to success
- Stakeholders consider having a balanced team that is coachable, adaptable with both business, technical and leadership skills to be key
- Incubator managers believe that older, more experienced individuals with a degree of some sort and a skill that is relatable to the new venture tend to be more successful
- Incubator managers and stakeholders believe government is willing but unable to execute and provision of funding takes far too long
- Entrepreneurs and stakeholders believe there is not much collaboration between entrepreneurs due to competitiveness and focus on their own business
- Incubator managers argue that entrepreneurs can offer services to each other where it makes sense
- Entrepreneurs ranked having a culture that is optimistic, solution driven, where you are encouraged to fail, there is curiosity and a willingness to learn, as well as working and playing hard, as key to success
- Incubator managers and stakeholders rank a scalable, differentiated and innovative business model as the number one selection criterion, as well as having a balanced team that is both coachable and adaptable.
- Incubator managers and stakeholders stressed the importance of new ventures being market ready and purchase order ready

- Opinions are split regarding the value of having access to university and technology resources and expertise
- Regarding incubator management, incubator managers and stakeholders considered competency to be important, while incubator managers felt that management must be focused on the strategic objectives of the incubator
- Stakeholders believe that geographic location in terms of being in a part of the country that is innovative and wealthy is essential to success.

6.4 The conceptual model of business incubation

Figure 6: The conceptual model of incubator effectiveness



Source: Authors own

The conceptual model of incubator effectiveness integrates the results of the research process to demonstrate the 16 key components that drive incubator effectiveness discussed in Chapter 6. In addition, it gives insight into the components themselves.

The model begins with the quality of entrepreneurs. Those that are most successful should display an individual work ethic and motivation, the ability to execute plans, have entrepreneurial experience. This feeds into a stringent selection process where only the most suitable entrepreneurs and ideas are selected.

Once the entrepreneurs are selected they enter into a well-structured coaching programme consisting of foundational business concepts, value proposition and business model development, lean concepts, pitching and execution training. This enhanced by the next module which includes mentorship and networking among entrepreneurs, where entrepreneurs gain personal growth, industry knowledge, emotional support and idea generation. Through input from coaching and mentorship the new venture will not only be funding ready, but will have a market validated proposition, be ready to go to market and most importantly be purchase order ready.

Once the new venture starts gaining traction the incubator manager facilitates access to networks which leads to access to funding, resources and markets.

Chapter 7: Conclusion

7.1 Introduction

Chapter 6 presented a comprehensive discussion of the results that emerged from the research study. Chapter 7 concludes the study by summarising the principal findings, highlighting implications for management and finally, recommendations for future research are discussed.

7.2 Principal findings

The purpose of this study was to explore the components that drive incubator effectiveness and to identify differences in perceptions between incubator managers, tenants and key stakeholders. The study combines the foundation literature presented in Chapter 2 and integrates the findings into a model depicting the components that drive incubator effectiveness.

7.2.1 Components of business incubator effectiveness

A number of key themes that emerged from the research findings presented in Chapter six are consistent with existing theory, however this study contributes to the existing literature of business incubators in the following ways. The first contribution relates to the components of business incubator effectiveness. This research builds onto and adds depth to the literature presented thus far. The specific components and sub-components that add to existing theory include:

- An incubator manager who is highly networked, with entrepreneurial experience, emotional intelligence (EQ), business acumen, empathy, interpersonal skills, communication skills and passion.
- A well-structured coaching programme consisting of foundational business concepts, value proposition and business model development, lean concepts, pitching and execution training.
- Multiple mentors chosen strategically to suit the specific venture, who are seasoned entrepreneurs with excellent soft shills and willingness to commit long-term

- The ability of new ventures to get funding ready, access the type of funding that is best suited to the new venture and the ability to unlock funding from investors.
- Entrepreneurs who display an individual work ethic and motivation, the ability to execute plans, and ideally have entrepreneurial experience. This includes a well-balanced team with technical skill related to the new venture that is coachable and adaptable.
- Networking among entrepreneurs, which includes collaboration, knowledge transfer, access to market and new business creation.
- A culture that is optimistic, solution driven, open, friendly and that encourages collaboration, learning and networking.
- Access to markets including getting firms market ready and purchase order ready.
- Geographic location ideally situated close to a university, close to transport links and in an area with wealthy entrepreneurial individuals.

7.2.2 Differences in perceptions

The second contribution relates to research question two which seeks to explore differences in perceptions between incubator managers, tenants and key stakeholders with regards to business incubator effectiveness. The key differences were as follows:

7.2.2.1 Entrepreneurs

With regards to the incubator manager, entrepreneurs emphasised the importance of having deep passion to help entrepreneurs, the ability to motivate and the ability to guide and give strategic direction to a new venture. Entrepreneurs ranked having an optimistic, solution driven, encourage to fail, curiosity and willingness to learn, and work hard play hard culture as key to success. From a personal development perspective they ranked training on how to execute as crucial to success.

7.2.2.2 Incubator managers

In terms of their own abilities, incubator managers believe that emotional intelligence (EQ), interpersonal skills, conflict resolution, communication, being adaptable and the ability to build relationships with diverse people is extremely important. Incubator managers are focused on building an investment pipeline to ensure sustainability of the incubator and they find that that older, more experienced individuals with a degree of

some sort and a skill that is relatable to the new venture tend to be more successful. Furthermore, they feel that mentors should be both approachable and relatable.

7.2.2.3 Stakeholders

Stakeholders believe that getting new ventures to a point where they are “funding ready” is crucial to the process. In addition new ventures require help for revenue model development, entrepreneurial training, weakness identification, product sales, building a business around a product and focusing on core competencies. Stakeholders consider having a balanced team that is coachable, adaptable with both business, technical and leadership skills to be key. They also believe that geographic location in terms of being in a part of the country that is innovative and wealthy is essential to success. In terms of personal attributes of an incubator manager, stakeholders believe that being a natural servant leader is important.

7.2.2.4 Incubator managers and stakeholders

Both incubator managers and stakeholders consider the lack of early stage funding in South Africa, poor competency and capability in government funding agencies, as well as the ability of entrepreneurs to unlock funding to be a problem in South Africa. In terms of entrepreneurs, incubator managers and stakeholders agree that having entrepreneurial experience and a strong character are essential to success, as is having a balanced team that is both coachable and adaptable. In addition, new ventures must be market ready and purchase order ready before graduating from the incubator. In terms of business ideas, it is evident that having a scalable, differentiated and innovative business model as a crucial component of selection criteria.

7.3 Implications for management

For incubators to be effective in terms of helping new ventures to be successful, investors and management of incubators must have a deep understanding of the core components that drive incubator effectiveness. In addition, having an understanding of the differences in perceptions between incubator managers, tenants and key stakeholders with regards to business incubator effectiveness will help business incubators to align tailor their offering to the needs of tenants and stakeholders. This improved value proposition would lead to greater success for all involved.

Using the framework management will be able to create an environment and culture that is conducive to entrepreneurial success. Investors have the blueprint needed to

hire quality incubator managers with the right personality and skill set to drive excellence. Understanding of the key components of incubator effectiveness will not only allow managers to develop effective training programmes with the right mix of content and structure, but provide a roadmap to take entrepreneurs to a state of being purchase order ready. In light of the fact that geographic location is important to incubator success, potential investors are able to make better decisions of the location of a new incubator.

7.4 Research limitations

- Interpretation of qualitative information is typically judgmental, and could therefore be subject to interpreter bias.
- The researcher's own perspective, assumptions and interpretations may influence the data analysis process
- The research findings are hugely dependent on the validity and quality of data generated by participants during the in-depth interviews including the interview questions, sequencing and procedure.
- The use of non-probability judgemental, convenience and snowball sampling cannot be assumed to represent the entire population (Saunders & Lewis, 2012).
- Given that all the participant in this research reside in either Johannesburg, Cape Town or Stellenbosch, the findings cannot be assumed to be relevant to other counties or geographic locations.

7.5 Suggestions for future research

During the study, several opportunities for future research presented themselves. There is an opportunity to explore each core component in more detail as well as to explore themes that do not fit in the incubator effectiveness model.

The areas for further research are suggested below:

- In terms of attributes of the incubator manager, explore the extent to which networking, entrepreneurial experience, emotional intelligence (EQ), business acumen, empathy, interpersonal skills, communication skills and passion contribute to the success of entrepreneurs and new ventures.
- Develop a comprehensive incubation coaching framework that allows evaluation of current coaching models and presents best practice.

- Evaluate the extent to which lean start-up methodologies contribute to the success of new ventures within the incubator ecosystem in South Africa.
- Explore the funding landscape in South Africa and examine the reasons for a lack of seed funding and mismatch between the types of funding and new ventures.
- Further investigate the phenomenon of new ventures not being funding and purchase order ready, and identify what is needed to get them there.
- Research the extent to which corporates in South Africa are investing in new ventures as a “tick-box” exercise versus integrating them into their supply chains and securing purchase orders

7.6 Conclusion

This study has contributed to the body of research around the components that drive business incubator effectiveness by furthering existing understanding of the components. The findings have given a more detailed perspective on what components drive incubator effectiveness in the current entrepreneurial ecosystem in South Africa. Furthermore, it reveals differences in perspectives between entrepreneurs, incubator managers and stakeholders. The de factor model presents a framework that can be used by stakeholders and incubator managers to construct a successful incubator.

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Appendices

Appendix 1: List of respondents

Table 20: List of respondents

Identifier	Category	Role
Entrepreneur_1	Entrepreneur	Entrepreneur
Entrepreneur_2	Entrepreneur	Entrepreneur
Entrepreneur_3	Entrepreneur	Entrepreneur
Entrepreneur_4	Entrepreneur	Entrepreneur
Entrepreneur_5	Entrepreneur	Entrepreneur
Manager_1	Incubator Manager	Incubator Manager
Manager_2	Incubator Manager	Incubator Manager
Manager_3	Incubator Manager	Incubator Head
Manager_4	Incubator Manager	Incubator Manager
Stakeholder_1	Stakeholder	Co-Vice Chairperson & Head of Stakeholder Relations
Stakeholder_2	Stakeholder	CEO
Stakeholder_3	Stakeholder	Specialist: Innovation Strategy
Stakeholder_4	Stakeholder	MD
Stakeholder_5	Stakeholder	Enterprise Development Manager
Stakeholder_6	Stakeholder	Officer Opportunity
Stakeholder_7	Stakeholder	Co-founder

Appendix 2: Results from interview questions ranked and ordered per sample group

Table 21: Rank ordered and frequency count for personality and skills of the incubator manager

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
1	Highly networked in the ecosystem with valuable contacts Extroverted personality	4	1	Networking Facilitate access to funding through connections	4	1	Networking Build partnerships Ability to identify connections and engage Collaboration with other spaces and programmes	5
2	Altruistic. Passion to help entrepreneurs	3	1	Communication and interpersonal skills, relationship building with diverse people Helping to engage corporates Conflict resolution	4	1	Entrepreneurial experience and character Entrepreneurs are recruited and shaped by IM	5
3	Entrepreneurial experience is helpful Incubator managers that are too textbook do not get as much respect from entrepreneurs versus those that have start-up experience	2	2	Practical experience working for a small business or starting a business	2	2	Empathy Emotional support	3

3	General business acumen and understanding of financial statements	2	2	General business acumen Preparing financials	2	2	Should have a deep understanding of the tenants' businesses and abilities so they can facilitate and make meaningful introductions Understand where entrepreneurs need assistance and identify opportunities	3
3	Be able to guide and advise Ability to give strategic advice and direction to entrepreneurs	2	2	Adaptable	2	3	EQ Interpersonal skills	2
4	Have empathy and be approachable and listen	1	3	Passion for helping entrepreneurs	1	3	Basic business skills such as accounting. Legal, marketing, modelling Review business model	2
4	Organised	1	3	Guidance and advice for entrepreneurs	1	3	Ability to deal with diverse people Adaptable	2
4	Ability to identify weaknesses	1	3	Emotional support for entrepreneurs. Empathy	1	3	General admin such as managing mentors, reviewing reports Project/programme manager skills	2
4	Ability to motivate	1	3	Operations: Building operational systems and processes Admin and back-office support	1	3	Be a natural servant leader Leader - speak in front of people with authority	2
4	Negotiation skills	1	3	Building an investment pipeline	1	4	Passion for entrepreneurs. Selfless	1
			3	Content production	1	4	Strategic	1
						4	Set the culture	1

Table 22: Rank ordered and frequency count for business support - coaching

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
1	Foundational business training and support: Financial training, operation, actuarial, sales & marketing, legal	5	1	Foundational business training: Financial training, operation, actuarial, sales & marketing For an early stage business a "mini-MBA" type course can be valuable as it exposes entrepreneurs to many different area of business. Training based on leading theory that is relevant to a specific business	4	1	Foundational business training and support: Financial training, operations, actuarial, sales & marketing, legal, compliance Basics: Setting up a business, how to incorporate	5
2	Training on how to get your product out to the market quickly and iterate. Training to engage customers and validate market	3	2	Construction of a viable value proposition and business model that is focused on the customer as opposed to writing a long business plan. The use of lean techniques such as lean start-up methodology, business model canvas, human-centred design and design thinking. Customer-centric approach. Product market fit	3	2	Constructing your value proposition and understanding your market. Shaping an idea; market validation	3
3	Pitch training was really valuable	2	3	Media training	1	3	Pitching and packaging	1

3	A structured programme run by start-up experts. It helped identify strengths and weaknesses of the business and set strategic direction	2	3	Training should be more reactive based on needs versus accelerator structured model	1	3	There should be a structured program in place with stage gates and timelines to push entrepreneurs A structured program that is tailored to the entrepreneurs is more effective	1
3	Training on how to execute is valuable	2	3	In order for training to be effective, the entrepreneur must not only understand it, but appreciate the value behind it and be able to execute consistently.	1	3	Educational events	1
4	It was helpful to have access to on-demand training modules created by Silicon Valley incubators	1	3	Businesses need to develop a data-driven approach which can be used to make strategic decisions going forward	1	3	Support to get a new venture funding ready	1
4	High level masterclass sessions where not valuable because you needed more time to really understand the subject and apply it. 15 minute sessions with corporate sponsors a waste of time	1	3	Best to follow a structured approach where entrepreneurs are exposed to only the concepts they need at the time.	1	3	Revenue model development	1
						3	Teaching people to be more entrepreneurial	1
						3	Identifying weaknesses and working on to strengthen them	1
						3	Many entrepreneurs are great at building the product but poor around selling it and building a business around it	1

						3	Teaching entrepreneurs to focus on their core competency	1

Table 23: Rank ordered and frequency count for mentorship

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
	Having multiple mentors is valuable	2		Entrepreneurial experience. Peer to peer mentorship. Someone on start-up journey. High level of technical skills and understanding of the broader landscape	3		Experience in business, commercialisation. Taking an emerging technology or new product to market Running their own business. Deal making building a business and developing opportunities and value proposition, getting that ready for market and building up a market and capturing a market. Seasoned life experience	4
	Experienced entrepreneur that can share learnings	1		Highly networked	2		Highly networked Access to market to validate value proposition with customers	2
	Access to markets and networks	1		Having multiple mentors is valuable	1		Long-term commitment	1
	Mentors need to give time and attention to entrepreneurs	1		Commitment	1		Quite focused to the need of the entrepreneur at particular point in time.	1
	It is effective to choose mentors strategically for what you need in your business.	1		Approachable and relatable	1		Soft skills, psychologist	1
	Teaching soft skills. Life coaching	1					Project management, delivery focused	1

							Mentors need to be leaders in their field; secondly they need to continue working in the industry to stay in touch with current trends and methods.	1
							Mentors should be measured on the entrepreneurs performance so they have incentive to really want to make it work	1

Table 24: Rank ordered and frequency count for access to funding

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
1	Access to funding is important to get traction and to survive in early stages. It's about covering living expenses	3	1	Access to funding is important. It drives growth	3	1	New ventures require support to get funding ready. National public funding agencies such as TIA and IDC have large funds to invest but the challenge is finding investable businesses	4
2	It is important to get your business to a point where it is fundable	1	2	Government funding agencies do not have the capability or competency to disperse the funds that are needed. The time taken to receive funding is too long for entrepreneurs	2	2	There is generally a lack of private funding in South Africa versus the US. And therefore not enough competition between investors	4
3	There is poor alignment between types of funding and SMEs	1	3	Often SMEs are not funding ready	1	3	Important to understand the fund raising process so that the right opportunity is presented to the right funders at the right time. Investors' expectations are often not aligned with that of entrepreneurs.	2
4			4	Understanding of the funding landscape	1	4	TIA has competency problems but the IDC has a well organised team	1

5			5	A huge gap in the VC space, especially for early stage firms and not enough competition	1	5	You need to know how to play the system to unlock funding	1
6			6	Ability of entrepreneurs to unlock funding	1	6		

Table 25: Rank ordered and frequency count for quality of entrepreneurs

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
1	Drive and self-motivation of the individual	1	1	Bold, stubborn, fearless, tenacious, determined, focused, passion and purpose	3	1	Entrepreneurship is about execution. Fail early and often	2
2	Lots of ideas but poor at execution	1	2	Entrepreneurship is about execution	2	2	Work ethic	1
			3	Technical skill related to business is helpful Skill set that is easily translatable to the new venture	2	3	Entrepreneurial experience - it's more difficult to get a technology person to become an entrepreneur Entrepreneurial character and flair	1
			4	Entrepreneurial thinking and character	1	4	There is a lack of good entrepreneurs	1
			5	There is a lack of good entrepreneurs	1	5	Entrepreneurs need to be coachable	1
			6	Older, more experienced with a degree tend to be more successful	1	6	New venture must have a balanced team with technical skills versus an individual. Team with a combination of technical and operational skills	1
							Leadership skills	1
							Degree is irrelevant	1
							Adaptable	1

Table 26: Rank ordered and frequency count for external networking

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
1	Important for meeting the right people and companies. Access to market and getting customers	5	1	Securing customers Engagement with corporates Access to markets	4	1	Access to markets and community Through networks, you come across new opportunities, new customers, new clients, new suppliers, new partners, potential employers.	6
2	Knowledge sharing	3	2	Help with operations	1	2	Knowledge sharing	1

Table 27: Rank ordered and frequency count for government policies

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
1	Setting up a business is difficult and expensive	3	1	Government regulation supports big corporates versus entrepreneurs	2	1	Setting up a business is straight forward Government has created an enabling environment	2
2	Setting up a business is easy	1	2	GEM report ranks SA 41st in terms of ease of doing business	1	2	Some government funding agencies are organised	2
			3	Enterprise development money then investing start-ups Policies do support entrepreneurs	1	3	The government is pumping a lot of money into the system but there is no pipeline of quality businesses	2
			4	The time it takes to get funding from government agencies is extremely long	1	4	Policies support incubators because government knows that entrepreneurship drives the economy	1
						5	Government is willing but unable to execute A business might die by the time it gets funding	1

Table 28: Rank ordered and frequency count for networking among entrepreneurs

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
1	Collaboration, knowledge transfer, access to markets, new business creation	4	1	Collaboration, knowledge transfer, access to markets, new business creation	2	1	Collaboration, knowledge transfer, access to markets, new business creation	6
2	Poor collaboration between entrepreneurs	1	2	Entrepreneurs can offer services to each other where it makes sense	1	2	Poor collaboration between entrepreneurs	2
3	It is not a good idea to partner with fellow entrepreneurs as clients or suppliers due to the risk of them being an early stage firm	1						

Table 29: Rank ordered and frequency count for shared infrastructure

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
1	Subsidised shared infrastructure such as Wi-Fi, printers, phones, meeting rooms	3	1	Subsidised shared infrastructure such as Wi-Fi, printers, phones, meeting rooms	1	1	Subsidised shared infrastructure such as Wi-Fi, printers, phones, meeting rooms	3
2	Food and drinks	1	2	Food and drinks	1	2	Combination of formal and informal meeting spaces Shared working space	2
3	Creative spaces	1	3	Quality work space and good internet	1	3	Food and drinks	1
4	Physical address and look and feel helps to get deals	1	4					

Table 30: Rank ordered and frequency count for culture

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
1	Open, friendly and relaxed, collaborative environment	2	1	Open, friendly and relaxed, collaborative environment	2	1	Open, friendly and relaxed, collaborative environment	3
2	Optimistic, solution driven, courage to fail, fail fast, curiosity and willingness to learn, creative	2	2	Sense of belonging to a community	1	2	Ownership and a sense of community. Welcoming	3
3	Work hard play hard	1				3	Creative	2
4	Supportive	1						

Table 31: Rank ordered and frequency count for selection process

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
1	Selection criteria is key	1	1	Business model, scalability, differentiated, innovative	2	1	Business model, scalability, differentiated, innovative	3
			2	Team makeup, skills and experience	2	2	Coachable team Honesty	2
			3	Venture is aligned with strategic objectives of the incubator	1	3	Entrepreneurial character or flair	2
			4	Must be black-owned	1	4	Strategic alignment	1
			5	Can afford rent	1			

Table 32: Rank ordered and frequency count for access to markets

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
1	Access to markets is an important component	3	1	Access to markets is an important component	1	1	Access to markets is an important component	4

Table 33: Rank ordered and frequency count for access to university and technology resources and expertise

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
1	No need for access to science or university expertise	1	1	No real ties to universities	1		No close ties with universities	1
			2	Work closely with universities	1		Work closely with universities	1
			3	Important to develop a body of knowledge	1		Value in having access to technical expertise	1

Table 34: Rank ordered and frequency count for competent and motivated management

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
1	Motivated and passionate management is important	1	1	Competency is important	1	1	Motivated and passionate management is important	1
1	Entrepreneurial experience	1	1	Managers must focus on strategic objectives	1	1	Entrepreneurial experience	1
						1	Competency is important	1

Table 35: Rank ordered and frequency count for business resources

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
1	Access to multiple resources such as legal, actuarial, design, accounting, marketing	3	1	Access to multiple resources such as legal, actuarial, design, accounting, marketing	1	1	Access to multiple resources such as legal, actuarial, design, accounting, marketing	2

Table 36: Rank ordered and frequency count for location

Rank	Entrepreneur responses	Count	Rank	Incubator Manager Responses	Count	Rank	Stakeholder responses	Count
1	Location is important. Proximity to urban areas and transport links	1	1	Location is important Ease of engagement from multiple stakeholders Access to public transport	1	1	Location is important. Proximity to amenities. Geography	4

Appendix 3: Atlas.ti code report

atlas.ti report

Number of Codes: 42

Table 37: Code report

	Ent	Inc Mgr	Stake	TOTALS:
Personality/skills of incubator manager	20	26	24	70
Business coaching	28	18	22	68
Access to funding	11	25	22	58
Mentorship	16	9	19	44
Incubator effectiveness	9	16	16	41
External networking	12	11	14	37
Government vs Private	10	6	16	32
Government policies	6	13	11	30
Internal networking	12	4	9	25
Shared Infrastructure	11	2	11	24
Culture	9	6	7	22
Quality of entrepreneurs	4	8	10	22
Value Proposition	2	6	11	19
Selection Process	1	6	9	16
Access to university or technology expertise and facilities	1	7	7	15
Business Resources	9	3	3	15
Access to Market	6	3	5	14
Location	1	3	10	14
Environment	9	0	2	11
Programme Structure	3	0	6	9
Execution	5	0	3	8
Sales	3	2	3	8
Supply Chain	0	4	4	8
Valuations	3	3	2	8
Emotional Support	3	1	3	7
Business Support	3	0	3	6
Community	1	2	3	6
Competent and motivated management	2	1	3	6
Networking Events	3	0	2	5
Financial coaching	2	2	0	4
Knowledge Gap	2	2	0	4
Relationship Building	0	3	1	4

Incubator team	0	3	0	3
Legal support	3	0	0	3
Operations	2	0	1	3
Diversity	0	0	2	2
Strategic	0	0	2	2
Accelerator	0	0	1	1
Economy	0	0	1	1
Incentive	0	0	1	1
Signalling	0	0	1	1
Typical Day	0	1	0	1

Appendix 4: Interview guideline

Introduction and background

- Thank participant and confirm anonymity by reporting without identifiers
- Present title and purpose of the research

Opening non-directive questions

- Tell me a little about yourself and how you came to be involved with the incubator
- Tell me about a typical day at the incubator

Main questions

- How many years has the incubator been operating?
- Please describe your value proposition and how it contributes to success of new firms
- Describe your business model
- From your perspective, what are the key factors driving incubator effectiveness?

Questions to prompt participant if theme did not emerge in previous questions

- Do any of the following factors drive incubator effectiveness? If so, why?
    - Personality/skill set of the incubator manager
    - Availability of funding
    - Coaching/mentorship model
    - Shared infrastructure
    - Culture
    - Selection process
    - Quality of entrepreneurs
    - Competent and motivated management
    - Access to resources
    - Networking externally (including access to markets)
    - Networking among entrepreneurs
    - Access to university and technology resources and expertise
    - Supportive government policies

- Geographic location
- Opinion on government backed vs private incubators

Closing

- Any final questions or comments from the participant?
- Thanks for participation

Appendix 5: Ethical clearance letter

Dear Anton Rose

Protocol Number: **Temp2016-00933**

Title: **Application for Ethical Clearance**

Please be advised that your application for Ethical Clearance has been approved subject to the following conditions.

Please change the consent form for the qualitative data to be collected from the interviews: The data is not going to be kept confidential (you are hopefully going to use it in your report) - what you need to do is ensure anonymity by reporting on it without identifiers.

Once you have made this minor amendment and submitted the changes to the Research Coordinator, you will be allowed to continue collecting your data.

We wish you everything of the best for the rest of the project.

Kind Regards,

Adele Bekker

Appendix 6: Consent letter

Informed Consent Letter

I am conducting research on the factors that drive business incubator effectiveness as perceived by incubator managers, tenants and key stakeholders. A better understanding of these factors will help inform the value proposition for incubators going forward. In addition, having an understanding of the differences in perceptions between incubator managers, tenants and key stakeholders with regards to business incubator effectiveness will help tenants and stakeholders make better decisions on which incubators to work with, as well as helping business incubators to align their offering to the needs of tenants and stakeholders. The interview should take no more than one hour of your time. Your participation is voluntary and you can withdraw at any time without penalty. Anonymity will be ensured by reporting without identifiers. If you have any concerns, please contact my supervisor or me. Our details are provided below.

Researcher name:	Anton Rose
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Phone:	074 775 3455

Supervisor name:	Jonathan Marks
Email:	marksj@gibs.co.za
Supervisor phone:	082 469 0104