A STAKEHOLDER APPROACH TOWARDS A CONSOLIDATED FRAMEWORK FOR MEASURING BUSINESS INCUBATOR EFFICACY

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ABSTRACT

Business incubators (BIs) are considered enablers of the entrepreneurial ecosystem, encouraging knowledge flows between institutions and business, and promoting new venture creation. Although incubators continue to proliferate, there remains a lack of consensus as to whether incubators are effective or even as to how incubator efficacy should be measured. This study seeks to address the latter of the two. Exploratory qualitative research methodology underpins this study. A sample of nine incubator managers were interviewed, representing a variety of incubator types, models, and contexts, demonstrating the breadth of the incubator industry in South Africa. Stakeholder theory is the underlying theoretical basis for understanding incubator efficacy used in this study. Considering incubator stakeholders, a framework comprising of two distinct but related perspectives on incubator efficacy – the business growth and economic development perspectives – is proposed. The source of incubator funding is suggested as having a moderating effect on the extent to which incubators focused on one perspective over the other. The study found an overwhelming reliance on government-linked funding to sustain incubator operations in South Africa. This, in addition to the substantial prevalence of metrics linked to the economic development perspective on incubator efficacy proposed in this study, supports the source of funding as a moderator of this relationship and helps explain the significant focus on economic development as a perspective on incubator efficacy. This study's contribution lies in the development of a comprehensive stakeholder-based framework proposed for measuring incubator efficacy, applicable across incubator contexts.

Keywords: business growth, business incubation, economic development, entrepreneur support organisations, incubator efficacy, qualitative research, stakeholder theory

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LIST OF ABBREVIATIONS

BBBEE	Broad-based Black Economic Empowerment
BI	Business Incubator
DSBD	Department of Small Business Development
EO	Entrepreneurial orientation
SEDA	Small Business Development Agency
SME	Small- and medium-sized enterprises

CHAPTER 1:

BACKGROUND AND ORIENTATION

1.1 INTRODUCTION

Business incubators (BI) have developed substantially since their emergence in the 1950s, however, there remains a significant gap in incubation research in the lack of a consolidated framework with which to evaluate the efficacy of incubators (Dee, Gill, Lacher, Livesey & Minshall, 2019:1-42; Torun, Peconick, Sobreiro, Kimura & Pique, 2018:91-100). Due to the lack of a consolidated framework for measuring the efficacy of incubators, effective comparative analysis is not possible, potentially leading to ineffective policymaking, difficulties in developing best practice, and rudderless research. This gap is further complicated by a lack of consensus of what defines a BI. (Hausberg & Korreck, 2020:161). Incubators operate in diverse and varied contexts, which has guided their categorisation, with incubators ranging from public to private, university, or a variety of hybrid models (Barbero, Casillas, Ramos & Guitar, 2012:888-902; Eveleens, 2019:7-45; Hackett & Dilts, 2004:55-82). The diversity of contexts in which incubators operate has led to an array of definitions in research, however, there remains an underlying intent that is shared amongst incubators – to encourage the survival and growth of start-ups through the provision of linkages and resources (Mian, Lamine & Fayolle, 2016:1-12). This underlying intention is crucial to encouraging innovation and new venture creation which is necessary for sustainable economic development (McAdam, Miller & McAdam, 2016:265-287). Researchers have proposed a variety of different measurement systems and approaches (Chan & Lau, 2005:1215-1228; Fonseca & Jabbour, 2012:122-132; Lyra & Almeida, 2018:1-7; Mian, 1997a:251-285; Mian, 1997b:53; Torun *et al.*, 2018:91-100), however, no consensus has been found with regards to a consolidated framework for measuring incubator efficacy that considers different incubator types and contexts (Hausberg & Korreck, 2020:151-176). Current approaches do not sufficiently address the complex nature of incubator efficacy as they do not facilitate comparisons across incubator types and contexts. Comparing incubators is particularly important in developing best practice, analysing efficient models for incubators in specific contexts, and developing effective policy with regards to business incubation.

Although a breadth of approaches has been employed by researchers towards evaluating incubator efficacy, a significant gap remains in the form of a consolidated framework that accounts for the complex stakeholder environment as well as the incubator type and context in which they operate (Torun *et al*., 2018:91-100). Researchers have previously attempted to address this gap, however, have been hamstrung by the heterogeneity of BI models and contexts, a lack of consensus over definitions and typologies as well as inherent difficulties in obtaining quality data from incubators and incubated businesses (Hausberg & Korreck, 2020:151-176; Mian *et al*., 2016:1-12). The lack of a sufficient framework has a plethora of implications for incubator stakeholders due to the potential for poor policy and strategic decision-making among incubator managers, government departments linked to economic development, and incubated businesses.

This exploratory, qualitative study seeks to develop a consolidated framework for measuring incubator efficacy that properly accounts for the perspectives of multiple incubator stakeholders, as well as addressing incubator type and context. The proposed framework is outlined in detail in Chapter 7.

This study offers three main contributions to the specific area of BI efficacy measurement. First, building upon existing BI efficacy measurement research, this study will be the first to develop a consolidated framework for measuring incubator efficacy, developed with participants across multiple incubator types and contexts, and including addressing multiple stakeholder perspectives. Second, this study offers a combined typology relevant to the South African incubation context, a gap in local incubation research. The third contributor is, the study defines and outlines the concept of Incubator-Stakeholder Conflict, a significant factor influencing the perceived efficacy of incubators and providing substantial avenues for further research.

The remainder of this chapter is structured as follows: context is provided through a review of relevant literature about business incubation for this study, focusing on incubation in the South African context, discussing perspectives on incubator efficacy, and reviewing approaches to measure the efficacy of organisations, before discussing the applicability of Stakeholder Theory to the field of incubation efficacy measurement.

The chapter goes on to detail the problem statement and research aim relevant to this study. Further to this, the chapter sums up the research design and methodology followed, before concluding with the contributions made by this study.

1.2 LITERATURE REVIEW

To ensure the study is properly situated within the current state of incubation research, a thorough review of the relevant literature was conducted and is presented across Chapters 2, 3, and 4. An overview of the most relevant literature to this study is presented in the sections to follow.

1.2.1 Business incubation defined

Incubators have proliferated in recent years as their popularity as a stimulus for economic development has grown (Ayatse, Kwahar & Iyortsuun, 2017:2; Croteau, 2019:1-15; Dee *et al.*, 2019:1-42). Perceived as a positive intervention towards achieving economic development due to their ability to encourage innovation and new venture creation (Miller, McAdam & McAdam, 2014:265-287), the primary objective of establishing incubators can be considered to be the promotion of economic development (Torun *et al.*, 2018:91-100). Despite this primary objective for establishing incubators, there has been a recent increase in private incubators who focus on incubating businesses towards a profitable return on capital invested. The overall focus on incubators as a means of stimulating economic development is of particular importance in the South African context, where incubators are tasked with regional economic development as well as playing a key role in addressing the nation's spiralling unemployment rate through the development of small-, micro-, and medium enterprises (Rogerson, 2016:22-29; Rogerson, 2017:1-12; Van der Spuy, 2019:1-16).

The fundamental objective of an incubator remains debatable. In seminal work conducted by Allen and McCluskey (1991:61-77), seven potential fundamental objectives of an incubator that range from increasing the value of real estate to selling services to tenants for profit, are identified. However, more recently, the underlying intention of an incubator, and thus their overarching objective, has been identified as assisting in the growth of start-ups and small businesses (Mian *et al.*, 2016:1-12). Although incubators may serve a variety of other purposes, including developing innovation capacity, commercialising intellectual property, and addressing

unemployment, among others (Dee *et al.*, 2019:1-42), there is a clear understanding that these purposes are achieved as a result of accelerating the entrepreneurial journey and supporting new ventures (Torun *et al.*, 2018:91-100).

As discussed above, there remains a lack of consensus on defining incubators, despite definitions being proffered by Hackett and Dilts (2004:55-82) and Mian *et al.*, (2016:1-12), among others.

Generally, definitions put forward by researchers have maintained a focus of a physical location as a defining characteristic of an incubator (Bøllingtoft & Ulhøi, 2005:265-290; Honig & Karlsson, 2010:719-731; Kuratko & LaFollette, 1987:49; Lumpkin & Ireland, 1988:59-81; Markley & McNamara, 1995:257-278; Phan, Siegel & Wright, 2005:165-182), however, this has become an outdated perspective as incubators have evolved. Peters, Rice, and Sundararajan (2004:83-91) present an early progressive perspective, however, define an incubator as an innovative organisation that supports the development of an enterprise.

The evolution of incubators has led to an adaptation of their value proposition, responding to changes in the demands placed upon them by their stakeholders, including the businesses they incubate. Bruneel, Ratinho, Clarysse, and Groen (2012:110-121) identified that modern incubators tend to focus on providing access to networks, resources, and knowledge. As such, more recent definitions of incubators have focused on resources and processes – such as that put forward by Hausberg and Korreck (2020:151-176), as opposed to location-oriented definitions. Hausberg and Korreck (2020:151-176) shift focus towards the stage of incubated businesses, outlining that incubators support early-stage businesses with a mix of tangible and intangible resources, often including a shared workspace in addition to networks, for example. The authors go on to discuss BI funding to further narrow the definition. Although this definition is decidedly narrower than previous definitions offered by Hackett and Dilts (2004:57) and Mian *et al.* (2016:1-12), the authors define a “business incubating organisation” as one that encourages new venture creation and early-stage venture growth as an underlying part of their objectives (Hausberg & Korreck, 2020:151-176), which is aligned with the perspective adopted in this study and will thus be used to define BIs in the context of this study.

1.2.2 Incubator typologies

Kuratko and LaFollette (1987:49) put forward the first typology of incubators, identifying public, not-for-profit, university, and private incubator types, defined by their affiliation and source of funding. Public incubators are defined by their reliance of government sponsorship or being run directly by government departments/entities and are thus, generally focused on achieving economic development objectives, such as job creation, whereas private incubators seek out a significant return on investment through incubated businesses achieving financial success (Kuratko & LaFollette, 1987:49). University incubators are generally aligned to the commercialisation of university-owned intellectual property, whilst some non-profit incubators, which maintain a 'mission-led' approach, may be considered as a 'hybrid' incubator, displaying characteristics of both public and private incubators (Grimaldi & Grandi, 2005:111-121; Hausberg & Korreck, 2020:151-176)

There are several incubator typologies that have been developed as researchers seek to accurately categorise incubators. Kuratko and LaFollette (1987:49) proposed a typology focused on sources of funding, whilst others, such as Clarysse, Wright, Lockett, Van de Velde, and Vohora (2005:183-216) focused on incubator goals and strategies. Von Zedtwitz (2003:176-196) identified five archetypes of incubators that consider their competitive focus and strategic objectives. There are several similarities between the archetypes established by Von Zedtwitz (2003:176-196) and the typology of Kuratko and LaFollette (1987:49), excluding the 'virtual incubator' which could be applied across the Kuratko typology. These five archetypes are described below:

- Independent commercial incubators: privately owned incubators which are primarily focused on maintaining profitability for the incubation organisation.
- Regional BIs: established by local or national governments, or related agencies, these incubators seek to create employment opportunities through providing start-up support in a specific community.
- University incubators: established with the objective of successful technology transfer and commercialisation through university spinouts or licensing.
- Company-internal incubators: corporations establish company-internal (or corporate) incubators as a means of improving innovation of internal research and

development departments. These company-internal incubators are innovation focused, with a strong profit motive in alignment with the parent company.

- Virtual incubators: the key differentiator between virtual incubators and the other archetypes is the lack of a physical space offering, instead focusing on giving entrepreneurs access to an established network of other entrepreneurs, investors, and advisors, complemented by online learning resources.

Barbero *et al.* (2012:894) proposed an adapted typology containing four incubator archetypes. These archetypes are outlined below:

- Basic research incubator: the basic research incubator's focus is on linking incubation with fundamental research, with the goal of promoting technology generation in specific sectors.
- University BI: the university BI provides a mix of tangible and intangible resources to incubated businesses, as a result of the relationship with the university, and may or may not maintain a focus on technology incubation.
- Economic development incubator: an economic development incubator is a publicly funded organisation, tasked with encouraging local economic development through the incubation of SMEs.
- Private incubator: the private incubator's primary objective is to earn profits through a 'knowledge flow' process that is highly dependent on high value intangible resources.

As BIs and disruptive start-ups proliferate, a new form of incubator has emerged. As incubators continue to evolve, a new form of incubator has developed. Large corporations often lack the ability to stimulate internal innovation, which has led to the emergence of "corporate incubators" (Hausberg & Korreck, 2020:151-176) which focus on stimulating intrapreneurship and innovative spinouts.

Examining the Kuratko and LaFollette (1987:49) typology and the Von Zedtwitz (2003:176-196) and Barbero *et al.* (2012:894) archetypes, a substantial number of similarities present themselves. For example, the independent commercial incubator archetype put forward by Von Zedtwitz (2003:176-196) shares the profit motive of the for-profit incubator in the Kuratko & Lafollette (1987:49) typology and the private

incubator archetype proposed by Barbero *et al.* (2012:894). These similarities were used in developing the typology that will be used in this study. This typology is discussed in detail in Chapter 2, section 2.6.

1.2.3 Economic development rationale for business incubators

Despite the numerous types of incubators identified in the literature, the underlying intention of an incubator is to encourage early-stage entrepreneurs as they progress through their entrepreneurial journey (Torun *et al.*, 2018:91-100). Incubators have grown in popularity as a tool for developing local economies. However, despite being perceived as value creating as a result of their work supporting small businesses, encouraging business growth, and thus creating employment (Grimaldi & Grandi, 2005:111-121; Harper-Anderson & Lewis, 2017:60-77), there remains limited research on the efficacy of incubators to affect long-term socio-economic change in communities. Filion, Reese, and Sands (2019:16) identified that the cost per job created through incubation activities is substantially less than those created through other economic developments tools, such as tax cuts. Nonetheless, the positive effect that incubators can have on job creation is potentially undermined by the potential for incubated businesses to become reliant on incubator support, the well-established failure rate of new ventures, and unsustainable incubator business models (Filion *et al*., 2019:17). This leads to an ambiguous understanding of the benefit of incubators to economic development over the long term. Haugh (2020:172) offers a counter-point, supporting the view that incubators are indeed effective in aiding economic development, most notably in emerging economies as tools for alleviating poverty, with incubators supported by philanthropic organisations playing a critical role in enabling entrepreneurship in this context. Other researchers concur with this viewpoint with Millette, Hull, and Williams (2020:5) suggesting that incubators can play valuable roles in the creation of the circular economy. The authors go on to propose a framework through which incubators encourage circular economy focused start-ups as a result of knowledge transfer and innovation. The views of Haugh (2020:172) and Millette *et al.* (2020:5) are further supported by Mansano and Pereira (2016:30) who found that incubators are crucial to economic development through the commercialisation of the knowledge and technological outputs of universities and research institutes.

1.2.4 Incubation in the South African context

Incubators emerged in the developed economy of the United States (Mian *et al.*, 2016:2), and have since been adopted as tools for economic development across both developed and developing economies. In order to properly account for the context in which this study takes place, it is necessary to understand the role and impact of incubators in South Africa. The top-performing economies in terms of the National Entrepreneurship Context Index are high-income nations, except India and Indonesia (2019/2020 Global Entrepreneurship Monitor Report, as cited by Bosma, Hill, Ionescu-Somers, Kelley, Levie & Tarnawa, 2020:31). The bottom-performing economies held a relatively equal distribution among low-, medium-, and high-income nations. This measure indicates the relative strength of the entrepreneurial context of the specific nation. The same report found that high-income economies tend to have lower levels of entrepreneurial activity when compared with low- or middle-income economies, due to the complexities in the relationship between resource availability and entrepreneurial motivation as well as a less intense competitive environment in middle- and low-income economies (Bosma *et al*., 2020:38). To properly contextualise the South African entrepreneurial ecosystem outside of the impact of lockdowns and economic stimulus provided throughout the Covid-19 pandemic, the most recent data available prior to the pandemic caused by Covid-19 is used in this study.

The entrepreneurial ecosystem in South Africa which according to Bowmaker-Falconer and Herrington (2020:8), lags more developed economies and highlights the need for a thorough understanding of incubator efficacy for reasons that differ from those in more developed economies, such as understanding the need to adapt existing incubator models to suit a developing economy context. The authors found that South Africa is placed 49th out of 53 countries studied in terms of the effectiveness of the entrepreneurial ecosystem. The lack of an effective entrepreneurial ecosystem may be a causal factor in the flat entrepreneurial activity rates, with total entrepreneurial activity declining from 11% in 2018 to 10.8% in 2019 (Bowmaker-Falconer & Herrington, 2020:12). In addition, the business discontinuance rate is greater than the new business ownership rate, suggesting a decline in the number of total businesses in the country (Bowmaker-Falconer & Herrington, 2020:12). This is the context in which South African incubators exist. The incubation landscape is dominated by the Small Enterprise Development Agency (SEDA), a government agency that has

supported over 2800 entrepreneurs across the organisations various programmes in 2019 (Small Enterprise Development Agency [SEDA], 2019:36). Although SEDA enjoys a substantial reach, several issues have emerged. In Bowmaker-Falconer and Herrington's (2020:21) report on entrepreneurship in South Africa, only 21.4% of respondents had made use of SEDA's services, and less than 45% of users found that SEDA's services were somewhat or very effective. The low engagement rates mirror those for all government-supported business support initiatives surveyed, with fewer than 20% of respondents stating that they had made use of services offered by these initiatives (Bowmaker-Falconer & Herrington, 2020:21). These figures highlight that significant work is required to build an entrepreneurial ecosystem in South Africa that properly stimulates entrepreneurship.

The scale of the South African incubator landscape is somewhat unclear. Masutha and Rogerson (2014a:49) identified 51 active incubators across a variety of industries, although relying on data supplied by SEDA led to an overwhelming number of public incubators in their data set. Masutha and Rogerson (2014b:65) identified 42 public incubators operating with only nine private incubators identified. The reach of these public incubators was established to be significant, with over 1500 businesses supported in total, in contrast with 800 businesses in the private incubation sector (Masutha & Rogerson, 2014b:81). Furthermore, the impact of incubators on job creation was substantial, with public incubators creating 2300 jobs, while the private incubation sector created over 3200 jobs (Masutha & Rogerson, 2014b:87). The relative impact of private incubators compared to public incubators makes a strong case for promoting the establishment of private incubators throughout the country and calls into question the efficacy of public incubators in the South African context.

The overwhelming prevalence of public incubators is concerning given the views of Bowmaker-Falconer and Herrington (2020:29) and Masutha and Rogerson (2014b:87) that public incubation services were found to be ineffective. There is an incongruence between the positioning that SEDA has adopted in the communication of their results and the realities of their efficacy 'on the ground'. This suggests that a lack of a consolidated framework with which to measure incubator efficacy, as identified by Hausberg and Korreck (2020:171), is indeed a problem in South Africa.

1.2.5 Perspectives on incubator efficacy

Incubators exist to encourage the growth of early-stage ventures, towards achieving objectives that may include economic development, generating a profit, or stimulating innovation (Dee *et al.*, 2019:1-42; Miller *et al.*, 2014:265-287; Theodoraki, Messeghem & Audretsch, 2020:1781). Specifically, for the context of this study, a BI is defined as an organisation that exists with supporting the establishment and growth of new businesses as a core element of their organisational goal (Hausberg & Korreck, 2020:151-176). This underlying intention highlights the expectation that incubators can impact the growth of incubated businesses positively. However, incubators maintain a variety of different stakeholder groups, which may involve additional expectations regarding the impact they are able to have on the economic development of their region. This is particularly relevant to government stakeholders, however, also to the entrepreneurial ecosystem in which they operate. Thus, an effective incubator is required to balance the expectations placed upon it in terms of business growth and economic development.

Incubator efficacy is intrinsically tied to business growth. Incubated businesses engage in incubation programmes in order to achieve business growth through accessing resources, gaining credibility, or collaborating with other businesses and institutions (Bøllingtoft & Ulhøi, 2005:274; Hausberg & Korreck, 2020:151-176). Thus, a focus on incubated business growth is key. There are several methods for measuring business growth, however, there remains a common theme concerning revenue growth, employment growth, and profitability. These metrics are common among new ventures. In addition to these measures, this study accounts for entrepreneurial experience as a measure of business growth. Each of these measures and their relationship to business growth within the incubation context are outlined in Chapter 3.

In addition to encouraging business growth, incubators are touted as tools for economic development and stimulating innovation. However, there is still little to no consensus regarding the efficacy of incubators in these roles, or indeed in their role as a supporting organisation of new ventures (Dvouletý, Longo, Blažková, Lukeš & Andera, 2018:543; Ferreiro-Seoane, Rodríguez-Rodríguez & Vaquero-García,

2018:553; Lukeš, Longo & Zouhar, 2019:30; Mas-Verdú, Ribeiro-Soriano & Roig-Tierno, 2015:793).

Despite a lack of consensus, several studies support the view that incubators are tools for economic development. Lamine, Mian, Fayolle, Wright, Klofsten, and Etzkowitz (2016:1121) support incubators as key players in the Fourth Industrial Revolution, while Ferreiro-Seoane *et al.* (2018:553) and Torun *et al.* (2018:93) identify incubators as key catalysts for economic growth. A crucial part of an incubator's role in promoting economic development concerns the entrepreneurial ecosystem and the open innovation paradigm. Qian (2018:163) identifies the crucial role incubators play in facilitating knowledge transfers within the entrepreneurial ecosystem by linking different role-players, while Ngongoni, Grobbelaar and Schutte (2017:56) suggest incubators as supporting the flow of innovation resources from multiple partners to start-up businesses.

This study proposes two perspectives on incubator efficacy – the business growth perspective and the economic development perspective. These perspectives are detailed in Chapter 3 and are summarised in the conceptual model of perspectives on incubator efficacy in section 3.4.

1.2.6 Approaches to measuring incubator efficacy

Several researchers have attempted various approaches to measure incubator efficacy. Vanderstraeten and Matthyssens (2010:7) and Mian (1997a:251-285) identify four key approaches to measure the efficacy of incubators. These include the goal approach, stakeholder approach, system resource approach, and internal process approach. In addition to these four approaches, this study includes an adapted balance scorecard as an additional approach to the measurement of incubator efficacy as proposed by Messeghem, Bakkali, Sammut, and Swalhi (2018:660).

The five approaches outlined above are discussed in detail in Chapter 4. The goal approach is possibly the simplest and easiest to implement, however, it does not account for the diverse contexts in which incubators operate. This approach focuses on whether objectives were achieved and does not account for the potential of multiple and/or conflicting objectives. The stakeholder approach identifies the level of

satisfaction of various stakeholders and considers a breadth of perspective on incubator efficacy as a result. This may be further influenced by a stakeholder's saliency, leading to the prioritisation of certain objectives over others. The system resource approach is concerned with an incubator's ability to acquire the requisite resources for fulfilling their objectives – an important element considering the role that incubators play within the entrepreneurial ecosystem. However, this approach lacks focus on the incubation process and outcomes that result from it, which may lead to ineffective appraisals of incubator efficacy. The internal process approach is useful for understanding the internal efficiency of the incubation organisation, however, it lacks focus on whether the incubator is effective in accelerating the entrepreneurial journey, as outlined by Torun *et al.* (2018:91). The adapted balanced scorecard approach proposed by Messeghem *et al*. (2018:660), was designed for non-profit incubators and considers a breadth of perspectives on incubator efficacy, however, a lack of focus on incubated business growth and application to other types of incubators are potential drawbacks of adopting this approach.

As discussed in this section, to-date, an agreed-upon approach for measuring incubator efficacy that is applicable across incubator typologies does not exist. Despite the many approaches put forward by Vanderstraeten and Matthyssens (2010:7), Mian (1997a:251-285), and Messeghem *et al*. (2018:660), there remains a gap in the literature for an efficacy measurement approach that is applicable across incubator types and considers a breadth of perspectives on incubator efficacy.

1.2.7 Stakeholder theory

Stakeholder theory is predicated on the perspective that businesses should consider stakeholders as well as stockholders in order to achieve growth (Fiet, 2022:36). Stakeholder theory identifies the different role-players that impact and are impacted by a business and can include employees, communities, customers, and others. Stakeholders can either be primary or secondary, depending on their salience with regards to the organisation. Salience is a measure of power or influence as well as urgency with regards to the business, and is dependent on how management prioritise competing stakeholder claims. Understanding which stakeholders are most salient is a complex activity as discovered by Mitchell and Agle (1997:717-727) who could not find any specific attribute that would predict a stakeholder's salience. However,

Mitchell and Agle (1997:717-727) did identify three attributes of saliency: power; legitimacy; and urgency. Power refers to the ability to influence people related to the organisation. Legitimacy is the degree to which a business's claims are accepted without challenge. Urgency is the necessity of immediate action on the part of the stakeholder. The stakeholders who hold the most power, legitimacy, and urgency are thus seen to be the most salient (Fiet, 2022:36).

Miles (2017:437-459) suggests that stakeholder theory is a widely accepted and practiced theoretical approach to measure organisational efficacy. This is relevant to incubators which operate as organisations of their own whilst assisting the growth of other organisations and operate in multiple stakeholder environments. Essentially, the approach dictates that efficacy is measured according to the satisfaction of stakeholders regarding the achievement (or lack thereof) of organisational goals (Vanderstraeten & Matthyssens, 2010:1). Examples of the application of stakeholder theory in the context of incubation include Miller *et al.* (2014:265-287) who, by focusing on university BIs, adopted a multi-level stakeholder perspective when exploring incubation, noting that conflicting objectives among stakeholders such as conflicting targets specified by regional and national funders, create a difficult environment for efficacy evaluation. Messeghem, Sammut, Gangloff, and Bakkali (2017:4-21) expanded on this approach when producing their adapted balanced scorecard approach, accounting for the various stakeholders relevant to non-profit incubators. The authors identified a variety of stakeholder groupings, such as incubated businesses, the incubator managers and staff, and lastly, the government. Hausberg and Korreck (2020:151-176) expand on this perspective by including the entrepreneurial ecosystem as a stakeholder of incubators. The inclusion of the entrepreneurial ecosystem highlights the role the ecosystem plays in facilitating the required knowledge flows and resource acquisition that enables both the open innovation paradigm and the leveraging of the incubator network towards the growth of incubated businesses, both fundamental elements of an effective incubator.

Applying stakeholder theory to the concept of incubator efficacy, one is required to identify, consider, and measure the needs of the most salient stakeholders relevant to the incubation organisation, in order to obtain a clear understanding of the incubator's efficacy. In essence, the satisfaction of stakeholders with the organisation's activity

dictates how effective the organisation is perceived to be. Considering the power, legitimacy, and urgency each stakeholder or stakeholder group wields, allows for a thorough understanding of the expectations placed upon the incubators and thus, the means of achieving stakeholder satisfaction, which in turn dictates the perceived level of efficacy under the stakeholder theory approach.

1.3 PROBLEM STATEMENT

Despite the breadth of approaches proposed to measure incubator efficacy, a gap remains in literature in that no consolidated framework exists to evaluate the efficacy of incubators (Torun *et al.*, 2018:91-100). Researchers (Messeghem, Sammut, Gangloff and Bakkali, 2017:4-21; Mian ,1997a:251-285) have previously attempted to address this gap. Still, they have been hamstrung by the heterogeneity of incubation models and contexts, a lack of consensus over definitions and typologies as well as inherent difficulties in obtaining quality data from incubators and incubated businesses (Hausberg & Korreck, 2020:156-176; Mian *et al.*, 2016:1-12). The lack of a consolidated framework prevents an effective comparison of different incubation models, rendering attempts at refining incubation processes amongst large groups of incubators nigh impossible. This research gap has several implications for stakeholders of BIs, as a lack of insight regarding BI performance leads to ill-informed policy and strategic decision-making among BI managers, government departments, and potential incubated businesses.

1.3.1 Research aim

This study seeks to develop a consolidated framework for measuring the efficacy of BIs using stakeholder theory as its theoretical basis. This will be done by investigating stakeholder perspectives on incubator efficacy, using the business growth and economic development perspectives on incubator efficacy detailed in Chapter 3.

1.3.2 Research questions and objectives

This study seeks to answer an array of research questions relevant to the topic of incubator efficacy, stakeholder saliency, and the context in which incubators operate. Research questions are essentially the fundamental questions that a study seeks to answer. They underpin a study, guiding the researcher in how the research methodology should be shaped to successfully find the answers to the research

questions posed. The research questions this study seeks to answer are outlined in Table 1.1 below.

1.3.3 Research questions

The research questions relevant to this study are detailed in Table 1.1.

Table 1.1: Research questions

RQ1	What is the current state of business incubation as a phenomenon?
RQ2	What are the different perspectives on business incubator efficacy?
RQ3	What is the relevance of stakeholder theory to incubator efficacy measurement?
RQ4	What groups of stakeholders are relevant to business incubators?
RQ5	What relationships between stakeholder groups and perspectives on business incubator efficacy exist that would underpin a conceptual model of incubator efficacy?
RQ6	What is the perceived purpose and objective of business incubation in South Africa?
RQ7	To what extent are incubators perceived as effective in South Africa?
RQ8	What relationships between stakeholder groups and perspectives on business incubator efficacy exist that would underpin a framework for measuring incubator efficacy?

Each research question outlined in Table 1.1 is addressed across two research phases in this study – the literature review as well as the empirical research phase which are detailed in Table 1.3. These research questions are designed to provide sufficient context regarding incubator efficacy measurement from both the literature and from the participants in this study, in order to propose an effective incubator efficacy measurement framework in Chapter 7.

1.3.4 Research objectives

Each research question in Table 1.1 consists of a variety of research objectives, described in Table 1.2.

Table 1.1: Research objectives

Research Question	Research Objectives
RQ1	a) Understand the current state of BI
RQ2	a) Identify the purpose and objectives of BI b) Identify the different elements on incubator efficacy c) Categorise these elements into relevant perspectives on incubator efficacy
RQ3	a) Understand the applicability of stakeholder theory to the context of BI efficacy
RQ4	a) Determine which stakeholders are present and relevant to BI b) Understand the saliency of the identified stakeholders c) Determine the impact that the source of funding for the incubator has on the objectives the incubator pursues
RQ5	a) Identify what relationships exist between the identified stakeholder groups and the different perspectives on incubator efficacy b) Determine the relevance of the stakeholder groups to each perspective on incubator efficacy
RQ6	a) Understand what the perceived purpose of BI is in the South African context b) Determine the objectives incubators are currently pursuing in South Africa
RQ7	a) Determine the perceived overall efficacy of incubators in South Africa b) Identify potential rationale for perceived efficacy
RQ8	a) Determine what relationships exist between stakeholder groups and the perspectives on BI efficacy

The research objectives outline the specific data that each question seeks to identify in this study. The research objectives outlined in Table 1.2 seek to assist the researcher in focusing on the discussion guide that will be used to collect data and ensures that the research questions remain relevant to the study.

1.3.5 Research philosophy

A variety of research philosophies exist which may be adopted when setting out to complete a research project, ranging from positivism, critical realism, postmodernism, pragmatism, and interpretivism (Vaiciuniene & Kazlauskiene, 2022:218) These

philosophies have recently been challenged, amended, and adapted which has led to the emergence of new philosophies such as post-positivism, social constructionism, and social constructivism (Vaiciuniene & Kazlauskiene, 2022:218).

Social constructionism is a philosophy predicated on the notion that reality is a social construct and that phenomena can be understood by examining how social constructs emerge and the impact that cultural and historical contexts have had on the emergence of these phenomena (Vaiciuniene & Kazlauskiene, 2022:220). Incubation has a relatively short history, having emerged in the late 1950s and has evolved rapidly since, which infers that the cultural context in which it exists (and have adapted to as it proliferates) is of particular interest. However, it is necessary to account for the researcher's own reflexivity in order to address pre-existing biases and opinions under the social constructionism philosophy. Considering that social constructionism views reality as a social construct that is influenced by individual culture history, biases, and opinions as well as the cultural and historical context we exist in, an understanding of the researcher's reflexivity is required in addition to understanding the historical and cultural context in which the phenomena occur (Clarke & Braun, 2013:67).

This study is concerned with the perceived efficacy of incubators, considering the perspectives of an incubator's stakeholders, towards developing a consolidated framework applicable to multiple incubator contexts. As this study is concerned with the shared reality of incubation across multiple incubation contexts, social constructionism was deemed an appropriate research philosophy to adopt.

1.4 RESEARCH DESIGN AND METHODOLOGY

The research objectives outlined in section 1.5 requires in-depth study to be understood. Qualitative research is preferred as it allows for an in-depth and rich study of the phenomenon, offering an opportunity for developing a thorough understanding of the relevant concepts and the relationships that exist between them. Qualitative research is research that does not use statistical methods to produce findings. This is described as a process of generating ideas and improved understanding of the relationships between ideas through "…comparing, contrasting, and categorizing (sic)" (Fischer & Guzel, 2022:260). Considering this study, sets out to propose a

consolidated framework for measuring incubator efficacy that accounts for the relationships between different stakeholder groups and the relevant perspective on incubator efficacy, qualitative research that explores these relationships is deemed most appropriate. A key benefit of qualitative research over a conceptual study is that it is empirical research. Empirical research is necessary to contribute meaningfully to the understanding of business incubation.

1.4.1 Exploratory qualitative research design

An exploratory qualitative study research design is best suited to understand the perceptions and opinions of multiple parties related to a specific topic (Plano Clark & Creswell, 2015:289). As stakeholder theory forms the theoretical basis of this study, considering the diversity of incubator stakeholders relevant to incubator efficacy, the most appropriate research design for this study is an exploratory qualitative research design. This study aims to explore how the identified stakeholders perceived incubator efficacy and the relative importance of these stakeholders in terms of the saliency of the stakeholder groups, aligned with stakeholder theory, in order to propose a consolidated framework for measuring incubator efficacy. Thus, adopting an exploratory qualitative study that explores the opinions of multiple parties related to a specific topic (Plano Clark & Creswell, 2015:289), is deemed appropriate for the purposes of this study.

1.4.2 Phased research approach

To answer the research questions detailed in Table 1.2, a phased approach was adopted, beginning with a thorough literature review, and concluding with an empirical study. Each research question and its subsequent objectives are aligned with a specific research phase, as outlined in Table 1.3.

Table 1.3: Phased research approach

Research Question	Research Objectives	Research Phase
RQ1	a) Track the development of incubation overtime b) Understand the current state of BI	Literature Review Literature Review

Research Question	Research Objectives	Research Phase
RQ2	a) Identify the purpose and objectives of BI b) Identify the different elements on incubator efficacy c) Categorise these elements into relevant perspectives on incubator efficacy	Literature Review Literature Review Literature Review
RQ3	a) Understand the applicability of stakeholder theory to the context of BI efficacy	Literature Review
RQ4	a) Determine which stakeholders are present and relevant to BI b) Understand the saliency of the identified stakeholders c) Determine the impact that the source of funding for the incubator has on the objectives the incubator pursues	Literature Review/Empirical Research Empirical Research Literature Review/Empirical Research
RQ5	a) Identify what relationships exist between the identified stakeholder groups and the different perspectives on incubator efficacy b) Determine the relevance of the stakeholder groups to each perspective on incubator efficacy	Literature Review Literature Review
RQ6	a) Understand what the perceived purpose of BI is in the South African context b) Determine the objectives incubators are currently pursuing in South Africa	Empirical Research Empirical Research
RQ7	a) Determine the perceived overall efficacy of incubators in South Africa b) Identify potential rationale for perceived efficacy	Empirical Research Empirical Research
RQ8	a) Determine what relationships exist between stakeholder groups and the perspectives on BI efficacy	Literature Review/Empirical Research

A phased research approach has been adopted in order to ensure a thorough understanding of incubator efficacy is achieved within the constraints imposed upon a doctoral study, whilst building upon the existing literature. Combining a detailed review of the literature and an exploration of incubator managers' current perspectives on

incubator efficacy allows for the development of a more comprehensive framework with which to measure incubator efficacy.

Data was collected using semi-structured interviews and was later transcribed to allow for proper analysis. Thematic analysis was employed as the data analysis technique, using an adapted version of the thematic analysis process outlined by Braun and Clarke (2006:77-101). These elements of the research methodology employed in this study are discussed briefly in sections 6.3 to 6.5.

1.4.3 Sampling

McEwan (2020:235) defines sampling as the "section of a subset of data units from a larger population". It is often impractical to study the entire population related to a specific study, therefore creating a sample of participants to be included in the study is required. This section outlines the necessary considerations with regards to creating a sample relevant to this study.

This study achieved a sample of nine participants, using a stratified sampling technique. A sample was created, first at the organisational level, and thereafter at an individual level. At the organisational level, stratified purposeful sampling was used to obtain a distributed sample of incubation organisations. Stratified purposeful sampling involves creating a sample from specific subgroups that form part of a larger population (Patton, 2014:266-273). Considering the typology proposed in Chapter 2 of this study, participants were recruited in order to meet a target sample size distributed evenly across the five incubator types identified. At the individual level, criterion sampling was used when recruiting the individual participants. Criterion sampling involves sampling individuals according to specific, predetermined criteria (Patton, 2014:266-273). In order to ensure the data being collected is relevant to the study, specific inclusionary and exclusionary criteria were applied to both the organisation and individual level, with individual participants having to meet specified criteria in order to remain in the sample. These criteria are detailed in Chapter 5.

1.4.3.1 Context and units of analysis

The context of this study is complex, covering multiple levels of analysis due to the diversity of stakeholder groups relevant to incubator efficacy. To ensure the relevance

of data being collected from interviewing participants, specific inclusionary- and exclusionary criteria will be applied, whilst restricting the sample to include only participants within the geographic borders of the Republic of South Africa. This is required due to the time and practical constraints placed upon a doctoral study.

This study sets out to investigate incubator efficacy in terms of the perspectives of an incubator's stakeholders. Considering this objective, the stakeholder groups are deemed to be the units of analysis for each research question. To explore the perspectives used to determine incubator efficacy, the saliency of the different stakeholders with regards to how the incubator perceives its efficacy, and the overall perceived efficacy of the incubators, the incubator organisation is deemed the most appropriate unit of observation for this study.

1.4.3.2 Sample size

In determining a minimum sample size at the organisational level for this study, each incubator type should be considered a distinct subgroup or sampling category. According to Hennink and Kaiser (2022:3), saturation in empirical qualitative studies can be reached within a range of 9-17 interviews when examining a mostly homogenous population. Although incubators are typically heterogenous in nature, due to the overwhelming influence of the South African government in a nascent incubation industry, nine interviews were sufficient to reach saturation. This is supported by Clarke and Braun (2013:37) who identified similar sample numbers as sufficient for similar sized research projects. This study targeted a sample size of 15 organisations, distributed across the identified incubator types.

1.4.4 Data collection

The data collection strategy employed in this study involved conducting semi-structured interviews with individuals, in line with the sampling methodology guiding this study. Interviews were conducted virtually and were one-on-one, to allow for in-depth data collection.

1.4.5 Data analysis

According to Clarke and Braun (2013:174), thematic analysis has become a more widely respected, accepted, and utilised method of analysing qualitative data. The

strength of thematic analysis is in its flexibility, allowing the method to be used across a variety of research questions or objectives. Themes can be identified ahead of the data analysis (known as a 'top-down' approach) or identified within the data (a 'bottom-up' approach). However, it is often the case that researchers use a hybrid of both methods in analysing the data relevant to a qualitative study (Clarke & Braun, 2013:178). In this study, a hybrid approach was used, where themes identified in the literature and proposed in the conceptual model in Chapter 4 were imposed upon the data to some extent, whilst also allowing for themes to emerge. This was deemed most appropriate since despite an increase in incubation-related research, there is still a lack of South African-focused studies, and adopting a hybrid approach allows for the contextual differences rather than attempting to fit a 'square peg into a round hole'.

Using the thematic analysis method, transcripts of the semi-structured interviews conducted with participants were analysed using Atlas TI. This method enabled the researcher to identify patterns and themes within the data, allowing for a more holistic comprehension of the phenomenon being studied.

1.5 TRUSTWORTHINESS

A qualitative study's trustworthiness is dictated by four primary criteria: credibility, dependability, confirmability, and transferability. In order to show the quality and academic rigor of this study, each of the four criteria are discussed in the sections to follow.

1.5.1 Credibility

The credibility of a study is closely related to how accurately the researcher has represented the actual perspectives of the participants (Lietz & Zayas, 2010:191). Bloomberg and Volpe (2018:162) agree with this perspective, going on to state that credibility is linked to the accuracy with which the researcher conveys the participants' "thoughts, emotions, and actions". With regards to this study, credibility is ensured using two strategies: triangulation; and an established data collection technique. In order to meet the requirements outlined by adopting the data triangulation strategy, this study ensured data was gathered from multiple organisations across an array of incubator types – recognised technique used when seeking to triangulate data according to Polit and Beck (2013:590). Using stratified and then criterion sampling,

this study ensured a variety of perspectives regarding incubator efficacy were collected.

1.5.2 Transferability

Transferability is concerned with the extent to which a study's findings can be related to other contexts, according to Polit and Beck (2013:585). To demonstrate the transferability of this study's findings, a detailed description of the context in which the study took place is included. This allows for other researchers to determine the transferability of this study's findings to their own context. The distribution of incubator types is examined and explained in section 6.3.1 allowing for the specific context relevant to each incubator type to be appreciated. In addition, the general context of incubators in South Africa is explored and dissected in Chapter 2. This allows for an appreciation of the context in which the study took place and ensures the transferability of the findings.

1.5.3 Dependability

Dependability requires a study to demonstrate the processes used in achieving the study's aim to an extent that an external party would be able to evaluate the research process employed (Lietz & Zayas, 2010:195). Considering the aforementioned, this study provides a detailed audit trail containing both detailed descriptions of the research design and data collection as well as the analysis techniques used, as outlined in section 5.6.5. The audit trail also includes an account of the researchers' reflexivity in order to account for any bias in the research process (Shenton, 2004:63-74; Thomas & Magilvy, 2011:153).

1.5.4 Confirmability

According to Lietz and Zayas (2010:195), a study is required to clearly identify how its findings are linked to the data collected in the research process in order to achieve confirmability. Thus, confirmability requires that the study's findings are a result of the data collected from the participants, rather than the bias of the researchers (Polit & Beck, 2013:585; Shenton, 2004:72). This study ensures confirmability using audit trails and triangulation, as mentioned above. In addition, for the purposes of this study, reflexivity has been accounted for, which enhances the confirmability of this study by reducing the impact of the researcher's biases and perspectives on the responses given by participants.

1.6 ETHICAL CONSIDERATIONS

The ethical considerations of a study are present in order to ensure the rights, values, and interests of participants are respected when engaging in research. Guided by the University of Pretoria's ethical guidelines, each organisation was contacted via email to request their participation in the study. Before each interview, the aims of the study were explained, and the consent of each participant was requested. This was followed by requesting a signed informed consent form from each participant. The purpose of the study was outlined, and the participant's confidentiality was assured.

The researcher ensured that the study met the minimum ethical requirements required by the Economic and Management Sciences Department of the University of Pretoria for a doctoral thesis. As such, an ethical clearance certificate was applied for and received for this study. This thorough process ensures that the research being conducted within the department is sufficient regarding the ethical requirements imposed upon such a study, thus ensuring the rights, values, and interests of the participants and the researcher are protected.

1.7 CONTRIBUTIONS OF THE STUDY

The present study set out to add a consolidated framework to incubator efficacy measurement research. However, this study makes a variety of academic and practical contributions to the field, outlined in the sections that follow.

1.7.1 Academic contributions

This study's primary academic contribution is the development of a consolidated framework with which to measure the efficacy of BIs. The framework evolves from the conceptual model proposed in Chapter 4 that is constructed from existing literature, as well as the findings of this study, as outlined in section 7.2.

As previously stated, this study was conducted using two research phases. The first phase involved a thorough literature review, which was followed by collecting empirical data from a sample of incubator managers in South Africa. This data was then analysed, with six primary themes emerging. These themes are outlined in Chapter 6 and the implications thereof detailed in Chapter 7. This study introduces the theme of

incubator-stakeholder conflict and the incubation environment as well as highlights private sector funders and the entrepreneurial ecosystem as stakeholders for incubators. The proposed framework is detailed in Chapter 7.

This study proposes a consolidated framework for measuring incubator efficacy that has been shaped by the analysis of participant data as well as a thorough literature review. The sample of this study included a variety of incubator types, covering the breadth of South Africa, and included incubators in rural, township, and urban contexts. Considering the diversity of participants, the framework has accounted for an array of incubator types and contexts. The proposed framework includes the two perspectives of incubator efficacy outlined in Chapter 3 and the additional stakeholder groups described in section 7.2. This achieves the aim of the present study, stated as proposing a consolidated framework for measuring the efficacy of BIs based on stakeholder theory. This addresses the gap identified by Hausberg and Korreck (2020:151-176), Mian *et al.* (2016:1-12), and Torun *et al.* (2018) of a consolidated framework with which to evaluate the efficacy of incubators based on quality data from incubators. The framework builds upon the existing research regarding incubator efficacy measurement and incubation research in general, by proposing new concepts relevant in the developing economy context, as well as providing a framework with which to gauge the efficacy of incubators using multiple stakeholder perspectives that did not previously exist in the literature.

1.7.2 Practical contributions

This study produced a significant contribution for practitioners. This study's primary practical contribution is the development of a consolidated framework with which to measure the efficacy of BIs. The framework allows for fair and accurate measures of incubator efficacy to be applied across incubator types and models. This is useful to policymakers in that policy can be evaluated and developed using a fair comparison of incubators that relies on multiple perspectives, rather than the use of 'vanity' metrics. Further to this, it allows incubator managers to evaluate their own incubation programmes and make the necessary adjustments to improve their efficacy.

1.8 DELIMITATION OF THE STUDY

The delimitations relevant to the current study are outlined in the sub-sections below.

1.8.1 Geographic delimitation

The present study covered only incubation organisations operating in South Africa, due to the financial and time constraints placed upon doctoral research.

1.8.2 Industry delimitation

The study investigated the perspectives of incubator efficacy relevant to incubation organisations that would be considered non-profit, hybrid, public, university, and private, for-profit incubators. Corporate incubators were excluded from this study.

1.9 DEMARCATION OF CHAPTERS

Chapter 1: This chapter introduces the study, including a brief literature review, problem statement, research questions and objectives, followed by a summary of the methodology as well as an overview of the study's main contributions.

Chapter 2: This chapter provides an overview of the literature relevant to business incubation as well as a dissection of the South African incubation context. This chapter further defines business incubation as well as offering a combined typology of incubators.

Chapter 3: This chapter examines the incubator efficacy from the perspectives of business growth and economic development. The chapter goes on to propose a conceptual model of these two perspectives of incubator efficacy.

Chapter 4: This chapter provides an overview of incubator efficacy measurement approaches as well as detailing the applicability of stakeholder theory to the measurement of incubator efficacy. The chapter continues to propose a conceptual model considering the stakeholder groups identified in the literature as well as the perspectives on incubator efficacy outlined in Chapter 3.

Chapter 5: This chapter provides an overview of the research design and methodology relevant to the present study, including a justification of the research paradigm applied to this study. Further to this, the chapter details the data collection and analysis techniques applied to this study as well as the ethical considerations relevant to the present study, before addressing the researcher's reflexivity and trustworthiness considerations.

Chapter 6: This chapter presents the findings of this study and interpretation in line with the research question and objectives detailed in Chapter 5.

Chapter 7: This chapter provides a discussion of the results of the study as well as proposing the final framework for measuring incubator efficacy, as this study intended. The chapter further outlines the contributions this study makes as well as recommendations for future research, before concluding with an overview of the limitations of the study.

1.10 KEY CONCEPTS

Key concepts related to this study are outlined below:

Business Incubator	An organisation that exists with supporting the establishment and growth as a core element of their organisational goal (Hausberg & Korreck, 2020:151-176).
Entrepreneurial Ecosystem	A set of interdependent factors coordinated in a way that enables entrepreneurship (Nicotra, Romano, Del Giudice & Schillaci, 2017:641-666).
Open Innovation	An innovation development paradigm that seeks to accelerate innovation through the intentional flow of knowledge, from both within the organisation and from external sources (Gassmann, Enkel & Chesbrough, 2010:213).
Stakeholder Theory	A theory of efficacy measurement that dictates that organisations must consider stakeholders as well as stockholders in order to be effective (Fiet, 2022:36).
Incubator Efficacy	The ability of incubators to achieve their objectives, as set out by their stakeholders.

CHAPTER 2:

BUSINESS INCUBATION

2.1 INTRODUCTION

BI has evolved into a primary driver of nascent and early-stage entrepreneurship globally, favoured by governments as an economic development tool and by investors as a means of "due diligence" on potential early-stage investments (Mian *et al.*, 2016:2). A significant focus on incubators has emerged in literature of late, signalling their increasing importance to academia and practice alike. Mian *et al.* (2016:1) describe three disctint waves of incubators, of which the third wave is currently taking place. The first wave, occuring until 1980, was specifically focused on job creation, providing affordable physical infrastructure and shared services. The second wave evolved from the first wave to offer a wider variety of value-added services that could include skills development and networking. The third wave of incubators, fully embedded in the entrepreneurial ecosystem, focuses on providing linkages to their network of stakeholders in order to facilitate or accelerate the growth of incubated businesses (Buys & Mbewana, 2007:281; Lee & Osteryoung, 2004:418; Mian *et al.*, 2016:2).

Despite the earliest incubators emerging in the 1950s (Mian *et al.* 2016:1), defining a BI remains a challenge, with no single definition achieving consensus in the literature. That being said, researchers do agree to some extent, that the intention of BIs is to accelerate the entrepreneurial journey and support new ventures (Dee *et al.*, 2019:1-42; Mian *et al.*, 2016:1-12; Torun *et al.*, 2018:91). Although this is the intention of BIs, the rationale behind establishing incubators may differ between contexts. Researchers have suggested a number of potential factors that may drive the founding of incubators, ranging from property development to local economic development, for example, university incubators may be established primarily to facilitate research commercialisation and technology transfer, whereas public incubators may be established to promote employment growth in a specific region (Grimaldi & Grandi, 2005:111-121; Harper-Anderson & Lewis, 2017:60-77).

This chapter examines the evolution of BI, with specific reference to the forms incubators have taken as the concept has been developed. It goes on to explore different definitions of incubators and incubation, arriving at an acceptable definition for the purposes of this study. The chapter then investigates the emerging concept of business accelerators in order to properly locate them in the context of BI. This is further explored in a discussion of various incubator typologies, with an acceptable typology for the purposes of this study being developed. Additionally, the chapter explores the rationale behind establishing BIs, with a particular focus on economic development and the role incubators play in both the entrepreneurial ecosystem as well as the open innovation paradigm. The chapter concludes with an examination of BI in the context of both a developed and developing economy.

2.2 EVOLUTION OF BUSINESS INCUBATION

Mian *et al.* (2016:1) track the origins of BIs back to two major programmes established in the 1950s – Stanford Research Park, established in 1951 in Palo Alto, California, and the Industrial Centre of Batvia, established in 1959 in New York. The former lying in the heart of current day Silicon Valley, the establishment of these programmes lead to the first wave of incubators, which focused on economic restructuring and job creation and existing primarily as stand-alone facilities, lasting until 1980 (Dee *et al.,* 2019:1-42; Mian *et al.*, 2016:2; Torun *et al.*, 2018:91). Mian *et al.* (2016:3) go on to describe a second wave of incubators proliferating in the 1980s-1990s. The “second wave” moved away from the pure infrastructure focus of the first generation of incubators, to include offerings that focused on knowledge-based services in addition to the shared infrastructure already on offer (Bruneel *et al.*, 2012:111-112). These offerings focused on providing mentorship, training, and coaching to tenanted businesses. The “third wave” or third generation of incubators sees another focus shift with incubators contributing to ecosystems that are designed to promote entrepreneurship and innovation (Bruneel *et al.*, 2012:112; Mian *et al.*, 2016:3). Mian *et al.* (2016:3) posit that the “third wave” refers to the proliferation of multi-purpose, mixed-use science/research parks, specialised incubators, and innovation centres which are integrated into entrepreneurial and technology ecosystems. This is supported by Bruneel *et al.* (2012:122) who, although posit that the third generation of incubators emerged earlier than suggested by Mian *et al.* (2016:3), state that the third generation of incubators emphasised providing access to networks (or ecosystems)

for tenanted entrepreneurs. The role of entrepreneurial ecosystems for incubators is crucial to their success and the success of their tenants, enabling access to resources and networks. Lee and Osteryoung (2004:418) reported that a networked programme is a critical success factor for university-based incubators. This includes institutional networking – the broader university network, for example, networking with potential funders as well as government and the local community. Buys and Mbewana (2007:281) found that networking and access to science and technology expertise were critical success factors for the incubators' success in South Africa, which aid in creating a conducive environment for the incubator to operate in.

2.3 BUSINESS INCUBATION DEFINED

BIs have been growing in popularity as a stimulus for sustainable economic development (Ayatse *et al.*, 2017:2; Croteau, 2019:1-15; Dee *et al.*, 2019:1-42). Regarded as a positive intervention towards this goal due to their innate ability to stimulate innovation and new venture creation (Miller *et al.*, 2014:265-287), the primary rationale behind creating BIs is to promote economic development (Torun *et al.*, 2018:91-100). This is of particular importance in the South African context, where incubators are tasked with regional economic development as well as playing a key role in addressing the nation's spiralling unemployment rate through the development of small-, micro-, and medium enterprises (Rogerson, 2016:22-29; Rogerson, 2017:1-12; Van der Spuy, 2019:16).

There is some debate surrounding the primary objective of a BI. In Allen and McCluskey's (1991:61-77) seminal work, the authors posit that there are seven potential primary objectives of a BI that include aspects such as real estate appreciation and the sale of services to tenants. However, the primary intention of a BI and thus the overarching objective of the BI, is to assist the growth of start-ups and small businesses (Mian *et al.*, 2016:1-12). Although they may serve other purposes, such as innovation development, property development, intellectual property commercialisation, technology development, and job creation among others (Dee *et al.*, 2019:1-42), the general intention of BIs is to accelerate the entrepreneurial journey and to support new ventures (Torun *et al.*, 2018:91-100).

The fragmented nature of BI research has led to a lack of a unified definition of BI and BI organisations, in terms of their characteristics and processes. Hackett and Dilts

(2004:55-82) define an incubator as: “a shared office-space facility that seeks to provide its incubates … with a strategic, value-adding intervention system … of monitoring and business assistance”.

This definition is problematic in several ways, primarily due to its restrictive nature. Although many incubators do offer office facilities, incubators exist that offer manufacturing facilities as well as virtual incubators without any physical premises offering at all (Mian *et al.*, 2016:1-12).

Definitions of BI have maintained the necessity of physical locations as a defining factor for a BI, with many early researchers defining BIs as first a facility or location and second as an organisation existing to support early-stage businesses (Bøllingtoft & Ulhøi, 2005:265-290; Honig & Karlsson, 2010:719-730; Kuratko & LaFollette, 1987:49; Lumpkin & Ireland, 1988:55-81; Markley & McNamara, 1995:276-278; Phan *et al.*, 2005:165-182). Peters *et al.* (2004:83-91), however, adopted a more progressive view defining BIs as a form of an innovative organisation that supports enterprise development.

As BIs have progressed, the nature of their value proposition has morphed and adapted to changes in demand from their “incubatees" (Messeghem *et al.,* 2018:660). Bruneel *et al.* (2012:110-121) posit that the “third wave” BIs’ offering has transformed to focus on providing access to networks, resources, and knowledge. The evolution of BIs has led to movement away from location-dependent definitions towards a resource and process-based definition, such as that set out by Hausberg and Korreck (2020:151-176). Hausberg and Korreck (2020:151-176) focus on the age of incubated businesses, stating that BIs support new businesses with a mix of tangible resources, such as shared workspace and intangible resources, such as access to networks. The authors go on to discuss BI funding to further narrow the definition. Although this definition is decidedly narrower than previous definitions offered by Hackett and Dilts (2004:57) and Mian *et al.* (2016:1-12), when read in context with the definition of a “business incubating-organisation” – an organisation that exists with supporting the establishment and growth of new businesses as a core element of the organisational goal (Hausberg & Korreck, 2020:151-176), it allows for focused research going forward and will thus be used to define BIs in the context of this study.

2.4 BUSINESS INCUBATORS VS BUSINESS ACCELERATORS

In recent years, the business accelerator concept has gained traction. Accelerators form part of the entrepreneurial ecosystem, supporting nascent businesses (Cohen, 2013:19). Mian *et al.* (2016:2) posit that technology BIs and accelerators are often used interchangeably to describe the accelerator concept. Typically, this refers to technology focused acceleration programmes, with a focus on linking technology, expertise, entrepreneurial talent, and funding towards new venture creation (Mian *et al.*, 2016:2). Although a more recent phenomenon, the literature does present a small number of differentiators between traditional incubators and accelerators which include a shortened programme length, a typically for-profit status, and generally well-defined start and end dates (Torun *et al.*, 2018:91). Gonzalez-Uribe and Leatherbee (2018:1567) expand on these differentiators by including financing, shared-office space, and "entrepreneurship schooling" in their description of accelerator programmes. The emergence of accelerators follows the success of two pioneering accelerator programmes (Y-Combinator and Techstars), which follow a 90-day acceleration programme which has since been adopted by younger accelerators (Stayton & Mangematin, 2018:1164). Pauwels, Clarysse, Wright, and Van Hove (2016:13-24) posit that accelerators are a "new generation" of incubator model, with key differences in the structure of the programme, the strategic focus of the organisation, the selection process, funding, and alumni interactions, differentiating the accelerator from an incubator.

Considering the intention of incubators identified by Torun *et al.* (2018:91-100) – accelerate the entrepreneurial journey and to support new ventures – as discussed earlier; and the Hausberg and Korreck (2020:156) definition of incubators – an organisation that exists with supporting the establishment and growth of new businesses as a core element of their organisational goal – accelerators would fall under the "business-incubating organisation" umbrella, thus, leading to their inclusion in this study.

The impact of accelerator programmes is an area receiving more attention from researchers in recent years. Research by Stayton and Mangematin (2018:1184) explores the impact of accelerator programmes on the entrepreneurial orientation (EO) of start-ups in these programmes, proposing that the extensive networks of

accelerators, including investors and institutions such as universities, and the entrepreneurial ecosystem at large, can be configured to meet the needs of ventures – such as facilitating introductions to investors, enabling knowledge flows from partner institutions, and assisting with recruitment, with the result of enhancing the EO of ventures in the programme. Accelerators have also been credited with determining company credibility faster and with fewer consequences than firms outside of accelerators, promoting accelerators as a low-cost "testing ground" for entrepreneurs with new ideas (Yu, 2020:546). For entrepreneurs themselves, accelerators provide a structured offering, competitive selection, and a focus on funding, which are perceived as substantially valuable by entrepreneurs (Lange & Johnston, 2020). Gonzalez-Uribe and Leatherbee (2018:1595) support this through their finding that accelerators who offer entrepreneurship education, funding, and co-working/shared office space led to an increase in new venture performance in the first five years from entry into the accelerator. In addition to the benefits for entrepreneurs described earlier, accelerators also play a key role in regional entrepreneurial ecosystems. Even when accelerator firms are unsuccessful, accelerators add to regional entrepreneurial ecosystems through enhanced stakeholder engagement through their networks and the presence of founder knowledge gained as a result of the accelerator training (Goswami, Mitchell & Bhagavatula, 2018:144). The key factors differentiating BIs and accelerators are outlined in Table 2.1, below.

Table 2.1: Key factors differentiating business incubators and accelerators

Key Factor	Incubator	Accelerator
Length of programme	One to five years – an incubator's programme is typically ongoing with multiple entry opportunities.	90 days – typically with defined start and end dates.
Selection	Non-competitive – incubators tend to accept applicants who fit their selection criteria up to their capacity.	Competitive – most accelerators only accept the most promising applicants.
Venture stage	Early or late – incubators are available to businesses throughout the venture life cycle.	Early – accelerators focus on early-stage start-ups.
Education	Ad-hoc – learning opportunities are presented	Structured seminars – accelerators present a

Key Factor	Incubator	Accelerator
	in functional areas such as HR, legal, etc.	structured programme of seminars focusing on strategy, fund-raising, and business models.
Mentorship	Minimal – incubators offer mentorship as and when required, or in monthly intervals, depending on the programme, and may focus on specific issues in the business.	Intensive – accelerators focus on intense mentorship throughout the duration of the programme.
Organisational orientation	Not-for-profit – incubators are largely not-for-profit, focusing on economic development agendas.	For-profit – accelerators are largely for-profit, often with an ownership interest in accepted start-ups in return for funding.

Source: Adapted from Cohen (2013:20)

Table 2.1 offers an overview of the key factors differentiating two incubator formats. The organisational orientation guides the incubator typologies outlined below in section 2.5 and is expected to play a significant role in the perspectives of stakeholders with regards to different incubator types and is thus considered the most relevant factor when differentiating incubators in the context of this study. Although there are subtle differences between Cohen (2013:20), Stayton and Mangematin (2018:1164), and Torun (2018:91), the researchers agree that accelerators typically run a shorter programme with a highly competitive selection, and are typically run as for-profit entities, as compared to BIs. However, there is a fundamental similarity between accelerators and incubators in that both types of organisations exist to accelerate the entrepreneurial journey of the businesses on their programmes (Torun *et al.*, 2018:91).

2.5 INCUBATOR TYPOLOGIES

Kuratko and LaFollette (1987:49) offered the first typology of BIs, differentiating between public, non-profit, university, and private incubators according to their affiliation and funding. Public incubators are directed by government sponsorship and thus generally pursue job creation through the incubation of new businesses, whereas private incubators are more closely aligned to venture capital firms, seeking significant return on investment and incubated business financial success (Kuratko & LaFollette, 1987:49). University incubators are most often aligned to the commercialisation of

intellectual property resulting from university research, whilst some non-profit incubators may find themselves operating as a hybrid, displaying characteristics similar to both private and public BIs, dependent on the institutional mission of their funder (Grimaldi & Grandi, 2005:111-121; Hausberg & Korreck, 2020:151-176).

As BIs and disruptive start-ups proliferate, a new form of incubator has emerged. Corporates are often unable to properly stimulate internal innovation and leverage the opportunities it may present. This has led to the creation of 'corporate incubators' (Hausberg & Korreck, 2020:151-176) which focus on stimulating intrapreneurship and innovative spin-outs. Although the typology of Kuratko and LaFollette (1987:49) focused on sources of funding, others such as Clarysse *et al.* (2005:183-216), focused on goals and strategies, such as commercialising intellectual property or employment growth.

Von Zedtwitz (2003:176-196) defined five archetypes of BI according to competitive focus and strategic objectives. An archetype, being a model of incubator types from which other incubator types are derived, is distinct from a typology which allows for the systematic classification of the incubator types according to shared characteristics. However, both are useful for understanding the variety present within the incubation industry. There are similarities between Von Zedtwitz (2003:176-196) archetypes and Kuratko and LaFollette's (1987:49) typology, as shown in Table 2.2, except for "virtual incubator" which can be applied across the Kuratko typology. The five archetypes are described below:

- Independent commercial incubators: independent commercial incubators are motivated by a strong commercial objective, with a focus on profitability for the incubation organisation.
- Regional BIs: regional BIs are established by local or national governments, or related agencies, with the objective of creating employment opportunities through providing start-up support in a specific community. Profitability and commercial success are a secondary objective for the organisation.
- University incubators: university incubators are established with the objective of successful technology transfer and commercialisation through university spinouts or licensing.

- Company-internal incubators: corporations establish company-internal (or corporate) incubators as a means of improving innovation of internal research and development departments. These company-internal incubators are innovation focused, with a strong profit motive in alignment with the parent company.
- Virtual incubators: the key differentiator between virtual incubators and the other archetypes is the lack of a physical space offering, instead focusing on giving entrepreneurs access to an established network of other entrepreneurs, investors, and advisors, complemented by online learning resources.

Barbero *et al.* (2012:894) suggest an adapted typology containing four incubator archetypes. These archetypes are outlined below:

- Basic research incubator: the basic research incubator's focus is on linking incubation with fundamental research, with the goal of promoting technology generation in specific sectors.
- University BIs: the university BI provides a mix of tangible and intangible resources to incubated businesses as a result of the relationship with the university, and may or may not maintain a focus on technology incubation.
- Economic development incubator: an economic development incubator is a publicly funded organisation, tasked with encouraging local economic development through the incubation of small and medium-sized enterprises (SMEs).
- Private incubator: the private incubator's primary objective is to earn profits through a 'knowledge flow' process that is highly dependent on high value intangible resources.

When examining the Kuratko and LaFollette (1987:49) typology and the Von Zedtwitz (2003:176-196) and Barbero *et al.* (2012:894) archetypes, several similarities are evident. For example, the independent commercial incubator archetype put forward by Von Zedtwitz (2003:176-196) shares the profit motive of the for-profit incubator in the Kuratko and Lafollette (1987:49) typology and the private incubator archetype proposed by Barber *et al.* (2012:894). These similarities were used in developing the typology that will be used in this study. This typology is discussed in detail in section 2.6.

2.6 PROPOSED INCUBATOR TYPOLOGY

In order to study incubators effectively, a current typology is required. Although Barbero *et al.* (2012:894), Kuratko and LaFollete (1987:49), and Von Zedtwitz (2003:176-196) have suggested different ways of categorising incubators, there remains a need for an updated, current typology that reflects the objectives of each incubator type. This study proposes a current incubator typology, combining the existing typologies and archetypes already discussed in section 2.5, however, with a focus on the objective of the incubator. Considering that an incubator's over-arching objective dictates the incubation model employed, the programmes run, and the incubated businesses recruited, it is logical to focus on the objectives of incubators as their defining characteristic. Each proposed incubator type is discussed in detail and the typology is presented in Table 2.2, below.

2.6.1 Combined incubator typology

In developing the typology outlined in Table 2.2, the objectives underpinning the incubators outlined in the Kuratko and LaFollette (1987:49) typology, and the Barbero *et al.* (2012:894) and Von Zedtwitz (2003:176-196) archetypes were examined and categorised according to the objective they were seeking to achieve.

It is necessary to note that the definition of a hybrid BI put forward in this study – those incubators that balance both a profit and non-profit motive – matches the Barbero *et al.* (2012:894) "economic development incubator" archetype in all aspects except for the source of funding. As such, this archetype represents the best fit for the hybrid BI model being studied. Table 2.2 outlines the typology used in this study.

Table 2.2: A combined incubator typology

Proposed Incubator Type	Objective	Kuratko & LaFollette(1987:50) Typology	Von Zedtwitz (2003) Archetype	Barbero *et al.* (2012:894) Archetype
Private For-Profit BIs	Profit-driven	Private corporations	Independent commercial incubators	Private incubator
Not-for-Profit BIs	Local economic/area development	Private corporations, chambers of commerce, community-based organisations	Regional business incubators	Economic development incubator
Public BIs	Job creation	Local or national government	Regional business incubators	Economic development incubator
University BIs	Technology commercialisation and transfer	University sponsors	University incubators	University incubator/Basic research incubator
Hybrid BIs	Job creation/local economic development	Private corporations/local or national government	Regional business incubators	Economic development incubator
Corporate BIs	Innovation/Research and development	Private corporations	Company-internal incubators	Private incubator

Source: Adapted from Kuratko and LaFollette (1987:50), Barbero *et al.* (2012:894), Von Zedtwitz (2003)

Table 2.2 provides an overview of popular incubator typologies found in the literature. However, for the purposes of this study, the typology proposed in the first column of the table will be used, categorising incubators into private, for-profit incubators, not-for-profit incubators, public incubators, university incubators, hybrid incubators, and corporate incubators. Table 2.2. shows how the proposed incubator types that will be used in this study are related to the typology put forward by Kuratko and LaFollette (1987:50) as well as the archetypes put forward by Barbero *et al.* (212:894) and Von Zedtwitz (2003). The typology proposed in Table 2.2 categorises incubators according to the objectives they are pursuing. This is relevant to the present study due to the different perspectives on incubator efficacy discussed in Chapter 3. The defining characteristics of each incubator type are outlined below.

2.6.2 Private for-profit business incubators

Kuratko and LaFollette (1987:49) state that private for-profit incubators are primarily profit driven. Although there may be secondary objectives, such as job creation or economic development, by and large these incubators are focused on delivering profits for the incubation organisation, through rental collection and/or successful start-up exits due to equity shares held by the incubator (Cohen, 2013:19; Kuratko & LaFollette, 1987:49). The private for-profit incubator is aligned with the Von Zedtwitz (2003:176-196) independent commercial incubator archetype as well as the Barbero *et al.* (2012:894) private incubator archetype. Local examples of private for-profit BIs include Aurik and Raizcorp, both of which include equity funding as part of their offering.

2.6.3 Not-for-profit business incubators

There are many similarities between not-for-profit and public BIs, however, the key differentiator lies in the shareholders of these incubators that set it apart from public incubators. Not-for-profit incubators are privately held and supported, with the objectives focused on local economic or area development (Kuratko & LaFollette, 1987:49), thus matching the description of an economic development incubator in terms of the Barbero *et al.* (2012:894) archetypes. In terms of the Von Zedtwitz (2003:176-196) archetypes, not-for-profit incubators fit the “regional business incubator” archetype, due to the focus on local economic or area development.

2.6.4 Public business incubators

Public incubators are organisations that are directly supported through local or national government initiatives or government agencies (Kuratko & LaFollette, 1987:49). Public BIs are entirely reliant on government support and funding. In this regard, they meet the definition of an economic development incubator as per the Barbero *et al.* (2012:894) archetypes. Public BIs are guided by the government initiative or agency to which they are responsible, however, they focus largely on job creation through entrepreneurship, thus, they fit the “regional business incubator” archetype (Kuratko & LaFollette, 1987:49; Von Zedtwitz, 2003:176-196). Local examples of public BIs include the numerous incubators run by SEDA, which range from SEDA branches across South Africa, to specialised incubators such as the SEDA Biofuels Incubator.

2.6.5 University business incubators

University BIs have been aligned primarily with technology and innovation commercialisation and development (Mian *et al.*, 2016:2). Kuratko and LaFollette (1987:49) support this view by stating that university BIs place technology and innovation commercialisation as their objective, primarily through university spin-offs. Funded through university sponsors, who may take the form of government, private corporations, and/or individuals, university BIs fit the 'university incubator' archetypes described by Barbero *et al.* (2012:894) and Von Zedtwitz (2003:176-196). South African examples of university BIs include TuksNovation and UPBI based at the University of Pretoria, Nelson Mandela University's Propella, the Tshimologong Precinct at the University of the Witwatersrand, Stellenbosch University's Launch Lab, among others.

2.6.6 Hybrid business incubators

Although there are many cases of hybrid incubation models in literature (Bøllingtoft & Ulhøi, 2005:265; Ibata-Arens, 2011:28), the hybrid of public and not-for-profit incubation models will be referred to as a hybrid BI for the purposes of this study. Hybrid BIs share objectives with both not-for-profit and public incubators. Sharing objectives with both not-for-profit and public incubators, the main differentiating factor of hybrid BIs lies in the sources of funding and management teams, where a combination of funding from both private corporations and government sources are used and management is removed from direct government control (Ibata-Arens, 2011:28). These incubators are mostly public-private partnerships that lie outside of the university BI category, with an organisational objective that may range from job creation to local economic development, which is aligned with the economic development incubator archetype described by Barbero *et al.* (2012:894). This objective is also aligned with the "regional business incubator" archetype (Von Zedtwitz, 2003:176-196). Examples of hybrid BIs in South Africa include Cape Town based educational technology incubator Injini and the large scale, light-manufacturing focused Riversands Incubation Hub in Johannesburg.

2.6.7 Corporate business incubators

Corporate BIs exist within a corporation's internal structure, often with significant autonomy, for the express purpose of stimulating internal innovation and research and development activities (Hausberg & Korreck, 2020:151-176; Von Zedtwitz, 2003:176-

196). The results of these activities, if successful, would then be produced and taken to market by the parent company. These characteristics match the private incubator archetype put forward by Barbero *et al.* (2012:894). Well-known corporate incubators include ZX Ventures, which is part of global beverages giant ABInBev.

For the purposes of this study, corporate incubators are excluded as they do not meet the Hausberg and Korreck (2020:151-176) definition in terms of its core elements – accelerate the entrepreneurial journey and to support new ventures.

2.7 RATIONALE BEHIND FOUNDING BUSINESS INCUBATORS

Although there are numerous types of incubators, the intention of an incubator, regardless of the structure of the incubation programme, remains to support entrepreneurs as they progress through their entrepreneurial journey (Torun *et al.*, 2018:91-100). The intention of an incubator is to support the entrepreneurial journey, however, the rationale behind establishing it is primarily to promote economic development (Dee *et al.*, 2019:1-49; Torun *et al.*, 2018:91-100).

This section speaks to the intention behind establishing incubators – the over-arching goal of establishing incubators is to deliver economic development benefits in one form or another. Depending on the type of incubator being established, this may be in the form of new venture creation and employment growth, however, it could also be to commercialise intellectual property. It is important to distinguish between the motivation or rationale that informs the establishing of incubators, discussed in this section, and the perspectives on incubator efficacy, which are detailed in Chapter 3. This section discusses the motivations behind establishing incubators, rather than the perspectives used by stakeholders to assess incubator efficacy.

2.7.1 Business incubation as a tool for economic development

Business incubation has been touted as an effective tool for local economic development. Despite creating value for communities through supporting small businesses, creating jobs, and supporting business growth (Grimaldi & Grandi, 2005:111-121; Harper-Anderson & Lewis, 2017:60-77), there is limited research on the long-term socio-economic effects that incubators have on their communities. Filion *et al.* (2019:16) found that the cost per job created by BIs is significantly less than

those created through other economic development tools such as tax cuts. However, the positive effect of BIs on job creation may be countered by the reliance of incubated businesses on the incubator for survival, a high failure rate for businesses post-incubation, and the fragile longevity of unsustainable incubators themselves (Filion *et al.*, 2019:17), resulting in a somewhat unclear picture of the nett benefit of BIs in terms of economic development. Haugh (2020:172), however, supports the notion that BIs are an effective tool for economic development, specifically towards poverty alleviation in emerging economies, finding that philanthropically supported BIs are vital tools for entrepreneurship enablement in these circumstances. Further supporting BIs as an effective economic policy tool, Millette *et al.* (2020:5) posit that BIs can play a key role in the development of the circular economy, proposing a framework through which BIs enable circular economy focused start-ups through the transfer of knowledge and innovation. The views of Haugh (2020:172) and Millette *et al.* (2020:5) are further supported by Mansano and Pereira (2016:30) who found that BIs are crucial to economic development through the commercialisation of the knowledge and technological outputs of universities and research institutes.

2.7.2 Entrepreneurial ecosystems

The entrepreneurial ecosystem approach has been adopted as a means towards achieving national goals such as economic development (Nicotra *et al.,* 2017:641-666). An entrepreneurial ecosystem is defined by Nicotra *et al.* (2017:641-666) as a "set of interdependent factors coordinated in a way that enables entrepreneurship". These factors may come into play as a result of ecosystem development activities which may be top-down, which refers to the intentional, formal creation of institutions and linkages that constitute the ecosystem, or bottom-up, which refers to the informal creation of linkages among ecosystem agents (Colombo, Dagnino, Lehmann & Salmador, 2019:420-427). In essence, the purpose of entrepreneurial ecosystems is to promote entrepreneurial activities, as a result of the coordination of interdependent factors (Nicotra *et al.*, 2017:641-666) and the presence of complementarity between these factors. The coordination and complementarity between these factors can improve productivity and reduce costs, which would allow for increased innovation and commercialisation among the ecosystem members (Colombo *et al.*, 2019:420-427). Erina, Shatrevich, and Gaile-Sarkane (2017:756-769) describe an entrepreneurial ecosystem as an economic model that provides a framework for relationships between

stakeholders which can lead to an increase in value. When comparing the definition of an incubator proposed by Hausberg and Korreck (2020:151-176) with the definition of an entrepreneurial ecosystem put forward by Nicotra *et al.* (2017:641-666), it is clear why incubator managers are at times considered to be managing an "entrepreneurial ecosystem" (Colombo *et al.*, 2019:420-427). Additionally, incubators are seen as playing an enabling role within the entrepreneurial ecosystem, facilitating linkages and knowledge flows between other role-players. This role is explored in more detail in Chapter 3.

Within the entrepreneurial ecosystem, several stakeholders are present. Considering the exploration of stakeholder groups within entrepreneurial ecosystems by Erina *et al.* (2017:756-769), all actors who create or capture value, assume risk, or suffer the impact of a company's externalities should be considered stakeholders. In the context of a BI, there are several relevant stakeholders to be considered. Using the perspective of Erina *et al.* (2017:756-769) on stakeholder groups and considering Hausberg and Korreck's (2020:151-176) description of the environmental engagement aspect of business incubation, four primary stakeholder groups can be identified. These groups are the incubators, incubated businesses, government, and the entrepreneurial ecosystem itself. These stakeholder groups are explored further in Chapter 4.

Although the entrepreneurial ecosystem approach to economic development has been adopted due to its perceived ability to facilitate entrepreneurial activity, when considering institutional theory, there is a concern that an abundance of institutions and regulations present in the entrepreneurial ecosystem may lead to decreased entrepreneurial activity. Institutional theory is concerned with how organisations secure themselves by conforming to the rules and norms of an institutional environment (Bruton, Ahlstrom & Li, 2010:422). With regards to entrepreneurship, the balance between the presence of formal institutions (such as BIs) which encourage nascent entrepreneurs to start new ventures, and an abundance of institutions and regulations which may discourage new venture creation (Bruton *et al.*, 2010:423), it is vital to stimulate entrepreneurial activity.

2.7.3 Open innovation

A crucial part to the economic development agenda is the stimulation of innovation throughout the entrepreneurial ecosystem. Open innovation is an innovation development paradigm that seeks to accelerate innovation through the intentional flow of knowledge, from both within the organisation and from external sources (Gassmann *et al.*, 2010:213). Incubators have been found to play a key role with regards to open innovation, through facilitating access to early-stage capital, assisting in establishing strong start-up networks, and encouraging the commercialisation of innovation in funder organisation. Further to this, the entrepreneurial ecosystem itself encourages open innovation activities, facilitating access to financing and the creation and diffusion of knowledge (Spender, Corvello, Grimaldi & Rippa, 2017:5-16). Considering the importance of the entrepreneurial ecosystem within the open innovation paradigm, and the relationship between incubators and the entrepreneurial ecosystem outlined in section 1.2.3, there is a clear link to BIs as defined in section 1.2 of Chapter 1.

The open innovation paradigm positions incubation organisations (most notably business accelerators) as supporting players in the entrepreneurial ecosystem, offering external innovation resources to companies as they move through the “open innovation funnel” (Pustovrh, Rangus & Drnovšek, 2020:3). This position in the entrepreneurial ecosystem adds to the perceived benefits of incubators and accelerators described earlier in this study, by providing a platform for nascent companies to tap into the expertise, resident founder knowledge, and the networks of these organisations, in order to acquire external research and development resources to complement internal innovation activities (Goswami *et al.*, 2018:144; Pustovrh *et al.*, 2020:1194; Stayton & Mangematin, 2018:1194).

Battistella, De Toni, and Pessot (2018:3) posit that incubators go beyond the provision of services and infrastructure by inherently creating an institutional environment that encourages continuous improvement, reducing barriers, and knowledge spill-overs throughout the incubation process. The authors go on to stress the importance of interactions between multiple stakeholders in shaping the context of the incubation process within the open innovation paradigm. This view is supported by Ngongoni *et al.* (2017:58) who place incubators as part of the value-creation process through the provision of infrastructure and services, and yet are also responsible for the sharing of

tacit knowledge, which requires openness to successfully facilitate – a defining factor of the open innovation paradigm.

2.8 BUSINESS INCUBATION IN SOUTH AFRICA

The roots of BI lie in the well-developed economy of the United States (Mian *et al*., 2016:2), however, the role of BIs and accelerators as a tool for economic development, has led to the proliferation of BIs throughout both developed and developing economies. In order to properly contextualise this study, an understanding of the role and impact of BIs in South Africa is required. The top performing economies in terms of the National Entrepreneurship Context Index are high-income nations, apart from India and Indonesia (2019/2020 Global Entrepreneurship Monitor Report, as cited by Bosma *et al.,* 2020:31). Interestingly, the bottom performing economies held a relatively equal distribution among low-, medium-, and high-income nations. This measure indicates the relative strength of the entrepreneurial context of the specific nation. The same report found that high-income economies tend to have lower levels of economic activity when compared with low- or middle-income economies, due to the complexities in the relationship between resource availability and entrepreneurial motivation as well as a less intense competitive environment in middle- and low-income economies (Bosma *et al*., 2020:38). In order to properly contextualise the South African entrepreneurial ecosystem outside of the impact of lockdowns and economic stimulus provided throughout the Covid-19 pandemic, the most recent data available prior to the pandemic caused by Covid-19, is used in this study.

The South African entrepreneurial ecosystem, which according to Bowmaker-Falconer and Herrington (2020:8), lags more developed economies, demonstrates a need for an understanding of BI efficacy for different reasons than those present in more developed economies, such as understanding how established incubation models should be adapted to suit the developing economy context. The authors found that South Africa placed 49th out of 53 countries studied in terms of the effectiveness of the entrepreneurial ecosystem. The lack of an effective entrepreneurial ecosystem may be a causal factor in the flat entrepreneurial activity rates, with total entrepreneurial activity declining from 11% in 2018 to 10.8% in 2019 (Bowmaker-Falconer & Herrington, 2020:12). In addition, the business discontinuance rate is

greater than the new business ownership rate, suggesting a decline in the number of total businesses in the country (Bowmaker-Falconer & Herrington, 2020:12). It is against this backdrop that BIs in South Africa operate. The largest BI organisation in the country is the publicly funded SEDA, with over 2800 entrepreneurs supported through the various incubation programmes the agency offers (SEDA, 2019:36). Despite the national reach of SEDA, several issues plague the agency. In a report on entrepreneurship in South Africa by Bowmaker Falconer and Herrington (2020:21), only 21.4% of respondents had made use of SEDA's services, and less than 45% of users found that SEDA's services were somewhat or very effective. The low engagement rates mirror those for all government-supported business support initiatives surveyed, with fewer than 20% of respondents stating that they had made use of services offered by these initiatives (Bowmaker-Falconer & Herrington, 2020:21). Overall, the South African entrepreneurial ecosystem requires significant attention if entrepreneurship rates are to increase.

Research conducted by Masutha and Rogerson (2014a:49), found 51 functioning BIs in the country, spanning different industries. However, the study relied on data from SEDA and thus resulted in an overwhelming bias towards public incubators in the research. Masutha and Rogerson (2014b:65) found 42 public BIs in operation in the country, with only nine private incubators – university incubators were not included. The authors went on to find that public incubators supported over 1500 businesses in total, whilst the nine private incubators reported supporting over 800 businesses (Masutha & Rogerson, 2014b:81). In line with this finding, the authors further state that public incubators reported creating 2300 jobs, whereas private incubators were responsible for over 3200 jobs (Masutha & Rogerson, 2014b:87).

Considering the overwhelming number of public incubators compared to private incubators, the disparity in both number of businesses supported and jobs created is of concern. In essence, private incubators on average support 53 more businesses per incubator than public incubators. This has a knock-on effect when job creation is considered – private incubators create 301 more jobs on average than public incubators. This substantial disparity in outputs is an area that can be further investigated.

In seeking to understand the current context of the South African entrepreneurial ecosystem for the purposes of the present study, the prevalence of incubators operating in South Africa was investigated. Using Crampton (2019) as a starting point and leveraging publicly available databases available through the SEDA website as well as other business support umbrella organisations, such as the UK Tech Hub's Launch League, a total of 78 BIs were found to be currently active in South Africa. These incubators were deemed to meet the definition set out by Hausberg and Korreck (2020). The incubators were categorised according to the typology set out in Table 2.2.

Based on the investigation conducted by the present study, public incubators represent 42% of incubators in South Africa. This is an overwhelming number of public incubators and, although substantially less than the proportion discussed by Masutha and Rogerson (2014a:50), when examining SEDA-affiliated incubators, this number rises to 63%. This suggests that 21% of incubators deemed to be either private, university, hybrid, or not-for-profit maintain a stated affiliation with SEDA. The remaining incubators consists of 13 private incubators, 17 university incubators – including those established at Technical and Vocational Education and Training (TVET) Colleges – nine not-for-profit incubators, and six hybrid incubators.

The substantial dominance of public incubators is of concern when considering Bowmaker-Falconer and Herrington's (2020:21) findings that public incubation services were found to be ineffective. The incongruence between seemingly positive results put forward by SEDA in annual reports and other publications as well as the realities of incubation efficacy through the programmes put forward by Bowmaker-Falconer and Herrington (2020:21), suggest that the lack of a framework with regards to BI efficacy identified as a global issue by Hausberg and Korreck (2020:171), is indeed a problem in South Africa.

2.9 CHAPTER SUMMARY

In summarising the overview of BI, it is clear that incubators play an increasingly important role as a means of promoting economic development, within the context of an entrepreneurial ecosystem. The ability of incubators to promote employment more

efficiently than other economic development initiatives (Filion *et al.*, 2019:16) has led to their proliferation throughout the developed and developing world. Despite their proliferation, researchers have yet to agree on an unified definition of incubation, a commonly accepted typology of incubators, or whether incubators are indeed effective, as demonstrated by Filion *et al.* (2019:17) who, on one hand identify incubators's efficiency from a job creation perspective, and on the other hand, bemoan the fragility of incubated businesses post-incubation. The challenges posed by a largely heterogenous industry are evident in the fragmented views held by various researchers into incubators.

This chapter discusses the existing definitions of BIs, tracking the evolution of incubation as a phenomenon over time, before proposing a definition that will be used to guide this study. As incubators have profliferated, they have become entrenched roleplayers in the entrepreneurial ecosystem, offering linkages to established networks that may assist with promoting entrepreneurship. The role in the entrepreneurial ecosystem has resulted in a plethora of different stakeholders relevant to incubators, creating further difficulties in establishing their impact in terms of economic development. Incubators play a key role in the open innovation paradigm, facilitating access to innovation resources for early-stage ventures. This role, again embedded in a larger entrepreneurial ecosystem, enables early-stage ventures to aggressively innovate in ways they might not be able to do otherwise. However, despite incubators being identified as playing this enabling role, their impact on facilitating access to innovation resources is not yet clear.

This chapter goes on to examine existing means of categorising incubators, focusing on a seminal typology and two existing archetypes, before proposing a new typology that will be used in this study. The chapter concludes by examining business incubation in both a developed and developing economy context.

CHAPTER 3:

PERPSECTIVES ON INCUBATOR EFFICACY

3.1 INTRODUCTION

BIs are organisations established with the intention of assisting the growth of early-stage ventures, towards achieving objectives that may include economic development, generating a profit, or stimulating innovation (Dee *et al.*, 2019:1-42; Miller *et al.*, 2014:265-287; Theodoraki *et al.*, 2020:1781). Specifically, for the context of this study, a BI is defined as an organisation that exists with supporting the establishment and growth of new businesses as a core element of their organisational goal (Hausberg & Korreck, 2020:151-176). This core element highlights the expectation placed on incubators as drivers of incubated business growth. However, considering the diverse stakeholder groups related to incubators, there is an additional expectation that incubators contribute to the economic development of the community they are in, particularly for government and entrepreneurial ecosystem stakeholder groups, as outlined in sections 4.4.1 and 4.4.3. Thus, an effective incubator is required to balance the expectations placed upon it in terms of business growth and economic development.

Business growth is a fundamental concept with regards to incubator efficacy. Incubated businesses engage in incubation programmes in order to access resources, gain credibility and status, and engage in opportunities to collaborate (Bøllingtoft & Ulhøi, 2005:274; Hausberg & Korreck, 2020:151-176) with the goal of growing their business as a result of the incubation programme. Thus, a focus on incubated business growth is key. Although business growth may be measured using a variety of metrics, a common theme emerges around revenue growth, employment growth, and profitability (Wiklund, Patzelt & Shepherd, 2009:351-379). These metrics are common amongst new ventures. Further to these ‘hard’ measures of growth, this study incorporates the entrepreneurial experience into the business growth equation. Each of these measures and their relationship to business growth within the incubation context are outlined in this chapter.

BIs have been promoted as tools of economic development, champions of innovation, and ‘safe harbours’ for start-up businesses by both the private and public sector. Yet, for all their proponents, there remains little consensus among researchers regarding the efficacy of incubators as economic development tools or even as supporting institutions whose purpose is to assist the development of new businesses (Dvouletý

et al., 2018:543; Ferreiro-Seoane *et al.*, 2018:553; Lukeš *et al.*, 2019:30; Mas-Verdú *et al.*, 2015:793).

Although consensus has not yet been found, several studies support the concept of incubators as tools for economic development: Lamine *et al.* (2016:1121) support incubators as key players in the Fourth Industrial Revolution; while Ferreiro-Seoane *et al.* (2018:553) and Torun *et al.* (2018:93) identify incubators as key catalysts for economic growth. A crucial part of an incubator's role in promoting economic development concerns the entrepreneurial ecosystem and the open innovation paradigm. Qian (2018:163) supports the crucial role incubators play in facilitating knowledge spill-overs within the entrepreneurial ecosystem by linking multiple ecosystem role players, while Ngongoni *et al.* (2017:56) identify incubators as supporting role players under the open innovation paradigm, supporting the flow of innovation resources from multiple partners to start-up businesses. However, BI efficacy is multi-faceted and includes other elements over and above the economic development perspective, as outlined above.

This chapter continues with an examination of the relationship between business incubation and economic development in section 3.2. The chapter then focuses on individual aspects of the economic development lens of business incubation, discussing the role of incubators as drivers of new venture creation, services to existing businesses, and as enablers within the entrepreneurial ecosystem. The chapter also investigates the relationship between incubated businesses' collaboration, open innovation, a strong incubator network and incubator efficacy. Further to this, the chapter delves into the business growth perspective of incubator efficacy, discussing the concept of business growth within the incubation context before delving into the individual metrics of revenue growth, profitability, and employment growth as well as the entrepreneurial experience within an incubator.

3.2 THE RELATIONSHIP BETWEEN BUSINESS INCUBATION AND ECONOMIC DEVELOPMENT

As far back as 1987, incubators have been recognised for their ability to stimulate economic development (Kuratko & LaFollette, 1987:49). Subsequent research has

solidified incubators as drivers of economic development as both an enabler of innovation (Lamine *et al.*, 2016:1121-1141; Ngongoni *et al.*, 2017:56-65) and as a stimulant of economic growth through new venture creation and employment growth (Ferreiro-Seoane *et al.*, 2018:553; Torun *et al.*, 2018:93).

New venture creation is one aspect of the positive effect of business incubation in terms of economic development, leading to increased tax revenue for both local and national governments (Ferreiro-Seoane *et al.*, 2018:553). The other major benefit of incubation is the potential for employment growth. Ventures created and incubated through BIs have the potential to substantially increase the number of employment opportunities available (Al-Mubaraki & Busler, 2015:17; Madaleno, Nathan, Overman & Waights, 2018:15). Both new venture creation and employment growth are vital elements to the economic development benefits generated by BIs.

Although new venture creation and employment growth are hard measures of the economic development benefits of incubators, there are other benefits to be seen in their contribution to the entrepreneurial ecosystem in which they operate. The entrepreneurial ecosystem is considered as a subset of the broader business ecosystem that, when operating efficiently, promotes new venture creation and as a result, employment growth (Carayannis, Dagnino, Alvarez & Faraci, 2018:4). An effective incubator would thus be a contributor and collaborator within the entrepreneurial ecosystem, providing the resources required to promote new venture creation, innovation, and consequently, economic development.

Incubators play a key role within the entrepreneurial ecosystem, providing tangible and intangible resources to incubate businesses (Alpenidze, Pauceanu & Sanyal, 2019:1-13), that allow them to overcome the dual liabilities of being small and new (Lukeš *et al.*, 2019:25-34). In addition to providing resources to existing businesses within the incubator, the incubator also provides resources necessary for the creation of new ventures, thus enabling the growth of the entrepreneurial ecosystem (Qian, 2018:163-176; Thomas, Sharapov & Autio, 2018).

Beyond the provision of resources, incubators are seen as a focal point for networks created within the entrepreneurial ecosystem, as established by Shih and Aaboen

(2019:126-138). This important role requires incubators to collaborate effectively, thus improving their own performance and the performance of the ecosystem, as found by Theodoraki *et al.* (2020:1-14). A lack of collaboration may have negative effects on incubated businesses (Belitski & Heron, 2017:163-177), whilst also hampering efforts to promote open innovation practices (Pustovrh *et al.*, 2020:1-9) and a reduction in the knowledge spill-overs required to promote new venture creation under the Qian (2018:163-176) model. It goes without saying that in order to facilitate the collaboration and knowledge spill-overs expected in a functional entrepreneurial ecosystem, incubators themselves need to develop strong networks with other role players within the ecosystem. These networks allow incubators to access additional resources (Theodoraki *et al.*, 2020:1-14) and increase the legitimacy and business knowledge of incubated businesses (Busch & Barkema, 2020:1-36) as well as promote the growth of the overall ecosystem through an accumulation of high-quality incubator alumni (Breznitz, Clayton, Defazio & Isett, 2018:343-367).

3.2.1 Business incubators as drivers of new venture creation

Policymakers have increasingly supported the creation of incubators due to a perceived innate ability to create jobs and stimulate economic development (Lukeš *et al.*, 2019:3). The potential positive impact that incubators may have in terms of economic development can be identified in several avenues, such as increased tax revenue as a result of the creation of new ventures as well as social benefits such as increased company survival rates (Ferreiro-Seoane *et al.*, 2018:562). Further to the creation of new ventures, BIs have also been promoted as a tool for managing unemployment, due to the employment growth associated with growing small businesses (Madaleno *et al.*, 2018:15). Researchers (Ferreiro-Seoane *et al.*, 2018:562; Madaleno *et al.*, 2018:15) have identified two primary aspects of BI efficacy in terms of economic development: new venture creation as well as employment growth.

Whilst a focus on new venture creation has been prevalent in research concerning incubator efficacy, there remains uncertainty regarding the extent to which new venture creation impacts on the economic development of a nation. Crudu (2019:35-60) found that whilst developed nations generated greater total early-stage entrepreneurship activity, a measure of new venture creation, there is no clear relationship between an increase in the rate of entrepreneurship activity and economic

development. When investigating the relationship between entrepreneurship and poverty alleviation, Lee and Rodríguez-Pose (2021:31-52) found no evidence of a positive relationship, concluding that the relationship is, if anything, indifferent. Studies such as these cast doubt on entrepreneurship as an economic development tool, particularly when considering new venture creation.

Whilst the impact may be unclear, new venture creation remains a key objective of incubators. M'chirgui, Lamine, Mian and Fayolle (2018:1142-1160) identify that the presence of suitably skilled and qualified incubator staff positively affects the creation of new ventures, whilst the financial resources of the incubator play a pivotal role in encouraging the formation of new ventures. Further to this, involvement in an incubation programme lessens the influence of risk in the decision-making process of nascent entrepreneurs (Kirkley, 2016:151-167). The impact incubators can have on, and the focus placed upon new venture creation from policymakers, renders it an important aspect of incubator efficacy.

3.2.2 Incubators as enabling organisations within the entrepreneurial ecosystem

Entrepreneurial ecosystems are described as a subset of the overall business ecosystem that promotes the formation of new ventures through a combination of entrepreneurial orientation and entrepreneurial thinking (Carayannis *et al.*, 2018). There is an inherent link between the entrepreneurial ecosystem and innovation ecosystem in that new ventures are a key contributor to maintaining a competitive innovation ecosystem (Thomas *et al.*, 2018). While supporting the establishment and growth of new businesses is a defining characteristic of any incubator, incubators are clearly a major player within the entrepreneurial ecosystem, fulfilling the role of an enabling and/or supporting institution, promoting the creation of new ventures, and facilitating knowledge flows.

In attempting to model entrepreneurial ecosystems, Qian (2018:170) posits that entrepreneurial activity is a result of knowledge spill-overs that arise from the interplay between different factors within the ecosystem. Incubators contribute to the promotion of knowledge spill-overs, and consequently an increase in entrepreneurial activity, through the availability of tangible and intangible resources required by incubated businesses, and the presence of a strong incubator network, among others, which in

turn promotes new venture creation. Taking the Qian (2018:172) model into consideration, due to an incubator's role as an enabling institution which provides the resources needed for nascent and start-up businesses including a strong network and potential competition through other incubated firms, it can be inferred that an effective incubator would have an impact on economic development through the contribution to the development of the entrepreneurial ecosystem. Thus, incubator efficacy can be related to the efficient provision of resources required to promote new venture creation and support nascent and start-up businesses, as would be evident in the growing numbers of new ventures being started as well as the growth of nascent and start-up businesses.

3.2.3 The relationship between incubated business employment growth and incubator efficacy

Entrepreneurship has been linked with employment growth by both policymakers and researchers, as a logical result of establishing and growing a new business. Whether the increase in employment is a result of self-employment or the employment of others within the new business, there is a defined link between an increase in entrepreneurial activity and employment growth. In support of this view, Meyer and Meyer (2017:429-441) established that there is a direct relationship between the total entrepreneurial activity and employment growth in BRICS countries, whilst showing that an increase in entrepreneurial activity has a less significant impact on economic growth. Åstebro and Tåg (2017:64-70) argue that, despite widespread support for entrepreneurship as a vehicle for employment growth, there is little employment growth as a result of entrepreneurial activity over the short- and medium term. However, their results also show that a substantial portion of the jobs being created are filled by those who were unemployed.

Whilst there is indeed an argument to be made against entrepreneurship as an effective vehicle for delivering employment growth, Haltiwanger, Jarmin, Kulick and Miranda (2017:11-62) conclude that new, high-growth businesses contribute disproportionately to employment growth. In effect, the start-up businesses that survive, display higher average employment growth than mature companies. In support of the accepted notion that start-ups contribute to employment growth, Dilger (2018) found that start-ups play a pivotal role in short-term employment growth, with

the overall positive effects diminishing over time due to the high failure rate of new businesses. The role of an incubator in reducing start-up failure rates becomes paramount in the context of employment growth.

3.2.4 The relationship between the extent of collaboration within the entrepreneurial ecosystem and incubator efficacy

The broader entrepreneurial ecosystem involves a multitude of different role-players and stakeholders. Whilst stakeholders may indeed have different objectives, metrics, and agendas, their involvement in the entrepreneurial ecosystem of a region dictates a vested interest in the growth of business within the region and thus, the development of the entrepreneurial ecosystem itself. Erina *et al.* (2017:755-771) investigated the impact of the triple-helix model (business-university-government) on regional entrepreneurial ecosystems, confirming the significant impact the triple-helix has on entrepreneurial activity as a result of the co-creation of value amongst collaborative stakeholders. Belitski and Heron (2017:163-177) support this view by stating that, while a business may be located within an entrepreneurial ecosystem, such as a university campus or business park, if collaboration between different stakeholders is absent, the possibility of the knowledge transfer or spill-over that drives entrepreneurial activity within an ecosystem, is diminished. Further to this, Theodoraki *et al.* (2020:1-14) posit that the collaboration between different ecosystem players improves their individual performance and increases the value derived from the ecosystem. This strengthens the argument that collaboration is a key factor in creating an effective incubator.

In addition to being a key factor in the establishment of incubators, collaboration between incubators and other role players is necessary to open pathways for the knowledge flows associated with open innovation. The open innovation paradigm contends that intentional flows of knowledge from external (within the entrepreneurial ecosystem) and internal (within the business) sources would accelerate innovation activities within a company (Gassmann *et al.*, 2010:215). Pustovrh *et al.* (2020:1-9) found that an effective entrepreneurial ecosystem, built on the open innovation paradigm, would facilitate the emergence of a collaborative network that facilitates the capture of value within partnerships and the flow of knowledge within the network, with

incubators playing a vital role in facilitating the creation of these networks and the knowledge flows discussed.

3.2.5 The relationship between a strong incubator network and incubator efficacy

The value of networking in the incubation context was first highlighted by Hansen, Chesbrough, Nohria, and Sull (2000:74-84) who identified the importance of a strong incubator network that could provide access to potential strategic partnerships, high quality human capital, and advice given by experts associated with the incubator. Theodoraki *et al.* (2020:1-14) support this view in their exploration of the social capital of incubators within a university-based entrepreneurial ecosystem. Social capital theory, in essence, states that networks provide access to resources, the availability of which reduces the total cost of those resources within the entrepreneurial ecosystem and encourages the long-term feasibility of the ecosystem (Theodoraki *et al.*, 2020:1-14). While it would be fair to assume that all stakeholders have an interest in the extent to which an incubator is sufficiently networked, there is additional value in the presence of those networks for incubated businesses. Resources provided through incubator networks can increase the legitimacy of the incubated business, whilst also increasing the business' knowledge (Busch & Barkema, 2020:1-36). In addition, Breznitz *et al.* (2018:343-367) identified additional benefits of a strong incubator network, determining that incubators, through selection processes, facilitate the creation of high-quality business ties that increase the size of the incubated business network as the cumulative network of the incubator increases. Shih and Aaboen (2019:126-138) support this view through their finding that incubators play a mediating role in facilitating the initiation and development of relationships between incubated companies and role-players within the entrepreneurial ecosystem, contributing to both the support they can access as well as increased knowledge with regards to the local innovation environment, as stated by Busch and Barkema (2020:1-36).

There are, however, potential downsides as a result of the incubator network. Busch and Barkema (2020:1-36) identified a potential lack of competitiveness due to the resource munificent environment provided by the incubator and its network. Khalid, Jabar, Kayani and Gilbert (2017:8) found that the resource munificence played an

indifferent role in achieving incubated business outcomes. These studies offer a contrary view of the importance of the incubator's ability to provide resources directly or through their networks – a significant element of an incubator's activity. Shih and Aaboen (2019:126-138) also found that the incubator network is less effective with regards to incorporating incubated businesses into the broader commercial network, resulting in fewer linkages between market opportunities and incubated businesses.

3.2.6 The Relationship between incubators and open innovation

The concept of open innovation dictates that intentional flows of knowledge from both external and internal sources accelerates the innovation activities within a company (Gassmann *et al.*, 2010:213-221). In order to assist new companies in addressing the dual-liability issue (of being both small and new), incubators play a vital role in facilitating knowledge flows between external sources and incubated businesses. This is over and above the provision of infrastructure and other resources. Battistella *et al.* (2018:33) support this view, identifying access to funding, entrepreneurial networking, entrepreneurship training, and mentorship as key innovation services that enable open innovation processes. The key innovation services serve to encourage and enable the knowledge flows expected under the open innovation paradigm. Access to funding refers to the ability of nascent businesses to raise sufficient capital to execute their start-up plans, whilst entrepreneurial networking allows founders to access peer-to-peer learning as well as market opportunities. Entrepreneurship training and mentorship assists in developing founders' entrepreneurial competencies, which may lead to improved survival rates of businesses within incubation programmes.

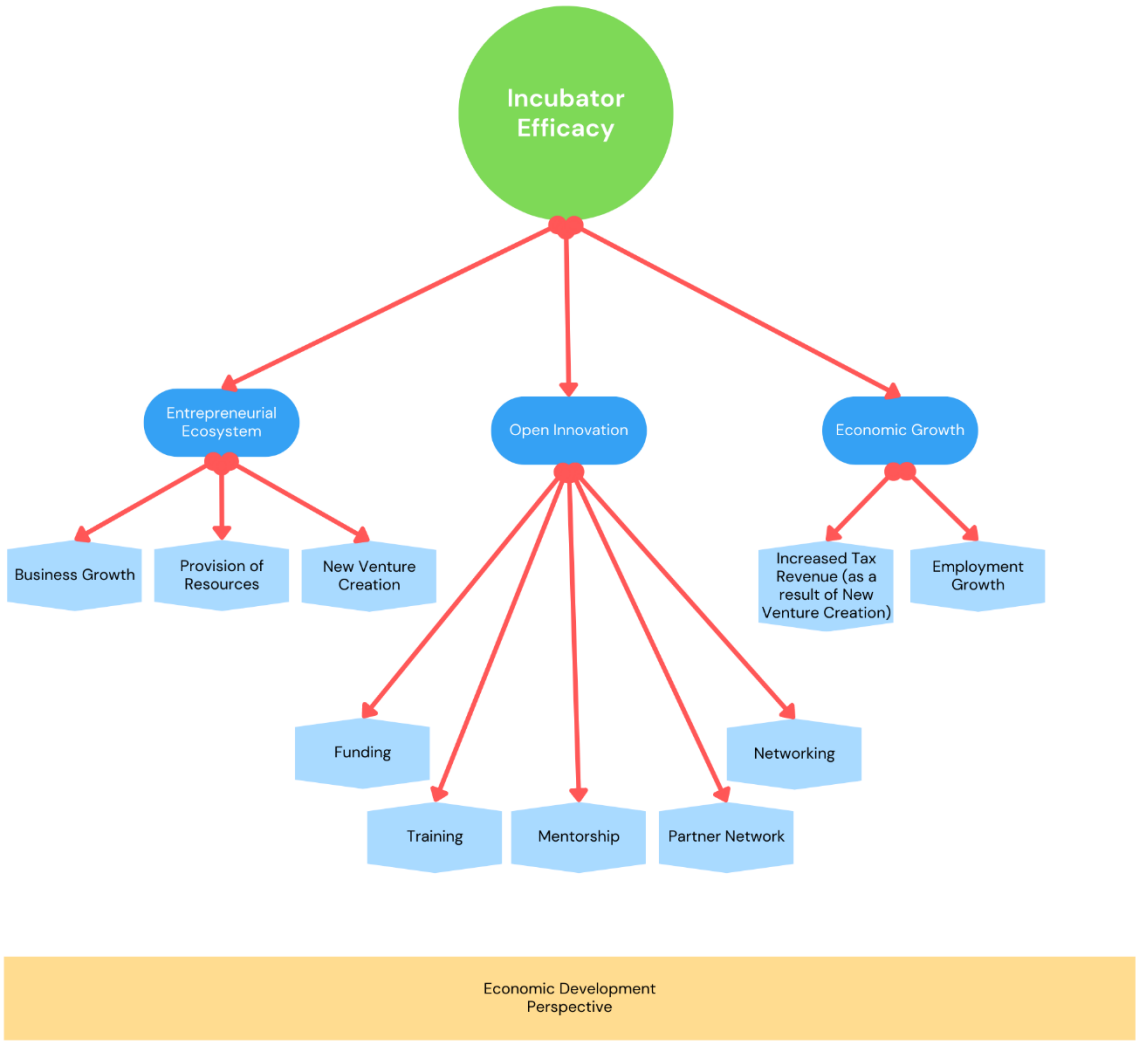
Beyond the provision of infrastructure and services, the open innovation paradigm requires a substantial network of partners, focused on providing linkages and improving knowledge flows within the network. This speaks to the larger entrepreneurial ecosystem, encompassing several stakeholder groups. Pustovrh *et al.* (2020:1-9) suggest that collaboration between network partners and the existence of a strong cooperative network will emerge if the open innovation paradigm is successfully applied in the development of entrepreneurial ecosystems. There is a fundamental link between the successful facilitation of knowledge flows between external sources and incubated businesses as well as the perceived efficacy of incubators within the open innovation context.

Other than the network focus with regards to open innovation, adopting 'openness' is also a method of improving the chances of success of the incubated business. Marullo, Casprini, Di Minin, and Piccaluga (2018:476-488) established, albeit in a limited sample size, that the entrepreneurial teams who were sufficiently "open" and leveraged multiple sources of external knowledge and other resources are more likely to succeed. Indeed, the team's openness explained as the entrepreneur's ability to identify relevant information, leverage external resources, and extract value from internal capabilities, was found to be a more significant predictor of success than the number of financial resources initially invested in the business. The significant impact that open innovation can have on the broader entrepreneurial ecosystem suggests it is appropriate to include it under the economic development perspective of incubator efficacy.

3.2.7 A conceptual model of the economic development perspective of incubator efficacy

As explored in the preceding sections, there are three primary lenses to consider when examining the efficacy of BIs from the economic development perspective. Incubator efficacy, from the economic development perspective, is determined by the impact the incubator has on the entrepreneurial ecosystem in which it operates. Impact is created through the growth of existing businesses, the creation of new ventures, and the provision of resources to members of the ecosystem as well as an incubator's ability to impact on specific economic growth indicators such as employment growth and new venture creation, and its ability to facilitate the requisite knowledge flows to enable open innovation. The breadth of impact stated, speaks to the three lenses outlined in the preceding sections: entrepreneurial ecosystem, open innovation, and economic growth. These three lenses guide the way incubator efficacy is measured, providing a holistic overview of the economic impact the incubator delivers. This is explained in Figure 3.1 below.

Figure 3.1: A conceptual model of the economic development perspective of incubator efficacy



Source: Author's own compilation

In Figure 3.1, the relationship between incubator efficacy and the three lenses of the economic development perspective is shown. An effective incubator is therefore one that makes considerations and assigns resources to promote its position within the entrepreneurial ecosystem, its impact on hard economic growth measures, and to facilitate the knowledge flows that are required to enable open innovation. Considering the widespread adoption of incubators as tools for economic development, it is logical to focus on the economic growth lens applied in Figure 3.1. However, as outlined in sections 3.2.2, and 3.2.4–3.2.6, the impact of an incubator's activity is wider than the 'hard' measures applied to economic growth. The role incubators play within the entrepreneurial ecosystem – as enabling organisations providing resources to

members of the ecosystem – and their ability to facilitate the knowledge flows required under open innovation, contribute to the wider impact that incubators can have. However, it is important to note that there are synergies across the three lenses and that the three lenses can be tied to the generally accepted elements of a typical incubation programme. Considering the elements that constitute the entrepreneurial ecosystem lens – business growth, provision of resources, and new venture creation – it can be seen how the elements relating to the open innovation and economic growth lenses are linked. Employment growth – an element under economic growth – is one metric associated with business growth – an element of the entrepreneurial ecosystem lens. Further to this, the entrepreneurial ecosystem lens speaks of the provision of resources to the ecosystem. These resources include funding and training – elements of the open innovation lens. Likewise, the partner networking referred to in the open innovation lens speaks directly to the incubator's involvement in the wider entrepreneurial ecosystem. These synergies suggest that incubator efficacy, in terms of the economic development perspective, should be considered as a combination of these factors, rather than the result of activities targeting individual elements.

3.3 INCUBATORS AS DRIVERS OF BUSINESS GROWTH

As the growth of new businesses is a fundamental aspect of BIs, understanding what this growth entails is vital to contextualising and narrowing the focus of this study. As early as 1959, business growth was defined as the increase in firm's size from one period to another (Penrose, 1959:53). However, a clear understanding of business growth is still lacking in the literature (Schwab, Gold, Kunz & Reiner, 2017:85). As academic and practitioner focus has shifted towards sustainability, elements such as the triple bottom line have attempted to integrate elements of business growth, including social, economic, and environmental aspects, whilst sustainable business growth attempts to take this one step further and is defined as growth that increases at least once aspect of the firm's economic, social, or environmental capital, without decreasing any other aspects (Schwab *et al.*, 2017:85). While these developments may have far-reaching learnings for corporates, it is difficult to apply the same measures of growth to new businesses.

The measurement of business growth itself lacks clear consensus among researchers, with a variety of measures being used to measure the growth of businesses. In constructing a model of small business growth, Wiklund *et al.* (2009:351-374) identify sales revenue, employees, assets, profit, and equity, among others, as measures used by scholars. Of these numerous measures, Wiklund *et al.* (2009:351-374) proceeded to use sales and employee growth, in addition to a self-reported rating of respondents' sales and employment growth against competitors, when investigating small business growth. Although a common measure of business growth from an external perspective, employee growth does not necessarily align with internal measures of business growth amongst smaller businesses, where more telling measures include revenue growth and profitability. These measures will thus be used in this study. One can consider these measures to be grouped together under the 'financial growth' lens. This refers to the financial growth of incubated businesses as a result of increased revenue, increased profitability, and employee growth. Further to identifying the specific measures that will be used to measure the growth of small businesses, the context of these measures is also important. Whether growth is measured in absolute or relative terms is a key component of insuring comparability between studies, as such, this study will adopt relative measures in measuring business growth.

3.3.1 The relationship between financial growth of incubated businesses and incubator efficacy

Despite support for the positive effects incubation programmes may have on incubated business revenue, the existence or extent of the relationship between engaging in a business incubation programme and the growth of the business lacks consensus among researchers. Lukeš *et al.* (2019:25-34) found that incubators have a significant negative effect on sales revenues for new tenants, whilst this effect is reversed after the first two years in the incubation programme, with start-ups in the study experiencing increased sales revenue growth when compared to non-incubated companies. Supporting these findings, Bone, Gonzalez-Uribe, Haley, and Lahr (2019) found that businesses who are engaged with incubation programmes for longer periods, generate higher revenues. This is supported by Al-Damen (2021:42), who found a link between incubators providing infrastructure and networking resources to incubated businesses and an increase in incubated business revenue. Considering

the support for a link between engaging in an incubation programme and growth in revenue, as well as the direct relationship between revenue growth and business growth, revenue growth should be included under the business growth perspective of incubator efficacy.

The profitability of a business speaks to its long-term sustainability and the ability of the entrepreneur to successfully manage the growth of the business, as shown by Boțoc and Anton (2017:1135-1155) who found that successful working capital management increased profitability for high-growth businesses. Dang, Vu, Ngo, and Hoang (2019:144-160) established that there is a positive relationship between profitability and the value of the business. This is an important linkage that speaks to the wider benefits available to incubated business within an incubator, such as increased entrepreneurial skills. An example of this is entrepreneurial training that increases skills in working capital management. According to Boțoc and Anton (2017:1135-1155), good working capital management increased profitability. This increase in profitability increases the value of the business according to Dang *et al.* (2019:144-160), thus linking increased value of the business with entrepreneurial training provided by the incubator. This finding is supported by Assenova (2020:1560-1578) who found that engaging in an incubation programme led to an increase in both revenue and profitability for disadvantaged entrepreneurs.

3.3.2 Incubators as resource hubs

Although there are many potential objectives that guide BIs, the 'common ground' between different incubator types and models is their intention of supporting new businesses towards achieving growth. When considering incubators as resource hubs, it is important to distinguish this role from that outlined under the economic development perspective. Businesses engaging in incubation programmes seek to achieve business growth – either through growth in revenue and profitability, or through the raising of investment. Incubators act as a hub of resources, allowing incubated businesses to access a range of resources relevant to their needs as a new business. Under the economic development perspective, incubators are also seen as providing resources to the entrepreneurial ecosystem. These resources vary; however, they may include the incubated businesses themselves, among other resources provided through the incubator network. Under the business growth

perspective, incubators are seen as resource hubs – pooling resources relevant to new businesses. This may include resources such as equipment, infrastructure – known as physical resources funding – known as financial resources, or the credibility that occurs as a result of stringent selection criteria an incubated business needs to meet in order to join an incubation programme.

New businesses often struggle from the liabilities of being both new and small (Lukeš *et al.*, 2019:25-34) and face difficulties in securing the internal resources, such as financial, human, and social capital, needed to facilitate growth. Incubators are one form of support that seeks to address the lack of resources experienced by new businesses. Breivik-Meyer, Arntzen-Nordqvist, and Alsos (2020:228-249) found that the ability of incubators to connect incubated businesses to external stakeholders allows such businesses to access external resources such as funding and infrastructure as well as building their capabilities. This speaks directly to the network resources – resources and opportunities provided to incubated businesses as a result of the incubator network – identified by Van Weele, Van Rijnsoever, Groen, and Moors (2020:984-1015) as part of five resource groups provided by incubators to incubated businesses. This is also referred to as the entrepreneurial network. The five resource groups include network resources, in addition to physical resources (e.g., office space), financial capital (e.g., funding), business knowledge (e.g., mentors), and legitimacy (e.g., as a result of the incubators' reputation). The ability of an incubator to secure the necessary resources to be provided to incubated businesses has also been identified as a critical success factor for incubators (Alpenidze *et al.*, 2019:1-13).

3.3.3 The relationship between the entrepreneurial experience and incubator efficacy

Further to the financial risks that an incubated business may be taking on when joining an incubator in the form of decreased sales revenue, there are several other negative effects that incubated businesses may encounter in an incubation programme. Lukosiute, Jensen, and Tanev (2019:5-15) established that incubated businesses may experience downsides, such as equity dilution, low commitment from incubation programme stakeholders, risking their intellectual property, an inability to leverage the incubator network, misalignment between the incubation programme, and the start-up's needs, among others. The entrepreneurial experience refers to the experience

gained by the founders of incubated businesses whilst engaging in an incubation programme. It includes the increased credibility incubated businesses benefit from by being engaged in an incubation programme as well as increased legitimacy as a result of being associated with an incubator with a strong reputation. Furthermore, the benefits of developing a substantial and high-quality network through involvement in incubator activities are also considered part of the entrepreneurial experience. However, there are a variety of elements to consider when exploring the entrepreneurial experience related to business growth.

In attempting to understand which incubator characteristics impact the growth of a venture, there are several variables that may come into play. Variables such as the extent to which technology plays a fundamental role in the venture as well as the size of the incubator, the impact the potential success a venture may enjoy as a result of engaging in an incubation programme (Klingbeil & Semrau, 2017:735-752). Klingbeil and Semrau (2017:735-752) investigated the relationships between these variables and incubated business growth and found that the technical orientation of the venture and the size of the incubator both have an impact on the outcomes achieved by the incubated business. These authors go on to highlight the importance of 'fit' between the incubator and the incubated business, insofar as the incubator can meet the needs of the incubated business successfully.

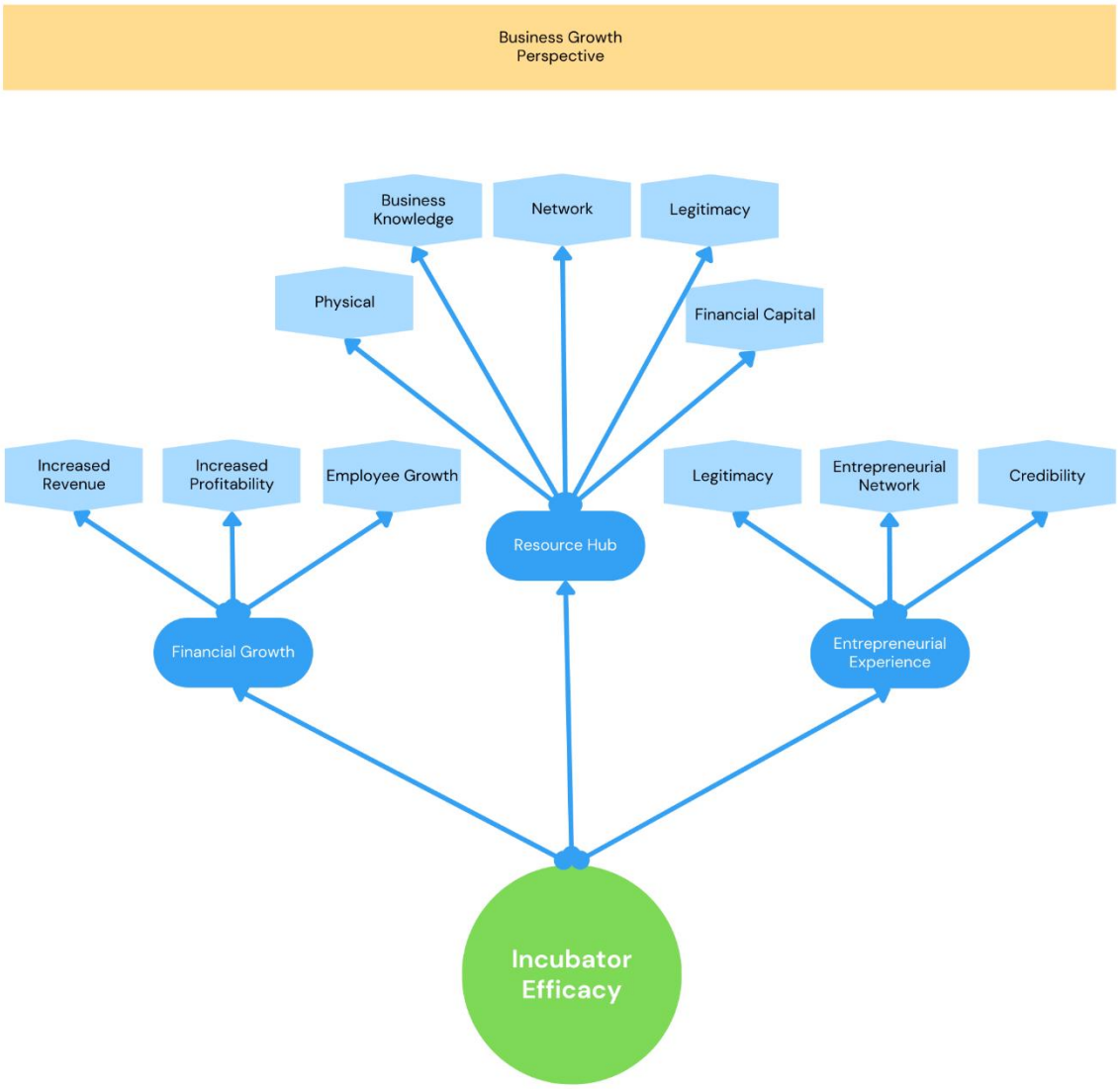
Despite the potential downsides of engaging in an incubator, there are benefits for incubated businesses beyond potential revenue, profitability, and employee growth. Eveleens (2019) found that entrepreneurs who have been part of an incubation programme are more likely to have stronger start-up performances than those who had not. Further supporting the soft benefits of incubation, Soetanto and Jack (2016:25-40) established that spin-offs of university incubation programmes can leverage their proximity and association with the university to increase their potential for growth. This ties into the benefits of legitimacy, credibility, and the entrepreneurial network as discussed above and should be considered part of the entrepreneurial experience of engaging in an incubation programme.

3.4 A CONCEPTUAL MODEL OF INCUBATOR EFFICACY FROM THE BUSINESS GROWTH PERSPECTIVE

The business growth perspective on incubator efficacy considers those elements most critical to the growth of incubated businesses. These elements include financial growth, as discussed in section 3.4.1, provision of resources (from the incubator to the incubated business) discussed in section 3.4.2, and the entrepreneurial experience discussed in section 3.4.3. Examining the financial growth element, financial growth of incubated businesses is a result of increased revenue, increased profitability, and employee growth. These three measures are used to determine the financial growth of the business. With regards to the provision of resources, the ability of the incubator to provide resources across five categories is considered an indicator of their efficacy in terms of this element. The five categories of resources are physical resources, business knowledge, network, legitimacy, and financial capital. The final element is the entrepreneurial experience. Incubators are expected to deliver three primary benefits related to the entrepreneurial experience, namely legitimacy, access to the entrepreneurial network, and credibility for businesses on the incubator's programmes.

These elements are presented in Figure 3.2 below, which identifies the three major elements of the business growth perspective on incubator efficacy and their relevant sub-elements.

Figure 3.2: A conceptual model of incubator efficacy from the business growth perspective



Source: Author's own compilation

As shown in Figure 3.2, the business growth perspective consists of three primary elements with a range of sub-elements which may be used as indicators of efficacy with regards to each element put forward. The sum of these three elements impact on the incubator's efficacy regarding their ability to impact on the growth of incubated businesses. For incubator managers to evaluate the efficacy of their programme from the business growth perspective, all three elements should be considered. These elements speak to the expectations of incubated businesses when engaging in an

incubation programme and are tied to how incubated businesses deem whether an incubator is effective or not.

3.5 CONCEPTUAL MODEL ON PERSPECTIVES OF INCUBATOR EFFICACY

As previously discussed, two distinct perspectives on incubator efficacy exist in literature – the economic development perspective, and the business growth perspective. Each perspective contains several elements which relate the overarching concept (economic development or business growth) to the concept of incubator efficacy. This is shown in the conceptual model put forward in Figure 3.2

Further to the two identified perspectives on incubator efficacy, each perspective consists of three primary elements. The economic development perspective includes three lenses: economic growth, the entrepreneurial ecosystem, and open innovation. The business growth perspective includes an additional three lenses: financial growth; resource hub; and the entrepreneurial experience. These elements are supported by a range of sub-elements which are discussed in sections 3.3.1 and 3.3.2, which can be seen as indicators of efficacy relevant to each element. There is some overlap between the different sub-elements, which show that effectively delivering on the sub-element impacts two or more different elements. This interconnectivity suggests that incubator efficacy is a complex subject, spanning a diverse array of perspectives. Furthermore, the interconnectivity of the model shows that the delivery of an effective incubation programme that delivers business growth leads to benefits under the economic development perspective. This interconnectivity will be discussed in more detail in the sections to come.

3.5.1 Synergy between different forms of networking

One of the most prevalent synergies present in the model is the importance of networks – access to the incubator's network, the existence of a partner network, the ability to form an entrepreneurial network, and enabling networking are all sub-elements related to networking according to the conceptual model put forward. This implies that creating an effective network – both within the incubator between incubated businesses and externally with partners – impacts on both the economic development perspective through the open innovation element, and the business growth perspective through the entrepreneurial experience and resource hub

elements. This synergy incentivises incubators to build robust networks, internally and externally, in order to increase their perceived efficacy.

3.5.2 Synergy between the business growth perspective and the impact of business growth on the entrepreneurial ecosystem

Additional synergies exist between elements such as the growth of existing businesses, an element of the entrepreneurial ecosystem lens, and the business growth perspective. This suggests that when the incubators satisfy the three lenses presented under the business growth perspective, it has a positive impact on the perceived efficacy of the incubator in terms of the incubator's impact on the entrepreneurial ecosystem.

3.5.3 Synergy between financial capital under the business growth perspective and funding under the economic development perspective

Under the business growth perspective, providing financial capital to incubated businesses is a sub-element of the resource hub lens. This refers to the provision of funding – typically through debt or equity instruments if provided directly or potentially through grants – to incubated businesses engaged in the incubation programme. Financial capital is typically used as working capital or for initial start-up costs. This is connected to the funding sub-element of the open innovation lens of the economic development perspective, where the provision of funding is linked to promoting innovation under the open innovation paradigm. Thus, the provision of funding to incubated businesses enables synergies across both perspective as it promotes both incubators as resource hubs, as required under the business growth perspective, but also stimulates open innovation activity under the economic development perspective.

3.5.4 Synergy between provision of resources under the economic development perspective and resource hub under the business growth perspective

Providing resources is seen as a fundamental part of an incubator's activity. This is relevant to both incubated businesses and the wider entrepreneurial ecosystem. Evidence of this is seen in the synergy existing between the provision of resources sub-element of the entrepreneurial ecosystem lens, under the economic development perspective of incubator efficacy, and the resource hub lens of the business growth perspective. The provision of resources required under the resource hub lens –

physical, business knowledge, financial capital, network, and legitimacy, speaks to the resources required in terms of the entrepreneurial ecosystem lens. The resources provided to incubated businesses under the resource hub lens is not an exhaustive list of resources required under the entrepreneurial ecosystem lens, where the ecosystem's many members may require a wide array of resources.

3.5.5 Synergy between business knowledge under the business growth perspective and training and mentorship under the economic development perspective

One of the reasons businesses engage in incubation programmes is to acquire entrepreneurial knowledge and skills. Under the business growth perspective, business knowledge is a sub-element of the resource hub lens. The provision of business knowledge is therefore deemed relevant to ensure business growth, which may be delivered through training programmes or mentorship schemes. Under the economic development perspective, the open innovation lens includes both training and mentorship as sub-elements. The linkage between these sub-elements and the business knowledge sub-element are evidence of a synergistic relationship between them, showing that assisting businesses to acquire entrepreneurial skills and knowledge has a multiplier effect by impacting on an incubator's performance in terms of open innovation as well as business growth.

3.6 CHAPTER SUMMARY

This chapter sets out to explore different perspectives on incubator efficacy. The importance of incubators with regards to economic development is examined, with the impact of incubators on specific economic growth indicators, such as new venture creation and employment growth explored. The chapter goes on to look at the role incubators play within the entrepreneurial ecosystem and their ability to facilitate the knowledge flows and linkages required under the open innovation paradigm. A conceptual model of the economic development perspective on incubator efficacy is then proposed.

The chapter goes on to explore incubator efficacy from the perspective of incubated business growth. Exploring financial growth, the chapter also considers the expectation that incubators provide certain resources and offer a well-rounded

entrepreneurial experience in order to assist the growth of incubated businesses. A conceptual model of the business growth perspective on incubator efficacy is discussed.

Lastly, the chapter proposes a conceptual model of incubator efficacy including both the economic development and business growth perspectives on incubator efficacy. These elements and sub-elements are explored in depth in the run-up to the conceptual model proposed. This conceptual model will guide the development of an overarching conceptual model which will form the basis of the remainder of this study.

CHAPTER 4:

APPROACHES TO MEASURING INCUBATOR EFFICACY AND STAKEHOLDER THEORY

4.1 INTRODUCTION

Measuring BI efficacy is a complex activity, having received several different methodological approaches which are discussed below in the literature (Hausberg & Korreck, 2020:151-176). Mian (1997a:251-285) focused on the efficacy of university-linked technology BIs, developing a conceptual model for managing and measuring the efficacy of these entities, identifying common approaches to incubator efficacy measurement. In this early study, Mian (1997a:251-285) noted four common approaches to organisational efficacy measurement, namely the system resource approach, the goal approach, the stakeholder approach, and the internal process approach. These approaches will be expanded on in the next section. More recently, Messeghem *et al.* (2018:660) have adapted the balanced scorecard of Kaplan and Norton (2007:137-148) in order to measure the efficacy of BIs. The adapted balanced scorecard developed by Messeghem *et al.* (2018:660) uses stakeholder theory as its theoretical lens and integrates three groups of stakeholders related to non-profit BIs. Due to the lack of a shareholder value creation motive, the Kaplan and Norton (2007:137-148) balanced scorecard is incongruent with non-profit incubators. As such, Messeghem *et al.* (2018:660) adapted the four balanced scorecard perspectives of financial, customer, internal business process, and learning and growth to local development performance, incubated business satisfaction, incubation process, and learning, respectively. This balanced scorecard was then validated in a sample of 121 BIs.

4.2 APPROACHES TO MEASURING INCUBATOR EFFICACY

Vanderstraeten and Matthyssens (2010:7) and Mian (1997a:251-285) identified four key approaches to measure the efficacy of incubators. These include the goal approach, stakeholder approach, system resource approach, and the internal process approach. In addition to these four approaches, this study includes the adapted balanced scorecard approach to incubator efficacy measurement by Messeghem *et al*. (2018:660) as an additional approach to the measurement of incubator efficacy.

4.2.1 Goal approach

The goal approach focuses on the ability of an organisation to reach its goals, with the distance between the ideal state (the goal) and reality determining the extent of the organisation's efficacy. The goal approach is suitable for contexts where the outcomes of stated organisational goals are tangible and easily quantified. Due to the heterogeneity of incubation and the complexities attached to quantifying incubator outcomes, there are challenges in terms of applying the goal approach to incubators. This is further complicated by the difficulty researchers experience in obtaining relevant data from incubators, as described by Hausberg and Korreck (2020:161). Thus, the goal approach is not suitable for the purposes of this study.

4.2.2 Stakeholder approach

The stakeholder approach, based on the stakeholder theory, measures efficacy with regards to the degree to which an organisation's stakeholders are satisfied. As stakeholder satisfaction improves, so too does the organisation's efficacy as the efficacy of the organisation is determined by the extent to which it is meeting their stakeholder's expectations. Incubators have several stakeholders, including the businesses involved in the incubator's programmes, government who seek to promote the positive spill-over benefits associated with incubators such as job creation and increased innovation as well as the entrepreneurial ecosystem in which incubators play a facilitating and connecting role. These stakeholders can be categorised and may focus on different aspects of the incubator's performance, such as employment growth and new venture creation or the ability of the incubator to connect incubated businesses with potential investors. These stakeholders will be discussed in detail further on in this chapter. As such, the stakeholder approach allows for a more holistic perspective on incubator efficacy, considering the complex nature of business incubation with multiple objectives (considering the economic development and business growth perspectives outlined in Chapter 3) being pursued by incubators, by including the breadth of stakeholder perspectives on incubator efficacy.

4.2.3 System resource approach

The system resource approach measures organisational efficacy according to its ability to acquire required resources. Should an organisation be able to acquire scarce resources, it would then be considered effective – for example, if an incubator were able to secure an investment fund for incubated businesses, that would be perceived

as being effective. In the context of incubators, the system resource approach is difficult to apply across the board. This is primarily due to the well-known sustainability issues that incubators face, with many incubators being unable to sustain their operations through revenue generation and instead, rely on external funding to sustain their operations. Thus, the system resource approach is not appropriate for most incubation contexts.

4.2.4 Internal process approach

The internal process approach measures efficacy in terms of the internal health and efficiency of the organisation. In essence, the internal process approach dictates that the efficacy of the organisation is measured on the efficiency with which internal processes are executed. For example, if an incubator needs to deliver 12 hours of training per business in three months as per programme requirements, the efficacy of the organisation would be measured on how efficiently the organisation was able to execute their training plan, rather than the outcomes of the training in terms of the impact on the incubated business. However, considering the intention behind incubators which is to develop and grow new ventures that exist externally to the incubator, an internally focused measurement approach would not be appropriate.

4.2.5 The adapted balanced scorecard approach

Messeghem *et al.* (2018:660) adapted the Kaplan and Norton (2007:137-148) balanced scorecard to suit the specific requirements of non-profit BIs. As discussed earlier in this chapter, Messeghem *et al.* (2018:660) adapted the four perspectives ordinarily used to measure the efficacy of typical, profit-making organisations – financial, customer, internal business process, and learning and growth – which were deemed inappropriate by the researchers to suit the needs of the non-profit incubator by introducing four different perspectives – local development performance, incubated business satisfaction, incubation process, and learning, respectively. Messeghem *et al.* (2018:660) identified indicators for each perspective as outlined below:

- Local development performance – this perspective seeks to measure the impact the incubator has on local development priorities, in essence measuring the incubator's efficacy as a tool for stimulating local development, replacing the financial perspective from the Kaplan and Norton (2007:137-148) scorecard which is:

    - Business creation;
    - Job creation;
    - Survival Rate; and
    - Growth in turnover.
- Incubated business satisfaction – this perspective seeks to determine the extent to which incubated businesses are satisfied with the services being received during their involvement with the incubator, replacing the customer perspective from the Kaplan and Norton (2007:137-148) scorecard, such as:
    - Incubated business satisfaction; and
    - Fit between services and incubated business needs.
- Incubation process – replacing the internal business process perspective used by Kaplan and Norton (2007:137-148), the incubation process perspective focuses on the efficacy of the incubation process adopted by the incubator, such as:
    - Integration of incubated businesses into networks; and
    - Knowledge transfer to incubated businesses
- Learning – replacing the learning and growth perspective from the Kaplan and Norton (2007:137-148) scorecard, the learning perspective seeks to measure the efficacy of incubator staff and management in fulfilling their duties and delivering incubation programmes, such as:
    - Quality of incubator management; and
    - Experience and competence of support staff.

Although the adapted balanced scorecard approach does include a wider view of incubator performance measures by including multiple stakeholder perspectives – government, incubator, and incubated business (referred to as incubatees in the Messeghem *et al.* (2018:660) scorecard) – the scorecard lacks sufficient focus on the incubated business growth, which is the ultimate purpose of a BI. In addition, the scorecard lacks the specific focus on the provision of resources required by both the economic and business growth perspectives described in Chapter 3. Overall, the adapted balanced scorecard approach is currently the most holistic efficacy approach identified in the literature, however, there are several key factors relevant to the efficacy of BIs that it does not consider.

4.2.6 Other approaches

Considering the identified gap this study seeks to address is well known (Hausberg & Korreck, 2020:160), there have been an increasing number of attempts to propose comprehensive frameworks for evaluating incubator efficacy. A recent attempt by Azadnia, Stephens, Ghadimi, and Onofrei (2022:2415) identified a variety of criteria relevant to the Irish incubation ecosystem, however, their approach focused heavily on the performance of the incubators in terms of facilities and infrastructure and by their own admission, identified a need to shift focus towards the efficacy of factors relevant to the incubation activity, such as networks and availability of fundings. Another recent attempt conducted by Games, Kartika, Sari, and Assariy (2021:188) identified the importance of incubated business satisfaction on perceived incubator efficacy, however, the study did not consider the wider impact incubators have on socio-economic matters, such as job creation, facilitation of the entrepreneurial ecosystem, and others. Mian (2021:31) offers an overview of existing measurement frameworks, each with their own drawbacks, yet identifies the need to account for the context in which the incubator operates in order to achieve a meaningful evaluation of the incubator efficacy. This context is shaped by the influence of the incubator's stakeholders and requires a new approach to account for this influence. Table 4.1 below gives an overview of approaches to measure incubator efficacy.

Table 4.1: An overview of approaches to measure incubator efficacy

Approach	Focus	Advantages	Drawbacks	Literature
Goal Approach	Achieving objectives	Easy to implement	Difficult to make comparisons across contexts	Mian (1997a:251-285); Vanderstraeten and Matthyssens (2010:7)
Stakeholder Approach	Stakeholder satisfaction	Considers a breadth of views on efficacy	May favour one stakeholder over another	Mian (1997a:251-285); Vanderstraeten and Matthyssens (2010:7)
System Resource Approach	Ability to acquire resources	Focuses activity on acquisition of resources	Lacks focus on value-adding activity	Mian (1997a:251-285); Vanderstraeten and Matthyssens (2010:7)
Internal Process Approach	Internal health and efficiency	Ensures sufficient focus on organisational processes	Lacks focus on achieving purpose outlined by Torun *et al.* (2018:91)	Mian (1997a:251-285); Vanderstraeten and Matthyssens (2010:7)
Adapted Balanced Scorecard Approach	Holistic overview	Considers multiple perspectives on incubator efficacy	Lacks sufficient focus on incubated business growth. Focus on non-profit incubators.	Messeghem *et al.* (2018:660)

Source: Adapted from: Messgehem *et al.* (2018:660); Mian (1997a:251-285); Torun *et al.* (2018:91); Vanderstraeten and Matthyssens (2010:7)

The five approaches discussed in this section are outlined in Table 4.1. The five approaches are detailed in terms of their focus, advantages, and disadvantages with regards to incubator efficacy. Considering the overview provided in Table 4.1, there remains a lack of an appropriate approach to measure incubator efficacy that would allow for both a holistic overview of incubator efficacy as well as enabling a comparative analysis of incubator types and objectives. Although Messeghem *et al.* (2018:660) begin to address this issue with their adapted balanced scorecard, several issues remain. The absence of measures focused on business growth – the essential aim of all incubators as put forward by Torun *et al.* (2018:91) – leaves the scorecard as an important stepping-stone, however, not a fully-developed tool for effective incubator efficacy measurement. By focusing on incubated business satisfaction and a fit between services offered and incubated business needs, the scorecard disregards the ultimate goal of incubators – to promote early-stage business growth. Further to Messeghem *et al.* (2018:660), the remaining approaches outlined in Table 4.1. too have their issues. Both the systems resource approach and internal process approach are entirely focused on internal capabilities – in acquiring resources and executing processes respectfully – which are inappropriate for incubators which exist to promote the growth of external businesses. As such, internally focused methods of measuring efficacy again disregard this key objective that underpins all incubators, as outlined by Torun *et al.* (2018:91). The goal approach, whilst simple and easy to implement, disregards the wider role incubators play within the entrepreneurial ecosystem (as outlined in Chapter 3) and does not account for the variety of incubator types (as discussed in Chapter 2), thus rendering it insufficient for a robust analysis of incubator efficacy. Lastly, the stakeholder approach allows for a breadth of views on incubator efficacy to be considered when evaluating the efficacy of an incubator. This provides similar benefits to the holistic overview promoted by the adapted balanced scorecard put forward by Messeghem *et al.* (2018:660), however, it does offer a complex and complicated view of incubator efficacy in terms of stakeholder satisfaction. As complex organisations straddling both business growth objectives and economic development objectives, incubators have a variety of stakeholders who may hold conflicting interests with regards to the incubator's goals and objectives. Thus, it is necessary to consider stakeholder saliency when evaluating incubator efficacy. Although potentially complex, the stakeholder approach does inherently consider the context in which the incubator operates by considering the incubator's stakeholders. In addition, incubators

share similar groups of stakeholders, as outlined in the remainder of this chapter, regardless of the type of incubator or programmes being run. Due to these factors, the stakeholder approach is deemed as the most appropriate for the purposes of this study.

4.3 APPLYING STAKEHOLDER THEORY TO BI EFFICACY

Stakeholder theory dictates that modern business must consider stakeholders as well as stockholders in order to achieve growth (Fiet, 2022:36). Stakeholder theory seeks to identify the different role-players impacted by a business, such as employees, communities, customers, and others. Stakeholders can be either primary or secondary, depending on their salience with regards to the organisation. Salience is dependent on how managers within the organisation prioritise competing stakeholder claims. Identifying the most salient stakeholders is complex, as discovered by Mitchell and Agle (1997:717-727) who could not find any specific attribute that would predict a stakeholder's salience. However, Mitchell and Agle (1997:717-727) did identify three attributes of saliency: power; legitimacy; and urgency. Power refers to the ability to influence people related to the organisation. Legitimacy is the degree to which a business' claims are accepted without challenge. Urgency is the necessity of immediate action on the part of the stakeholder. The stakeholders who hold the most power, legitimacy, and urgency are thus seen to be the most salient (Fiet, 2022:36).

According to Miles (2017:437-459), stakeholder theory is a widely accepted and practiced theoretical approach to measure organisational efficacy (Alsos, Hytti & Ljunggren, 2011:608; McAdam *et al.,* 2016:3; McAdam & Keogh, 2006:105; Mian, 1997:256). Incubators are interesting organisations in that their primary goal is to facilitate the growth of other organisations (incubated businesses). Due to this primary goal, incubators have multiple stakeholders, including potential funders, incubated businesses, governments, and the entrepreneurial ecosystem, some of which may have opposed and conflicting interests (Vanderstraeten & Matthyssens, 2010:7). The presence of multiple stakeholders and the complex nature of those stakeholders' objectives positions the stakeholder approach as a viable method of measuring the efficacy of incubators. In addition, incubators can be seen as having two clients – incubator funders and incubated businesses. Funders may take many forms and have a variety of objectives dependent on the incubator type, which may at times be at odds

with the incubator achieving their goal of assisting the growth of early-stage businesses. This reinforces the importance of understanding the views and perspectives of incubator stakeholders when seeking to measure the extent to which incubators are effective.

At its core, the approach dictates that efficacy is measured according to the satisfaction of stakeholders with regards to the achievement (or lack thereof) of organisational goals (Vanderstraeten & Matthyssens, 2010:1). Miller *et al.* (2014:265-287) focuses on university BIs, adopting a multi-level stakeholder perspective when investigating incubation, noting that conflicting objectives among stakeholders, such as conflicting targets around new venture creation or employment growth, as specified by regional and national funders, create a difficult environment for performance evaluation. Messeghem *et al.* (2017:4-21) expanded on this approach by producing an adapted balanced scorecard specific to non-profit BIs, adapting the balanced scorecard approach with respect to identified stakeholders of non-profit incubators, as discussed in section 4.1.5. The authors noted several different stakeholder groupings, such as the incubated businesses, the incubator managers and staff, and government. Hausberg and Korreck (2020:151-176), however, include the entrepreneurial ecosystem as a stakeholder with regards to business incubation, identifying the role the ecosystem plays in facilitating the required flow of knowledge between different ecosystem role-players and resource acquisition that enables both the open innovation paradigm and the leveraging of the incubator network towards the growth of incubated businesses. These knowledge flows may include the formal or informal transfer of knowledge between different ecosystem role players, such as the transfer of specialist technical knowledge from a university to an entrepreneur within the same ecosystem as a result of both parties being active within the specific entrepreneurial ecosystem. The entrepreneurial ecosystem can be seen as consisting of interactions between entrepreneurs and relevant actors within the ecosystem which may promote entrepreneurial activity (Cavallo, Ghezzi & Balocco, 2019:1292). Acs, Stam, Audretsch, and O'Connor (2017:9) support this view, finding that underlying factors associated with the relevant ecosystems in a multi-country study were linked to substantial entrepreneurial activity. Further to this, Fritsch (2013:249-364) found that a strong entrepreneurial ecosystem supports entrepreneurial activity at a regional level. The entrepreneurial ecosystem consists of a variety of institutions which provide

resources, resulting in productive entrepreneurship (Stam & Van de Ven, 2021:813). Institutions may include formal and informal institutions such as universities or founder meetup groups. In addition, Stam and Van de Ven (2021:814) posit that these informal institutions constitute the cultural context that entrepreneurs operate in, whilst their social context is informed by their networks. Thus, the entrepreneurial ecosystem consists of both formal and informal institutions and the networks of both the institutions and the entrepreneurs, which may provide a variety of resources relevant to promoting entrepreneurial activity. These may include incubators and accelerators, universities, investors, and the entrepreneurs themselves. For the purpose of this study, the entrepreneurial ecosystem is referred to as a stakeholder of incubators – since incubators form part of the ecosystem – and includes the variety of formal and informal institutions and networks that exist to promote entrepreneurial activity which are deemed to have a vested interest in the efficacy of an incubator due to that incubator's presence within the entrepreneurial ecosystem.

Applying stakeholder theory to incubator efficacy, there is a clear need to identify, consider, and measure the expectations of the stakeholders identified as being most salient to the incubator organisation, such as creating new ventures, increasing employment, or commercialising intellectual property. As discussed in section 4.2.2, when applying stakeholder theory as an approach to incubator efficacy measurement, the satisfaction of stakeholders with the organisation's activity dictates how effective the organisation is perceived to be. Considering the power, legitimacy, and urgency each stakeholder or stakeholder group holds allows for a thorough understanding of the expectations placed upon the incubators and thus, the means of achieving stakeholder satisfaction, which in turn dictates the perceived level of efficacy under the stakeholder theory approach.

4.4 STAKEHOLDER PERSPECTIVES ON INCUBATOR EFFICACY

Due to the multi-faceted nature of BIs, in that they serve incubated businesses and funders as clients, they are inherently linked to several stakeholders, thus creating the complex environment in which these organisations operate. These stakeholders can be identified across three different levels, including the incubated businesses, the incubator, and entrepreneurial ecosystem as identified by Hausberg & Korreck, (2020:151-176). However, there is a need to include government as a primary

stakeholder, considering the impact incubators are perceived to have on economic development as discussed in Chapter 3.

4.4.1 Government as a stakeholder

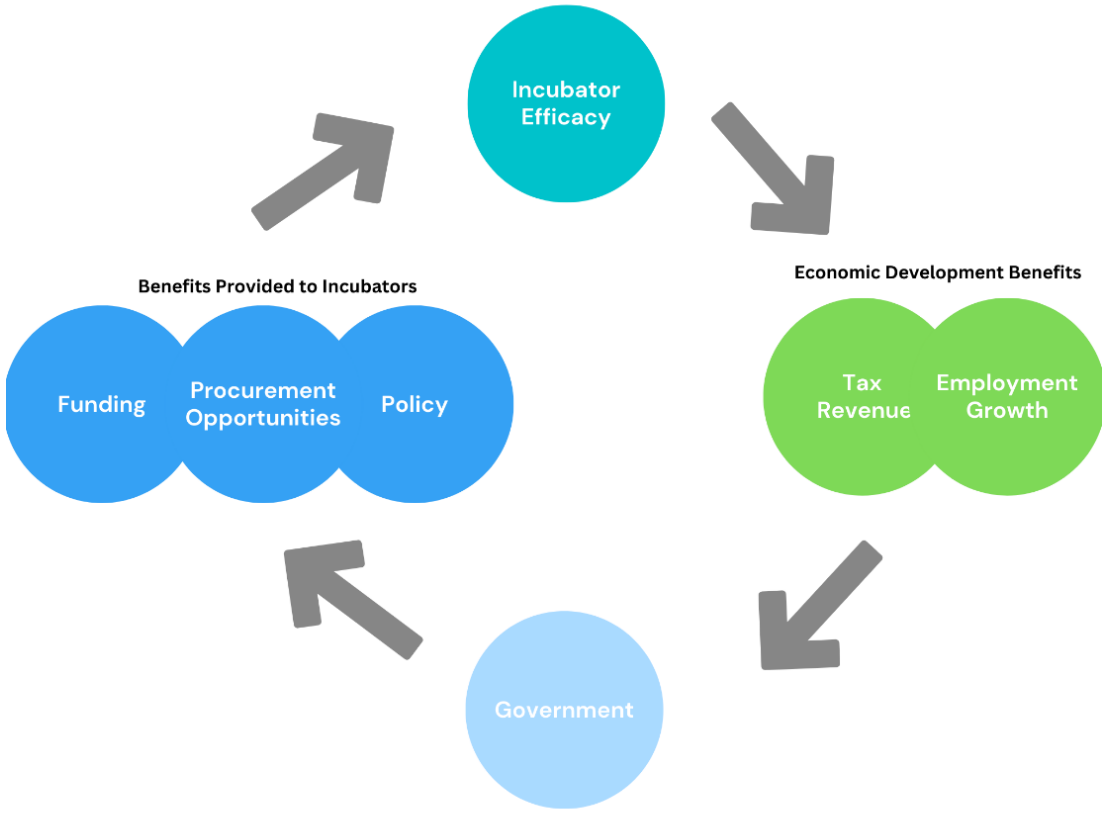
Identified as a tool used towards the goal of sustainable economic development (Harper-Anderson, 2018:119-134), all BIs are inherently connected with their local governments and, therefore, national governments. The different sectors of government will be focused on sustainable regional economic development and job creation (Rogerson, 2017:1-12; Van der Spuy, 2019:16). Governments support BIs through funding, start-up and small business-friendly policies, and procurement opportunities for incubated businesses. This is supported by Buys and Mbewana (2007:357) who found that supportive government policies were a critical success factor in creating the conducive environment required by incubators to succeed in South Africa. This perspective is further supported by Li, Ahmed, Qalati, Khan, and Naz (2020:14).

There is a defined flow of benefits between government and incubators, where government is a funder. Although not all incubators benefit from government-linked funding, government stakeholders remain relevant to incubators through the creation of start-up and small business-friendly policymaking as well as government making procurement opportunities available to small businesses. Governments are also considered a stakeholder in all incubators due to their inherent interest in the economic development benefits that incubators can produce, such as job creation and an increase in tax revenue, regardless of whether they are a funder or not. Due to their interest in the ability of incubators to deliver economic development related outcomes, such as employment growth or new venture creation, government is considered to focus primarily on the economic development perspective.

The flow of benefits from government stakeholders – such as the Department for Small Business Development in South Africa – is outlined in Figure 4.1 below. Governments instigate the flow of benefits to incubators by enacting legislation and policy that creates a favourable environment for incubators to operate. In addition, governments may set out to play a more active role in promoting incubation by offering funding for incubators, creating procurement opportunities for incubated businesses, or

establishing and operating incubators themselves. In the process of running incubation programmes, incubators are expected to produce economic development benefits, such as employment growth or an increase in tax revenue through new venture creation and business growth. The flow of these economic development benefits back to governments, constitutes a return on their investment and justifies the continued funding and support of incubators going forward as shown in Figure 4.1 below.

Figure 4.1: The flow of benefits between incubators and government stakeholders



Source: Author's own compilation

Incubators do not exist in isolation. They are connected by default to their local socio-economic environment and thus, government has an implicit interest in their activity beyond funding. This extends to incubators that are not publicly funded. There is an implicit expectation of incubators that there should be a positive socio-economic impact as a result of their presence in an area (Sentana, González, Gascó & LLopis, 2017:1-2). This impact primarily takes the form of employment growth, knowledge flows that enable innovation, and new venture creation.

4.4.2 Incubated businesses as a stakeholder

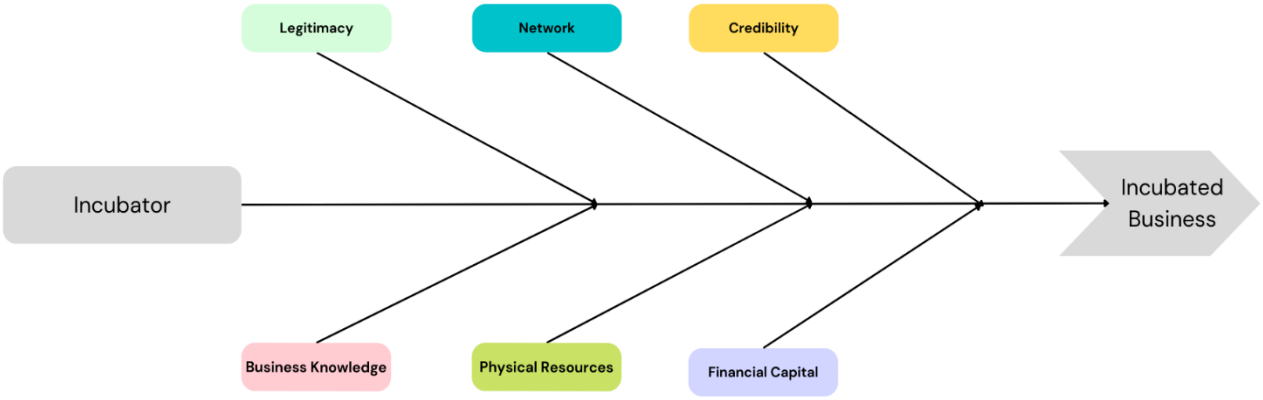
As a result of their operations, incubators count incubated businesses as their clients and are thus a stakeholder in the organisations. Their primary concern relates to the BIs efficacy in meeting their expectations with regards to the incubation process, such as access to funding, business growth, or enhanced credibility (Hausberg & Korreck, 2020:151-176). There are several factors which affect how incubated businesses perceive the efficacy of an incubator. Among these are the impact of the existence of internal networks, those that exist within the incubator between incubated businesses and incubator staff, and external networks, those within the broader entrepreneurial ecosystem which are funding institutions or universities, which may be beneficial to the incubated business. Bøllingtoft and Ulhøi (2005:274) found that businesses use incubators as a means of accessing internal networks, which in turn offer substantial collaboration opportunities to tenanted businesses. This could take the form of collaborations with other incubated businesses on larger projects or accessing the skills and resources available from incubator staff. This perspective is supported by Pattanasak, Anantana, Paphawasit, and Wudhikarn (2022:9), who identified networking as a critical success factor for incubators, identifying internal networking as a source of encouragement and support for incubated businesses.

In addition to networks, incubators are expected to provide a range of resources to the incubated business – such as physical resources in the form of a shared working space, access to financial capital, potentially through links to grant funding institutions as well as the transfer of business knowledge from incubator staff to incubated businesses through engaging with the incubation programme. The transfer of business knowledge from incubator staff to incubated businesses is a fundamental part of the incubator's 'offer' to potential incubated businesses, with businesses engaging in incubation programmes to achieve business growth through accessing the incubator. This may be delivered through coaching and mentoring, or through the provision of workshops around relevant topics to the incubated businesses. This is supported by Pattanasak *et al.* (2022:10), who identified knowledge sharing and the availability or access to financial resources as critical success factors for incubators. Further to the provision of resources, businesses may engage with incubation programmes in order to achieve legitimacy or enhance their credibility, especially if the incubator in question has a track record of producing successful and valuable businesses. This is in line

with the findings of Leitão, Pereira, and Gonçalves (2022:18), who identified the role incubators play in enhancing the credibility of incubated firms.

Incubators are expected to provide a range of resources, services, and other benefits to incubated businesses such as the physical, financial, knowledge, and network benefits outlined previously. This is in addition to the legitimacy and credibility that incubators can enhance for incubated businesses. The flow of these benefits to incubated businesses stems from the incubator itself and/or its network to the incubated business. This flow is outlined in Figure 4.2 below.

Figure 4.2: The flow of benefits from incubators to incubated businesses



Source: Author's own compilation

Incubators provide benefits to incubated businesses, as shown in Figure 4.2. The intention for businesses when engaging with incubators is to achieve business growth, as outlined earlier in this section. This is done through leveraging resources, knowledge, and other benefits that the incubator makes available through their incubation programmes. Considering that incubated businesses are primarily concerned with achieving business growth, it is fair to conclude they are primarily

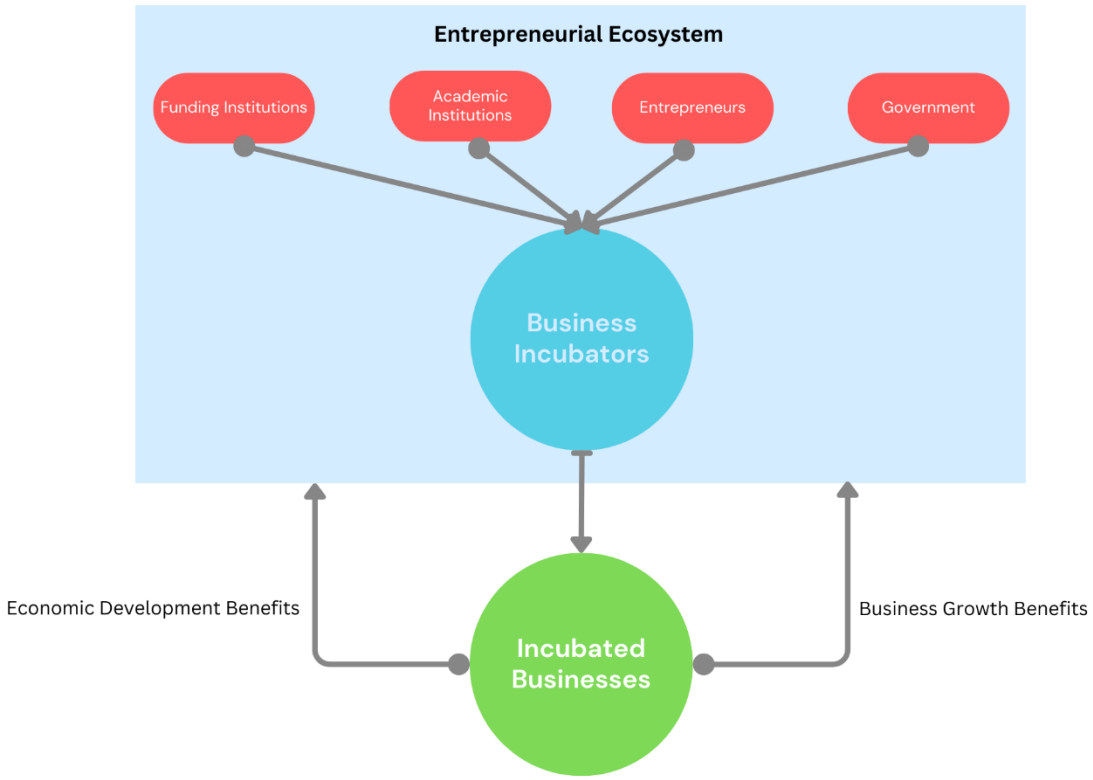
focused on the business growth perspective of incubator efficacy, as opposed to the economic development perspective.

4.4.3 Entrepreneurial ecosystem as a stakeholder

Nicotra *et al*. (2017:640-673) describe entrepreneurial ecosystems as a "set of interdependent factors coordinated in a way that enables entrepreneurship". This may include the coordination of government, academic institutions, incubators, chambers of commerce, and entrepreneurs in such a way that entrepreneurship is promoted. The purpose of an entrepreneurial ecosystem is to promote entrepreneurial activity, which it achieves through the coordination of activity between actors, such as academic institutions or BIs, and improving the innovation and commercialisation as a result of the value created due to different actors – such as academic institutions and incubators as previously stated – being present within the ecosystem (Colombo *et al.*, 2019:419-428). Hausberg and Korreck (2020:151-176) identified the environment and community as a stakeholder of incubators in their examination of the antecedents, process, and outcomes of incubation processes. While Hausberg and Korreck (2020:151-176) refer to "community", the inference is to the entrepreneurial ecosystem in which the incubator operates, noting the role the entrepreneurial ecosystem plays in providing resources to incubated businesses through the incubator. Theodoraki *et al.* (2020), by identifying incubators as intermediary players in the entrepreneurial ecosystem that gather and distribute resources through the entrepreneurial ecosystem to incubated businesses, posit that ecosystems, made up of multiple, interdependent actors, exist to promote entrepreneurship and economic development. In essence, there is a shared purpose between the entrepreneurial ecosystem and the BI in pursuing business growth (as a result of entrepreneurial activity) and economic development. This is due to the positive impact business growth has on the entrepreneurial ecosystem, increasing the availability of resources and expertise as well as increasing the ecosystem's capacity for innovation. The economic development benefits derived from a thriving entrepreneurial ecosystem such as increased employment and higher tax revenue, contribute to ensuring the success of the ecosystem through the creation of new ventures and increasing the attractiveness of the ecosystem for external investment. Incubators, as organisations that seek to encourage business growth and new venture creation, are intrinsically linked to the entrepreneurial ecosystems in which they exist, relying on them to access

resources, yet also enabling the growth of the ecosystem through the provision of incubation programmes. These incubation programmes aim to promote new venture creation and business growth which in turn, contribute to the entrepreneurial ecosystem, as already mentioned These two objectives are discussed in detail in Chapter 3. The flow of benefits from the entrepreneurial ecosystem through incubators to incubated businesses and the flow of benefits from incubated businesses back to the ecosystem is displayed in Figure 4.3 below.

Figure 4.3: The flow of benefits within the entrepreneurial ecosystem



Source: Author's own compilation

The flow of benefits from the entrepreneurial ecosystem is moderated by incubators which act as an intermediary in the ecosystem. As outlined in Figure 4.3, several role-players in the entrepreneurial ecosystem such as academia, financial institutions, entrepreneurs, and government provide different resources and benefits to incubators, who then pass these on to incubated businesses through their incubation programmes. The incubated businesses in turn, provide business growth and

economic development benefits back to the entrepreneurial ecosystem, as discussed earlier in this section.

Considering this shared purpose and the role incubators play as intermediaries within the entrepreneurial ecosystem, this study considers the entrepreneurial ecosystem as a stakeholder of BIs.

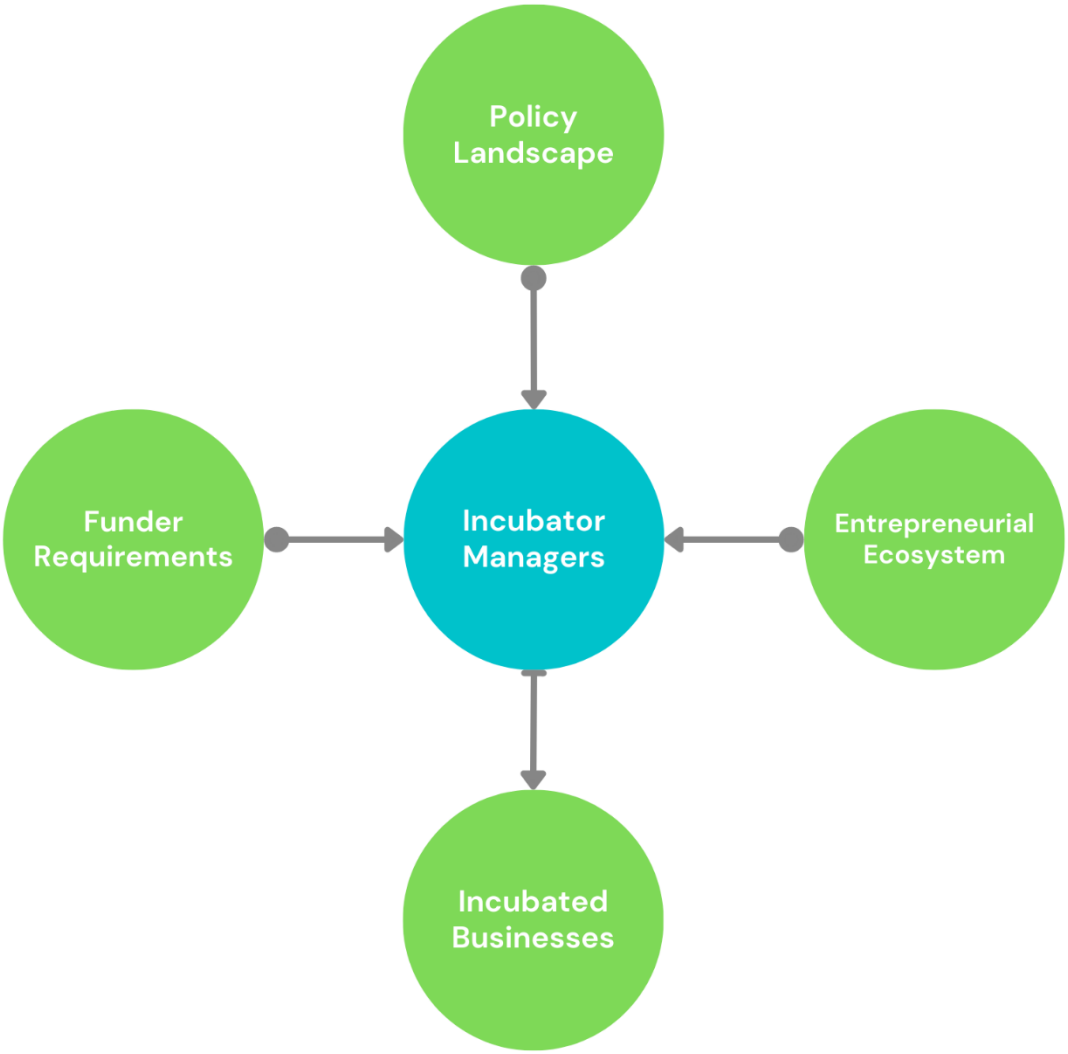
4.4.4 Incubator organisation as a stakeholder

Incubators play a key role in assisting new ventures and encouraging entrepreneurship. As discussed in the previous sections, incubators provide benefits to incubated businesses that could include physical and/or financial resources, business knowledge, legitimacy, and/or credibility. This is achieved through the work of incubator staff, most notably the incubation managers that work to develop and deliver incubation programmes. Pattanasak *et al.* (2022:34) support this perspective, identifying incubator staff as a critical success factor of incubators. Lose and Mapuranga (2022:5) concur that identifying a lack of sufficient skills with regards to running incubation programmes is a substantial inhibitor of incubator efficacy in South Africa.

Kakabadse, Gowan, Karatas-Ozkan, Theodorakopoulos, and Nicolopoulou (2019:6) found that incubator managers see themselves as stakeholders in the incubation organisation, playing the role of a support mechanism for their incubated businesses, first and foremost by providing the incubation programmes that assist new and developing entrepreneurs. In this role, incubation managers (and the incubation organisation) are indeed stakeholders of the incubation process. Kakabadse *et al.* (2019:6) further found that incubation managers are directly impacted through the actions and decisions of other stakeholders, as seen in the role that a lack of funding and an abundance of compliance requirements from funders play in constraining the role these managers play. In addition, policy decisions by government, major changes in the entrepreneurial ecosystem, a change of appetite for incubation from potential incubated businesses, all impact on the nature of the role an incubation manager plays. The incubation organisation is represented primarily by the incubation manager in the context of this study, thus the reference to incubators as stakeholders will be

seen in both this section and the sections that follow. These elements are displayed in Figure 4.4 below.

Figure 4.4: The role of incubator managers



Source: Author's own compilation

Figure 4.4. identifies the role incubator managers play as intermediaries, managing the expectations placed upon incubators by the entrepreneurial ecosystem and funders, as well as navigating the policy landscape in order to provide incubation programmes to incubated businesses. Incubator managers are expected to enable the flow of resources and expertise from the entrepreneurial ecosystem to incubated businesses in order fulfil the ecosystem and incubated business expectations of

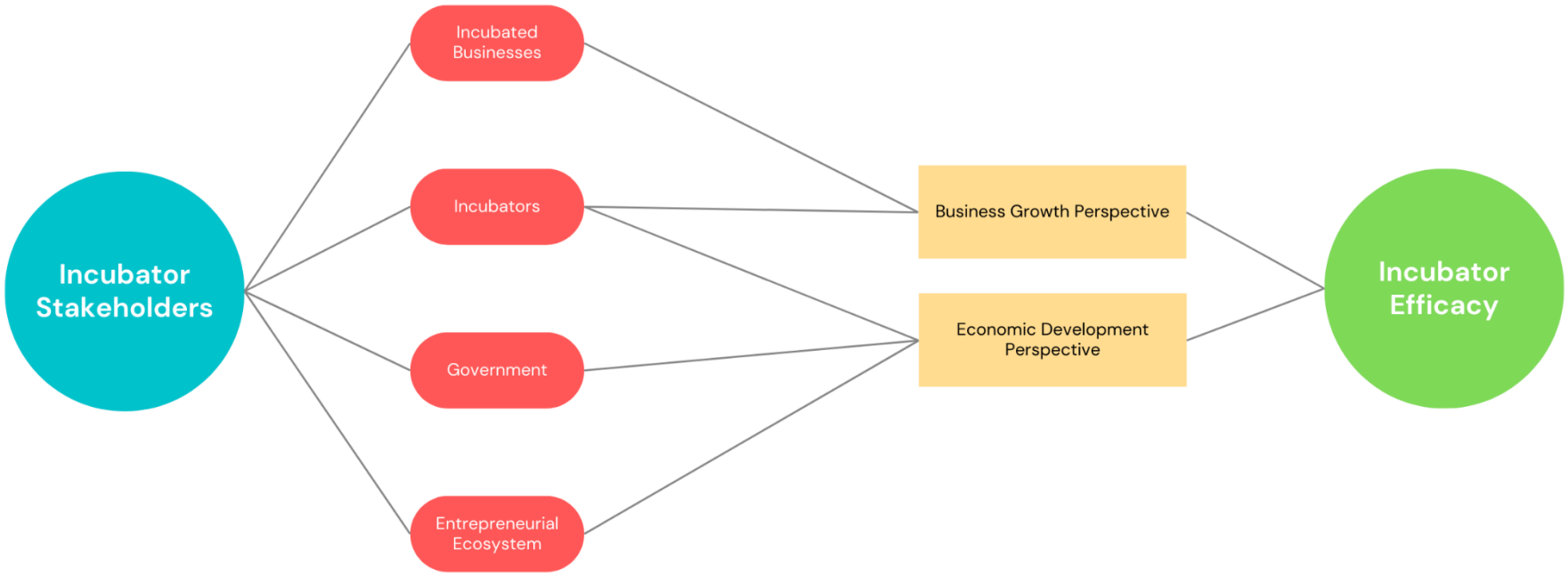
accessibility to resource. Further to this, incubator managers are required to navigate the policy landscape and lobby on behalf of incubated businesses to policymakers. In addition, incubators are often guided by funder requirements in terms of how their incubation programmes are constructed. These elements impact the role incubator managers play and affect their ability to deliver effective incubation programmes.

Incubator organisations are concerned with both the economic development perspective and the business growth perspective of incubator efficacy. This is due to the influence of the incubation organisation's other stakeholders, with incubators needing to maintain sufficient focus on delivering business growth to continue to attract potential incubated businesses, whilst also delivering the economic benefits associated with incubation to ensure continued funding, positive policymaking, and the flow of resources from the entrepreneurial ecosystem.

4.5 A CONCEPTUAL MODEL OF STAKEHOLDER PERSPECTIVES ON INCUBATOR EFFICACY

Considering the various stakeholders of incubators as well as the two defined perspectives on incubator efficacy, a stakeholder-based model of incubator efficacy is proposed for the purposes of this study, as depicted in Figure 4.5, below. This model identifies the relationships between different stakeholders and the relevant perspectives on incubator efficacy. This model assists in locating the different perspectives (economic development and business growth) within the context of an incubator as well as adopting a multi-stakeholder approach to incubator efficacy.

Figure 4.5: A conceptual model of stakeholder perspectives on incubator efficacy



Source: Author's own compilation

The conceptual model shown in Figure 4.5 displays the relationships between the identified stakeholder groups and the two perspectives on incubator efficacy identified in Chapter 3. Incubated businesses join incubation programmes with the goal of achieving business growth as a result of the incubator's resources, networks, and other benefits and thus fall under the business growth perspective of incubator efficacy. Incubators themselves straddle both perspectives in order to fulfil their purpose of growing start-up businesses. They are required to deliver on the business growth perspective, in addition to delivering on the economic development benefits associated with BIs, such as employment growth and increased tax revenue, as required by their government and entrepreneurial ecosystem stakeholders. Government stakeholders of incubators are focused on delivering the economic benefits associated with incubators, as previously mentioned. In addition, the entrepreneurial ecosystem stakeholder group is primarily concerned with the economic development perspective, due to the holistic benefit that this perspective can deliver to the wider ecosystem.

4.6 AN ADVANCED CONCEPTUAL MODEL OF INCUBATOR EFFICACY

Although the benefits that incubators are known to provide can be categorised under either business growth or economic development perspective, it is useful to consider the full extent of the relationships between the different stakeholder groups identified in this chapter and the specific indicators related to the different perspectives of incubator efficacy. These relationships are illustrated in Figure 4.6, below.

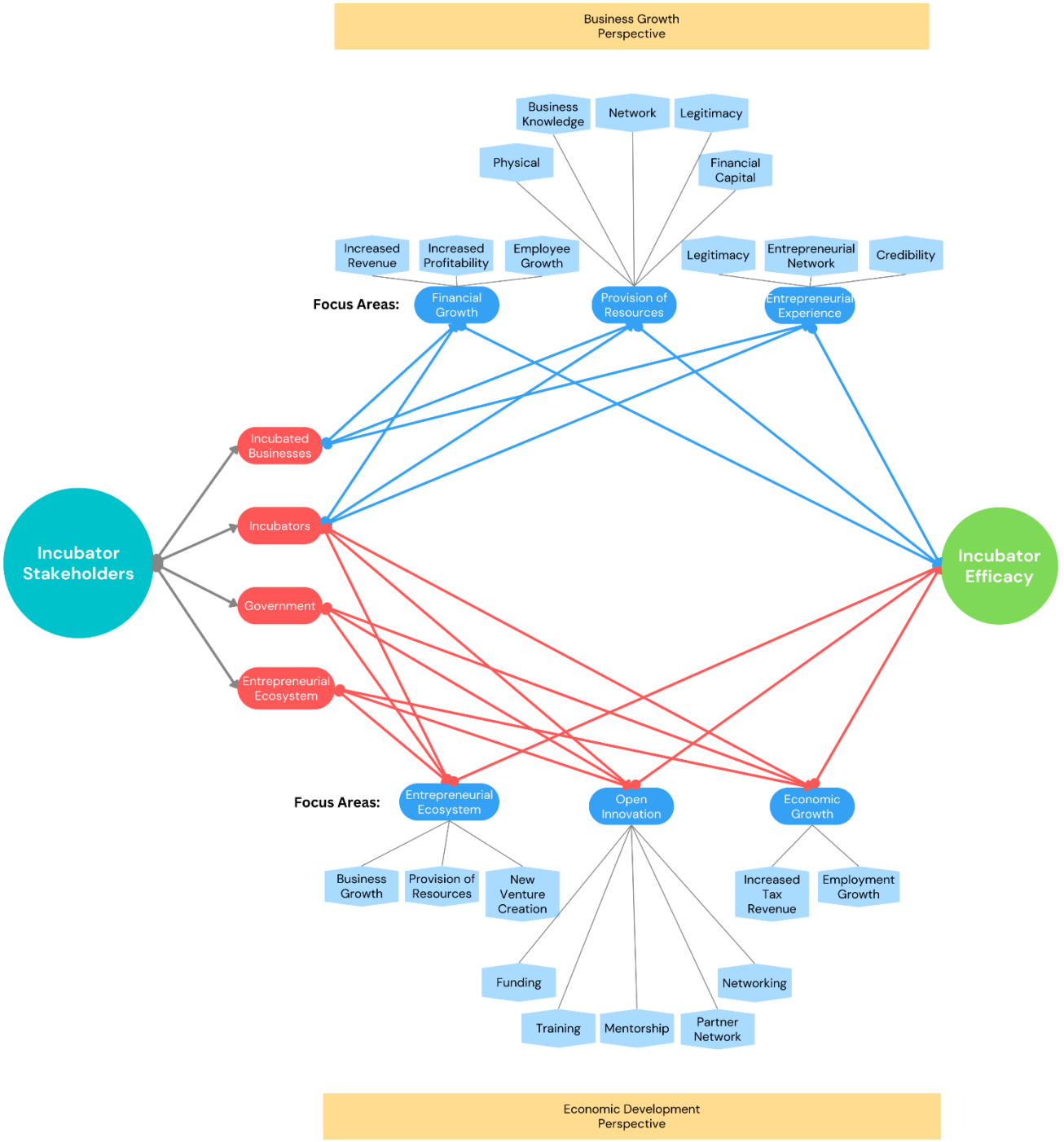


Figure 4.6: An advanced conceptual model of incubator efficacy

Source: Author's own compilation

In Figure 4.6, the relationships between the different incubator stakeholder groups and the specific focus areas under each perspective of incubator efficacy are shown. Each focus area includes several specific elements which impact upon the efficacy of the incubator with regards to that focus area. Under the business growth perspective, the first focus area is the financial growth of incubated businesses. Financial growth in this context refers to increased revenue, increased profitability, or growth in the number of

employees of businesses receiving incubator support. The second focus area is the provision of resources. This refers to the incubator's ability to provide resources to the businesses it is supporting, and includes the provision of physical resources, such as a shared working space, business knowledge delivered through incubator training, access to the incubator network, perceived legitimacy as a result of being included on the incubator programme, and financial capital. The third focus area is the entrepreneurial experience, referring to the specific benefits derived by the entrepreneur who is involved in the incubator programme. These benefits include legitimacy, the development of an entrepreneurial network, and credibility of the entrepreneur. Incubated businesses, focused on the business growth perspective of incubator efficacy, are shown to consider each focus area as relevant to their determination of incubator efficacy. Likewise, incubators themselves deem each focus area as relevant to the efficacy of their programme since incubated businesses evaluate these elements when determining efficacy.

With regards to the economic development perspective, there are again three focus areas that are relevant to incubator efficacy. The first focus area is the impact on the entrepreneurial ecosystem. As an enabling actor within entrepreneurial ecosystems, incubators are required to consider their contribution to the ecosystem at large. This is achieved through the growth of businesses within their portfolio – as opposed to individual business growth under the business growth perspective. This may raise the profile of the ecosystem, increase the provision of resources that the ecosystem can access, and stimulate the creation of new ventures which may contribute to the overall innovativeness of the ecosystem. The second focus area is the contribution of the incubator to enable the open innovation paradigm. Again, fulfilling an enabling role by promoting knowledge flows, the efficacy of the incubator is determined by its ability to enable access to funding, training, mentorship, a network of incubator partners, and networking within the incubator itself. The third focus area concerns the incubator's contribution to overall economic development. This is considered in terms of the incubator's ability to contribute to employment growth and an increase in tax revenue as a result of new venture creation or business growth. Government stakeholders, the entrepreneurial ecosystem, and incubators are considered to maintain an economic development perspective on incubator efficacy. Government stakeholders seek to deliver economic growth, whilst the entrepreneurial ecosystem seeks to strengthen its

ability to enable entrepreneurship – both are seen to be impacted by the efficacy of the incubator in delivering with regards to the entrepreneurial ecosystem, open innovation, and economic development already discussed. Incubators are required to maintain an economic development perspective in addition to the business growth perspective discussed earlier. This is a result of the stakeholder theory which states that (applied to business incubation) an incubator's efficacy is determined by the stakeholders' satisfaction with their activity and results.

Although two distinct perspectives of incubator efficacy apply, as shown in Figure 4.6, there are several specific elements – such as employment growth and networks – that are shared between both perspectives. These shared elements indicate that the potential impact of effectively delivering these elements could maintain a multiplier effect, due to the value being derived across the different perspectives, for example, the prevalence of networks across both the business growth and economic development perspectives. Considering the business growth perspective, networks are seen as a resource that incubated businesses can tap into for collaboration opportunities and the acquisition of expertise and resources. Under the economic development perspective, networks allow for the open innovation paradigm to take root, increasing the entrepreneurial ecosystem's capacity for innovation. Thus, the incubator can impact both perspectives positively by building strong networks internally and externally. Conversely, some shared elements have unintended consequences. For example, employment growth features in both the business growth and economic development perspective of incubator efficacy. Under the business growth perspective, employment growth may be applicable when a business is able to take on more employees as a result of growth, whereas under the economic development perspective, employment growth may be seen as a target to be achieved which may result in bias – conscious or otherwise – towards selecting businesses that have a higher potential for employment growth. This is a crucial factor to consider when considering Hackett and Dilts' (2008:439-471) perspective on selection and incubator efficacy.

4.7 SOURCE OF FUNDING AS A MODERATOR OF EFFICACY PERSPECTIVES

Funding is a critical factor for many incubators. Not to be confused with the funding provided to incubated businesses, many incubators rely on external sources of funding

to provide their incubation programmes. Often taking the form of grants or donations, funding for incubators is generally tied to the delivery of specific outputs, as required by the funding body or institution. This may be provided through affiliated institutions, such as university incubators that are funded by the university they operate in, or through government funding allocated for incubation programmes which is also the case for public incubators. Private incubators may use a combination of sources to fund their operations, often running multiple programmes simultaneously as to avoid missing potential funding opportunities. The variety of funding sources may have different expectations and outputs attached to them, requiring incubation managers to choose their funding sources carefully in order to ensure they are aligned with the incubator's mission and values.

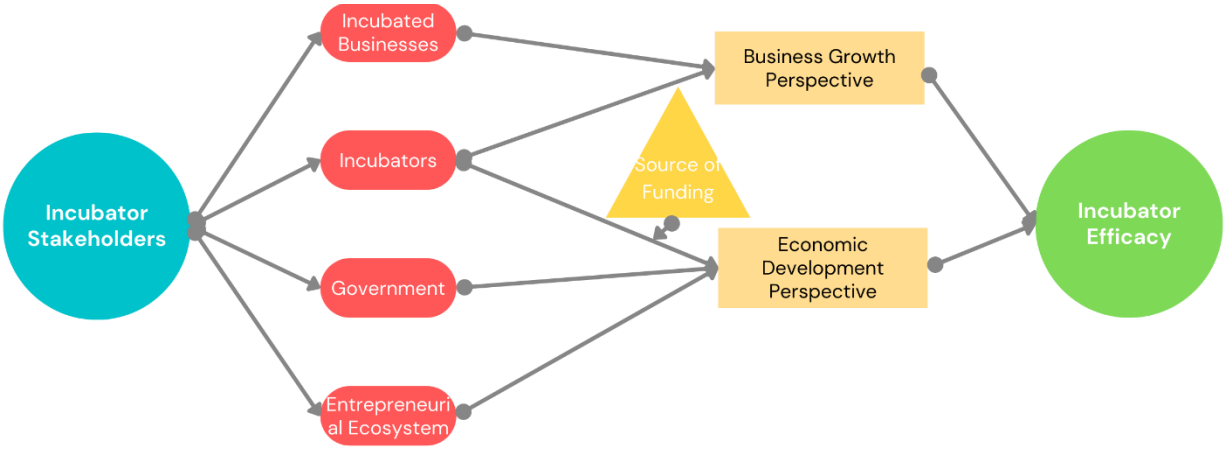
Many incubators are unable to run sustainably, leading to a reliance on continued support for external sources (Lose & Mapuranga, 2022:5). As a result of the dependence on external funding, incubators are often categorised based on the source of funding that supports them. As such, there are potential implications with regards to the degree to which certain perspectives of efficacy are promoted by the incubator, in that they are informed or directed by the funding body or organisation. Considering that the intention of incubators is to assist the development of new businesses, it is inherent in incubators to adopt a business growth perspective on incubator efficacy. In addition, by virtue of incubators playing a vital role within entrepreneurial ecosystems, it is possible to conclude that all incubators, to a greater or lesser degree, also adopt an economic development perspective on incubator efficacy. However, it remains unclear to what extent the source of funding moderates the relationship between the incubation organisation and the degree to which the economic development perspective on incubator efficacy is favoured by incubator management.

Fan, Huang, and Chen (2019:1379) found that the source of funding for collaborative programmes between the universities and industry affects the innovation climate present in those programmes. This has a fundamental impact on how incubators perceive their own efficacy. In addition, in a study examining the USA, China, and Brazil, Chandra and Fealey (2009:67) found that most incubators in the developing economies of China and Brazil are funded by different levels of government, either directly or indirectly, and the strategic focus of these incubators lent towards social

aspects such as job creation, under the economic development perspective. However, incubators in the USA source funding from a variety of sources, including government, private funders, and economic development organisations. This varied pool of funders led to a primary focus on technology transfer and commercialisation, under the economic development perspective. As the strategic focus of the incubator is directly related to the goals and objectives of the organisation, there is a fundamental relationship evident between the source of funding and the degree to which the economic development perspective on incubator efficacy is adopted by the incubator (Chandra & Fealey, 2009; Fan *et al.*, 2019). Taking this relationship into consideration, there is sufficient evidence to suggest that the source of incubator funding is a moderator of this relationship. This study seeks to determine if the source of funding is indeed a moderator of this relationship.

In Figure 4.7 below, the model proposed in section 4.5 is further developed to include the source of funding as a moderator on the relationship between the incubator and the extent to which the incubator regards economic development as a key part of their measures of efficacy.

Figure 4.7: A conceptual model of incubator efficacy with source of funding as a moderator



Source: Author's own compilation

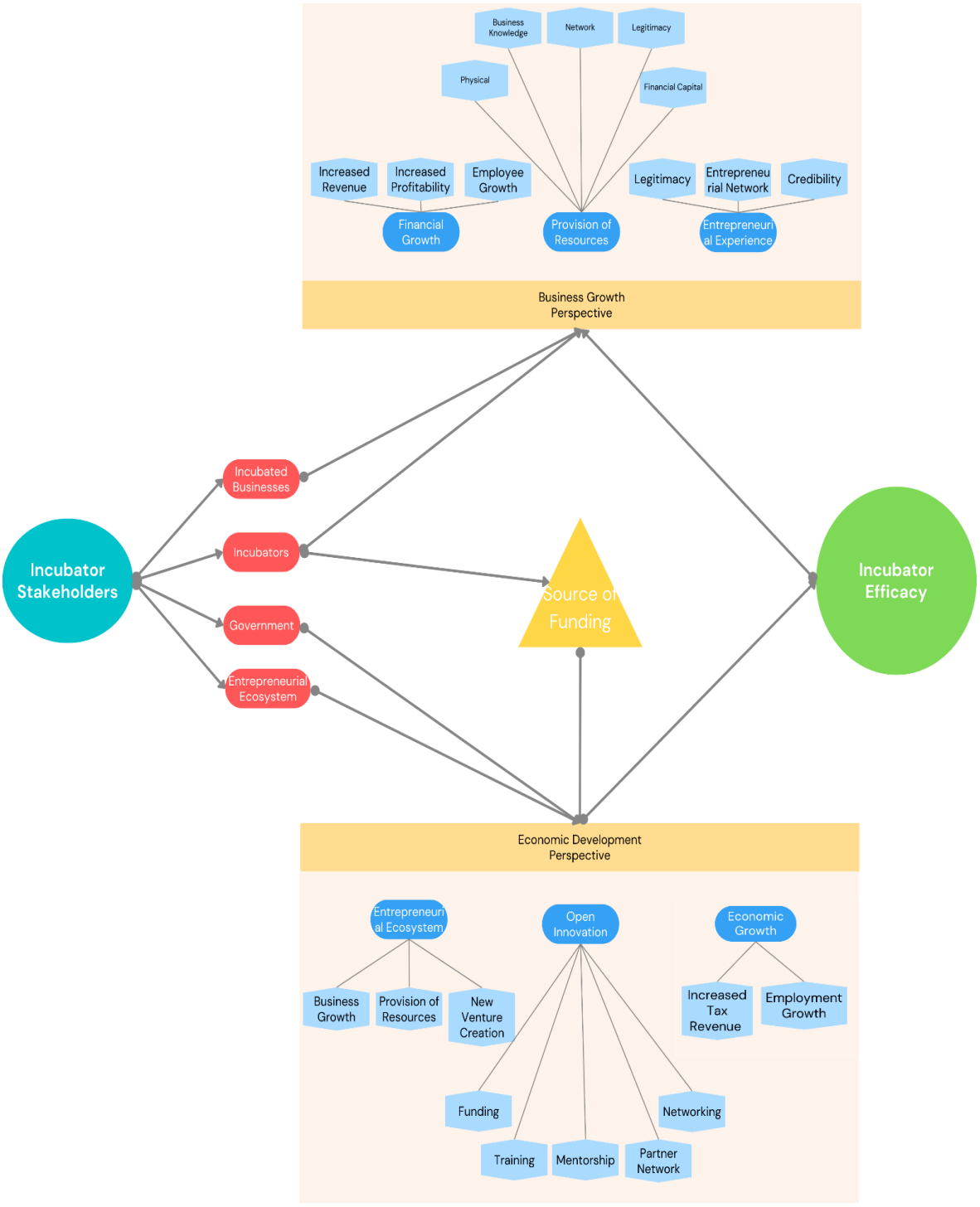
Incubators have been shown to have four primary groups of stakeholders – the incubated businesses, government, the incubators themselves, and the entrepreneurial ecosystem within which they exist. Each stakeholder has a vested interest in the efficacy of the incubator; however, this interest may fall into either of the defined perspectives of incubator efficacy – the business growth perspective or the economic development perspective. As shown, as a result of their own motivation to join an incubator programme, incubated businesses are deemed to focus on the business growth perspective – thus they are focused on growing their business whilst involved in the incubator programme and would primarily use measures related to this goal to determine the incubator's efficacy. Conversely, government as a stakeholder group, is primarily focused on the economic development perspective of incubator efficacy. This is due to their role as a funder and/or the expectation placed upon government to grow the economy and provide opportunities for employment growth. This implies that government's focus is not on the growth of any specific business, instead on the overall growth of the economy as a result of incubator activities. This is similar to the entrepreneurial ecosystem, which is primarily concerned with the strength of the ecosystem and the role the incubator plays within it, than the success of a particular business. The incubator organisations are seen as straddling both perspectives on incubator efficacy. When incubated businesses experience growth as a result of the incubation programme, the incubator is seen as achieving its purpose – to grow and develop start-up businesses. However, there is also a need to focus on

the broader economic development perspective as a result of existing funding mechanisms that measure efficacy in terms of outputs related to employment and economic growth. As such, the incubator is required to balance both perspectives. There is, however, an additional complexity to consider in that the extent to which the incubator is focused on providing the economic development outputs required under the economic development perspective is determined by the source of the incubator's funding, with the source of funding acting as a moderator of this relationship.

4.8 AN ADVANCED CONCEPTUAL MODEL OF INCUBATOR EFFICACY WITH SOURCE OF FUNDING AS MODERATOR

Considering the advanced conceptual model of incubator efficacy put forward in Figure 4.7 and the addition of the source of funding as a moderator of the relationship between incubated businesses and the focus on the economic development perspective of incubator efficacy in the conceptual model in Figure 4.7, Figure 4.8 below, shows how the moderating relationship is situated within the advanced conceptual model.

Figure 4.8: An advanced conceptual model of incubator efficacy with source of funding as a moderator



Source: Author's own compilation

As shown in Figure 4.8, the source of incubator funding moderates the relationship between the incubator and the extent to which it focuses on the economic development perspective. In essence, this relationship is determined by the focus of

the funder – if the funder is focused on economic development, the incubator focus on the economic development perspective will increase. Conversely, if the funder is not motivated by the economic development benefits of incubation, the incubator's focus on the economic development perspective will decrease. This impacts on the incubators motivation to actively participate in the wider entrepreneurial ecosystem, enable the open innovation paradigm or deliver the primary economic development benefits related to incubation. This study posits that the relationship between incubators and the business growth perspective is constant, since the growth and development of businesses is the primary defining characteristic of an incubator, regardless of the type of incubator or the incubation model employed. This model is the conceptual model that will underpin the framework this study seeks to develop.

4.9 CHAPTER SUMMARY

This chapter explored and discussed the existing literature relevant to measuring incubator efficacy and the application of stakeholder theory to the concept of incubator efficacy. The chapter began by introducing the concepts being discussed, including an overview of existing approaches to measure incubator efficacy. The goal approach, stakeholder approach, system resource approach, internal process approach, and adapted balanced scorecard approach were discussed in detail, examining the advantages and drawbacks of each approach with regards to measuring incubator efficacy.

The chapter proceeded to examine stakeholder theory and it's application to incubator efficacy, considering the saliency of stakeholders as a key factor when applying the stakeholder approach to incubator efficacy. The main stakeholder groups relevant to incubators – government, incubators, incubated businesses, and the entrepreneurial ecosystem – were discussed in detail, including their alignment with the perspectives on incubator efficacy put forward in Chapter 3. The Chapter went on to introduce a basic conceptual model of incubator efficacy, outlining the relationships between the different stakeholder groups and the two perspectives on incubator efficacy. This conceptual model was then developed further to include the specific elements relevant to each perspective on incubator efficacy put forward in Chapter 3.

The chapter concludes by examining the impact of the source of incubator funding on the relationship between the incubator and the economic development perspective on incubator efficacy. Source of funding was put forward as a moderator of this relationship, determining the extent to which an incubator focuses on the economic development perspective on incubator efficacy. This is summarised in Figure 4.8, which shows an advanced conceptual model of incubator efficacy with source of funding as a moderator.

CHAPTER 5:

RESEARCH DESIGN AND METHODOLOGY

5.1 INTRODUCTION

The purpose of this study is to propose a framework for measuring incubator efficacy, considering the two perspectives on incubator efficacy – the business growth and economic development perspectives – and how these two perspectives are reflected in a South African context. Chapter 5 outlines the processes used to collect, analyse, and report on the data contained in this study. Beginning with the problem statement, this chapter outlines the specific research gap that the present study seeks to address. It continues by discussing the research aim and research questions as well as the objectives that the study will be addressing. This is followed by an account of the research philosophy guiding the development of this study as well as a discussion of the specific research design and methodology used to gather data. This includes an overview of the sampling strategy used as well as the data collection techniques employed. Further to this, a discussion of the data analysis process follows. The chapter concludes with an account of the researcher's reflexivity as well as a discussion of the study's trustworthiness and the ethical considerations relevant to the study.

5.2 PROBLEM STATEMENT

Despite the increased interest in BI research, there remains a distinct gap in literature. Considering the breadth of approaches to BI efficacy measurement, there remains a significant gap in the literature in the form of a consolidated framework to evaluate the efficacy of BIs (Torun *et al*., 2018). Researchers have previously attempted to address this gap (Croteau, 2019:1-15; Dvouletý *et al.,* 2018:543-563; Hackett & Dilts, 2008:439-471; Messeghem *et al.,* 2018:658-680; Messeghem *et al*., 2017). Still, they have been hamstrung by the heterogeneity of BI models and contexts, a lack of consensus over definitions and typologies as well as inherent difficulties in obtaining quality data from incubators and incubated businesses (Hausberg & Korreck, 2020:151-176; Mian *et al.*, 2016:1-12). The lack of a consolidated framework prevents effective comparison of different BIs models, rendering attempts at refining incubation processes amongst large groups of incubators nigh impossible. This gap has several

implications for stakeholders of BIs, as a lack of insight regarding BI performance leads to ill-informed policy and strategic decision-making among BI managers, government departments, and potential incubated businesses.

This study seeks to address this gap in the research by proposing a consolidated framework for measuring incubator efficacy, using stakeholder theory as its theoretical basis. The study is conducted in South Africa, adding to the contribution this study makes by offering a perspective of incubator efficacy from a developing economy. This developing economy perspective is useful to researchers in helping to understand the complexities facing incubators in similar economies or in regions where the entrepreneurial ecosystem is not substantially developed. This is necessary on both an academic and practical level as incubators proliferate as a tool in promoting economic development, as outlined in Chapter 3, and will thus require robust frameworks for ensuring incubators are effective in achieving their set objectives.

5.3 RESEARCH AIM

This study proposes a framework for measuring the efficacy of BIs based on stakeholder theory. This will be done by investigating the perspectives on incubator efficacy held by incubator stakeholder groups including government, incubator management, incubated business, and community stakeholders, using the business growth and economic development perspectives on incubator efficacy detailed in Chapter 3.

5.4 RESEARCH QUESTIONS AND OBJECTIVES

In order to achieve the aim of the present study, the primary areas of research were broken down into research questions and related research objectives. This was done for ease of reference to the specific area of study being referred to throughout the study. The research questions and objectives are discussed in the sections that follow.

5.4.1 Research questions

Research questions are essentially the fundamental questions that a study seeks to answer. They underpin a study, guiding the researcher in how the research methodology should be shaped to successfully find the answers to the research questions posed.

The research questions relevant to this study are detailed in Table 5.1 below.

Table 5.1: Research questions

RQ1	What is the current state of business incubation as a phenomenon?
RQ2	What are the different perspectives on business incubator efficacy?
RQ3	What is the relevance of stakeholder theory to incubator efficacy measurement?
RQ4	What groups of stakeholders are relevant to business incubators?
RQ5	What relationships between stakeholder groups and perspectives on business incubator efficacy exist that would underpin a conceptual model of incubator efficacy?
RQ6	What is the perceived purpose and objective of business incubation in South Africa?
RQ7	To what extent are incubators perceived as effective by incubator managers in South Africa?
RQ8	What relationships between stakeholder groups and perspectives on business incubator efficacy exist that would underpin a consolidated framework for measuring incubator efficacy?

Each research question outlined in Table 5.1 is addressed across two research phases – the literature review and empirical research phases – in this study. This is detailed in Table 5.2 below.

5.4.2 Research objectives

Each research question in Table 5.1 consists of a variety of research objectives which is described in Table 5.2.

Table 5.2: Research objectives

Research Question	Research Objectives
RQ1	a) Understand the current state of business incubation b) Identify potential trends and themes emerging in business incubation in South Africa
RQ2	a) Identify the purpose and objectives of BIs b) Identify the different elements on incubator efficacy c) Categorise these elements into relevant perspectives on incubator efficacy

Research Question	Research Objectives
RQ3	a) Understand the applicability of stakeholder theory to the context of BI efficacy b) Determine the relevance of stakeholder theory to the specific context of BIs in South Africa
RQ4	a) Determine which stakeholders are present and relevant to BI b) Understand the saliency of the identified stakeholders c) Determine the impact that the source of funding for the incubator has on the objectives the incubator pursues
RQ5	a) Identify what relationships exist between the identified stakeholder groups and the different perspectives on incubator efficacy b) Determine the relevance of the stakeholder groups to each perspective on incubator efficacy
RQ6	a) Understand what the perceived purpose of BI is in the South African context b) Determine the objectives incubators are currently pursuing in South Africa
RQ7	a) Determine the perceived overall efficacy of incubators in South Africa by incubator managers b) Identify a potential rationale for perceived efficacy
RQ8	a) Determine what relationships exist between stakeholder groups and the perspectives on BI efficacy b) Identify which stakeholder groups are perceived to focus on each of the perspectives on BI efficacy

The research objectives outline the specific data that each question seeks to identify in this study. The use of research objectives assists in focusing on the development of the discussion guide and justifies the research questions relevant to this study.

5.5 RESEARCH PHILOSOPHY

A myriad of research philosophies exists, ranging from positivism, critical realism, postmodernism, pragmatism, and interpretivism (Vaiciuniene & Kazlauskiene, 2022:218). In recent times, these philosophies have been challenged, amended, and re-interpreted, resulting in the emergence of post-positivism, social constructionism, and social constructivism (Vaiciuniene & Kazlauskiene, 2022:218).

Social constructionism suggests that reality is socially constructed, in that phenomena should be understood in terms of how social constructions occur and the cultural and historical contexts which lead to their construction (Vaiciuniene & Kazlauskiene,

2022:218). This implies that the context in which phenomena occur is relevant and influences the way the phenomenon is understood. Thus, understanding the context – cultural and/or historical – informs the understanding of the phenomenon itself. Considering the relatively short history of business incubation and the rapid evolution of incubators as a concept, the cultural context in which they operate is of particular interest. This cultural context differs between regions and may influence an incubator's objectives, culture, and processes. Considering the relative nascency of incubation as a phenomenon, the cultural context in which incubators operate is likely to have a significant impact on incubator activity. This is potentially more relevant to this study as it is exploring incubators in a developing economy, considering incubators evolved in developed economies such as the USA. Thus, the cultural context – such as the values shared among people, including shared beliefs, norms, meanings, customs, and ideas – would impact on the efficacy of incubators attempting to implement processes developed in developed economies in the vastly different context relevant to developing economies. However, considering that social constructionism dictates that reality is a social construct influenced by South Africa's individual culture, history, opinions, and biases, a thorough account of the researcher's reflexivity is required to address the pre-existing biases and opinions – such as in this case, the researcher's opinion on the efficacy of incubators in general or the influence that government policy has on incubation – with regard to the subject being researched (Clarke & Braun, 2013:67).

This study is concerned with the perceived efficacy of incubators, considering the perspectives of an incubator's stakeholders, towards developing a consolidated framework applicable to multiple incubator contexts, for example, public incubators, private incubators, and corporate incubators which each have a range of stakeholders that influence the context they operate in. As this study is concerned with the shared reality of incubation across multiple incubation contexts – the commonalities shared across the different incubation contexts being studied – social constructionism was deemed most appropriate.

5.6 RESEARCH DESIGN AND METHODOLOGY

In order to achieve the objectives of this study, a thorough understanding of the research design and methodology are required. This section sets out the rationale behind adopting a qualitative research design and the subsequent methodological approach adopted.

5.6.1 Research design

5.6.1.1 Qualitative research

The research objectives outlined in section 5.4.2 require an in-depth study to be understood. Qualitative research offers the opportunity for rich, in-depth descriptions of the phenomenon being studied, allowing for a thorough understanding of the concepts and the relationships that exist between concepts. Qualitative research can be understood to be research that produces findings that are not determined using statistical methods – essentially a process of generating new ideas and improving the understanding of the relationships between existing ideas through "…comparing, contrasting, and categorizing (sic)" (Fischer & Guzel, 2022:2).

Qualitative research as a paradigm, involves assuming that there are several versions of reality that could be seen as 'correct' and that these are linked directly to the context in which they develop (Clarke & Braun, 2013:6). Thus, qualitative research requires a thorough understanding of the context in which phenomena occur. This context involves the environment in which the phenomena occur, but also the relationships that exist and support it. This is of particular importance in this study as it examines the relationships that exist between stakeholders and incubators towards developing a consolidated framework for measuring incubator efficacy. The focus on context and meaning supports qualitative research as an appropriate approach for this study.

As this study seeks to construct a consolidated framework for measuring incubator efficacy that is predicated on the relationships between the stakeholder groups identified in Chapter 4 – government, incubated businesses, incubators, entrepreneurial ecosystem – and different perspectives outlined in Chapter 3 on incubator efficacy, qualitative research that explores these relationships is deemed most appropriate. A key benefit of qualitative research over a conceptual study is that it is empirical research. Empirical research is necessary to contribute meaningfully to

the understanding of business incubation, which in the context of this study, is to contribute a consolidated framework for measuring BI efficacy.

5.6.1.2 Exploratory qualitative research design

An exploratory qualitative study research design is used to study the opinions and perceptions of multiple people about a specific research topic (Plano Clark & Creswell, 2015:289). Exploratory studies focus on developing hypotheses, rather than testing them. Considering the lack of incubation research conducted in the specific economic context of South Africa and a general lack of consensus among researchers regarding the measurement of incubator efficacy, exploratory research to further understand the phenomenon is required. This may be followed by further studies that seek to test and validate the findings of this study. Further to this, as outlined in Chapter 4, incubators maintain several salient stakeholders which influence the incubator's objectives, processes, and activities. The influence of stakeholders thus impacts upon the context in which an incubator operates, rendering their perspectives on incubator efficacy substantially relevant to the proposed consolidated framework for measuring incubator efficacy that this study seeks to produce. In addition, as stakeholder theory forms the theoretical underpinning of this study, considering the multiple levels of analysis regarding the different stakeholder groups that are relevant to the topic of BI efficacy, the most appropriate research design for this study is an exploratory qualitative research design. As stated in section 5.3, the aim of this study is to explore the perceived measures of BI efficacy, such as new venture creation or job creation with regards to different stakeholder groups, the perceived efficacy of BIs when these measures are used, and the relevance of these measures in terms of the saliency of the stakeholder groups, in alignment with stakeholder theory. An exploratory qualitative study is the most appropriate research design to use when exploring the opinions of multiple parties related to a specific topic (Plano Clark & Creswell, 2015:289) and was therefore used to conduct this study.

5.6.2 Phased research approach

To answer the research questions detailed in Table 5.2, a phased approach was adopted. A phased research approach aims to ensure the most thorough understanding of the phenomena of incubator efficacy possible within the constraints imposed on a doctoral study, whilst building upon the existing literature. Each research

question and its subsequent objectives are aligned with a specific research phase, as outlined in Table 5.3 below.

Table 5.3: Breakdown of research phases

Research Question	Research Objectives	Research Phase
RQ1	a) Track the development of incubation overtime b) Understand the current state of BI	Literature Review Literature Review
RQ2	a) Identify the purpose and objectives of BI b) Identify the different elements on incubator efficacy c) Categorise these elements into relevant perspectives on incubator efficacy	Literature Review Literature Review Literature Review
RQ3	a) Understand the applicability of stakeholder theory to the context of BI efficacy	Literature Review
RQ4	a) Determine which stakeholders are present and relevant to BI b) Understand the saliency of the identified stakeholders c) Determine the impact that the source of funding for the incubator has on the objectives the incubator pursues	Literature Review/Empirical Research Empirical Research Literature Review/Empirical Research
RQ5	a) Identify what relationships exist between the identified stakeholder groups and the different perspectives on incubator efficacy b) Determine the relevance of the stakeholder groups to each perspective on incubator efficacy	Literature Review Literature Review
RQ6	a) Understand what the perceived purpose of BI is in the South African context b) Determine the objectives incubators are currently pursuing in South Africa	Empirical Research Empirical Research
RQ7	a) Determine the perceived overall efficacy of incubators in South Africa b) Identify potential rationale for perceived efficacy	Empirical Research Empirical Research
RQ8	a) Determine what relationships exist between stakeholder groups and the perspectives on BI efficacy	Literature Review/Empirical Research

Combining a detailed review of the literature and an exploration of incubator managers' current perspectives on incubator efficacy allows for the development of a more comprehensive framework with which to measure incubator efficacy. As outlined in

Table 5.3, the study addresses the individual research objectives across the literature review and/or empirical research phases. This shows how each objective was addressed and details how the empirical research phase was guided by the results of the literature review phase, towards producing the consolidated framework this study sought to produce.

5.7 SAMPLING

Sampling is defined by McEwan (2020:235) as the "selection of a subset of data units from a larger population". It is unlikely that a researcher can study the entire population related to a specific area of inquiry; therefore, it is necessary to create a sample of the population that would be included in the study to facilitate the study achieving its objectives. This section outlines the necessary considerations regarding creating a sample relevant to this study.

5.7.1 Context and units of analysis

The context of this study is complex, covering multiple levels of analysis exploring the perceived efficacy of incubators across multiple stakeholder groups and two distinct perspectives on efficacy. Thus, this study will be addressing the gap outlined by Hausberg and Korreck (2020:151-176) for further studies, covering multiple levels of analysis investigating BI. To ensure the relevance of data being collected from interview participants, specific inclusionary- and exclusionary criteria will be applied. In addition, due to the time and practical constraints present in a PhD study, the present study will be limited to participants within the geographic borders of the Republic of South Africa.

This study is focused on investigating incubator efficacy regarding an incubator's stakeholder groups. As such, stakeholder groups – government, incubator management, incubated businesses, and the ecosystem – relating to incubation organisations can be considered as the units of analysis for this study for each stated research question.

As this study is investigating the efficacy of BIs considering the perceived measures used by previously stated stakeholder groups, the unit of observation for this study is the incubation organisation or BI. To explore the perspectives used to determine

incubator efficacy, the saliency of the different stakeholders with regards to how the incubator perceives its efficacy, and the overall perceived efficacy of the incubators, the incubator organisation is deemed the most appropriate unit of observation for this study.

5.7.2 Sampling methods

To effectively sample this study, sampling occurred across two levels: the organisational level and the individual level. This means that a sample of organisations that meet the sampling criteria was gathered, before a sample of the individuals representing the sampled organisations was created, ensuring the most relevant data was collected for this study.

5.7.3 Sampling of organisations

The purposeful sampling technique known as stratified purposeful sampling was used to obtain a sample of relevant organisations. Stratified purposeful sampling is appropriate as the purpose of this study is to construct a consolidated framework for measuring the efficacy of BIs, which requires perspectives from various incubator types and stakeholder groups from which patterns may emerge. Stratified purposeful sampling involves creating a sample from specific subgroups that form part of a larger population (Patton, 2014:266-273). For this reason, the sample will contain incubator organisations that represent the different incubator types included in this study, such as public, private, university, and hybrid incubators, thus reflecting the different 'subgroups' within the BI industry. One of the advantages of stratified purposeful sampling is that all the relevant subgroups are represented in the sample, meaning that the sample will contain representation from each of the subgroups mentioned previously, rather than a random sample which may not contain all the relevant subgroups in the sample. However, a disadvantage of using stratified purposeful sampling with regards to this specific study is that the heterogeneity of incubator organisations may result in some organisations being excluded due to an inability to assign the specific incubation organisation to a specified subgroup. This is evident in the present study as corporate incubators were excluded due to the incompatibility of the model corporate incubators adopt with the subgroups outlined earlier in this section. The implementation of this sampling strategy will include identifying incubation organisations that meet the definition of a BI (Hackett & Dilts, 2004:55-82) – an organisation that exists with supporting the establishment and the growth of new

businesses as a core element of their organisational goal – which was then be assigned to a specified subgroup according to the incubator typology used in this study.

To obtain an effective sample for the present study, sampling was first done at the organisational and thereafter at an individual level, as outlined earlier in this section. In order to sample effectively, specific inclusionary- and exclusionary criteria was applied. The inclusionary- and exclusionary criteria are detailed below.

The inclusionary criteria relevant to this study are as follows:

- Incubation organisations that support the creation and growth of new businesses as a core element of their organisational goals in line with the definition put forward by (Hackett & Dilts, 2004:55-82) will be included.
- Incubation organisations with operations within the Republic of South Africa will be considered eligible for this study.
- Incubation organisations that meet the defining criteria – such as objective and source of funds – of the five subgroups relevant to this study and aligned with the typology outlined in Table 2.2, will be included.

The exclusionary criteria relevant to this study include the following:

- Where an incubation organisation is identified as a corporate BI, in that the organisation exists within a corporation for the purposes of stimulating internal innovation and research and development activities (Hausberg & Korreck, 2020:151-176; Von Zedtwitz, 2003:176-196), the incubation organisation will be excluded.

These criteria will ensure that only organisations which closely meet the definition of a BI as used in this study, are included.

5.7.4 Sampling of individual participants

Regarding the second level of sampling, criterion sampling will be used. Criterion sampling involves sampling individuals according to specific, predetermined criteria (Patton, 2014:266-273). To reduce the possibility of collecting irrelevant data from the various stakeholder groups involved in this study, only the individuals who meet the specific inclusionary criteria stated below will be included, as required by the criterion sampling technique. The advantages of using criterion sampling include that only the

participants relevant to the study being conducted are included. However, among the disadvantages of using criterion sampling is that potentially relevant data may be excluded due to overly narrow specified criteria. To address this issue, the inclusionary- and exclusionary criteria used to obtain the sample will be kept broad in nature. In practice, criterion sampling will be implemented through exploratory interaction with the organisations that form part of the sample of organisations relevant to this study to identify the relevant individuals from each organisation.

The inclusionary- and exclusionary criteria relating to the individual participants of the study are detailed below:

- Only senior managers within incubation organisations that conduct business support activities in line with the definition put forward by Hackett and Dilts (2004:55-82) will be included. Years of experience were not considered relevant for the context of this study, with the research focusing on identifying senior managers with a substantial level of proximity to incubation activity and the relationship between incubators and their stakeholders.
- Only senior managers directly involved with incubation activities and/or overall incubation management within an incubation organisation will be considered eligible for this study. This ensures that participants have the context required to give informed responses regarding incubation activity and the relationship between the incubator and its stakeholders.

The exclusionary criteria relevant to this study include the following:

- Where a senior manager is responsible for purely operational duties such as administration or finance of the incubation organisation, the senior manager will be excluded.

These criteria will ensure that only the relevant senior managers are included and will allow for a holistic perspective of incubator performance to be studied.

5.7.5 Sampling size

When determining a minimum sample size at the organisational level for this study, it is necessary to consider each incubator type as a distinct sampling category. According to Hennink and Kaiser (2022:3), saturation in empirical qualitative studies

can be reached within a range of 9-17 interviews when examining a mostly homogenous population which is a population that generally shares common traits or characteristics. For example, a group of PhD students who have undertaken the same doctoral training may be thought of as a homogenous population with regards to their experience of the doctoral training course. This perspective is shared by Clarke and Braun (2013:48), who identified a range of 10-20 interviews as sufficient for reaching saturation. Although incubators are typically heterogenous in nature, due to the overwhelming influence of the South African government in a nascent incubation industry, incubators in South Africa act as a mostly homogenous group which became apparent throughout the interview process, thus nine interviews were deemed sufficient to reach saturation. This is evident in the substantial proportion of the sample that received government funding in order to run incubation activities. This is elaborated on in Chapter 6.

Initially, an overall sample size of 15 organisations was targeted, with each organisation represented by one participant. The sample would ideally have been distributed evenly among the incubator types being studied. Crampton (2019) found an overall population of 70 incubation organisations in South Africa, including a variety of incubator types and models. This is the most recent comprehensive list of South African incubators and has been cited by several researchers (Dittrich, 2019:3; Hewitt &Van Rensburg, 2020:9; Rankeng, 2020:24). This study found that despite several incubators listed by Crampton (2019) being seemingly inactive, there are 78 active incubators in South Africa. This number was determined by analysing the Crampton (2019) list, SEDA's database of incubators, and exploring additional directories of South African business support organisations before researching each organisation to ensure it met the criteria outlined in the definition provided in Chapter 2. Considering this relatively small population, a target sample of 15 organisations represents 19.23% of incubation organisations' population and meets the estimated sample size required to reach saturation as outlined by Clarke and Braun (2013:48) and Hennink and Kaiser (2022:3). Each participant was required to meet the inclusionary criteria discussed in section 5.7.4. The sample size requirements for the first phase of data collection are discussed in Table 5.4 below.

Table 5.4: Summary of sample

Incubator Type	Size of Targeted Sample	Achieved Sample
Private, For-Profit	3	0
Not-for-profit	3	3
Public	3	4
University	3	2
Hybrid	3	0
Total	15	9

During the data collection process, recruitment of participants proved to be difficult. Several organisations declined to participate, mirroring the difficulties in accessing data found by Hausberg and Korreck (2020:170). In addition, a moratorium on engaging in research projects imposed by SEDA further complicated the data collection activity. Although a target sample of 15 organisations was set, in practice this study managed to recruit 10 organisations to participate in the study. This represents 12.8 of the population of 78 active incubators.

This study sought an evenly distributed sample across the five incubator types identified in Chapter 2. During the data collection process, the achieved sample size was 10 individuals representing 10 organisations. However, due to a failure with regards to the audio recording of one interview, the final achieved sample was nine interviews. The distribution of the achieved sample is the result of the distribution of incubators in the country, with 62.82% of incubators identified in this study having an affiliation with SEDA or the Department of Small Business Development (DSBD). Although an affiliation with SEDA does not in itself meet the definition of a public incubator, public incubators are the most represented incubator type found in South Africa. Due to a lack of incubator funding identified by participants in this study, several incubators of whom most closely meet the criteria of university, hybrid, or private incubators, have made use of funding for incubators provided by SEDA. Furthermore, private incubators were the least responsive to requests to participate in the research – a problem further complicated by the small number of private incubators present in South Africa. Only six hybrid incubators were found in the country, explaining the

difficulty experienced in recruiting hybrid incubators to participate in the study. Although the achieved sample did not meet the target sample size for this study, it was deemed sufficient as saturation was achieved since no new data was emerging from the analysis of the interviews. This is line with the findings of Clarke and Braun (2013:48) and Hennink and Kaiser (2022:3).

5.7.6 Summary of overall sampling design

The present study made use of two sampling methods to identify a relevant sample. The overall sampling design used for this study for both the organisation and individual levels, is summarised in Table 5.5 below:

Table 5.5: Summary of sampling design

Sampling of:	Organisations	Individual Participants
Main inclusion/exclusion criteria:	As stated in section 5.7.3	As stated in section 5.7.4
Overall target sample size:	15	15
Overall sample size achieved:	9	9
Minimum target sample size per participating organisation:	n/a	1
Sampling method(s) to be used:	Stratified purposeful sampling	Criterion sampling

Using the stratified purposeful sampling method at the organisational level, the study developed a target sample size of 15. This was not achieved, with an actual sample size of 10. Using criterion sampling at the individual level, this study reached an actual sample size of 10 individuals. All 10 individuals were deemed to meet the inclusionary criteria set out in section 5.7.4 and did not satisfy the exclusionary criteria set out in the same section.

5.8 DATA COLLECTION

To meet the purpose of this study, data collection involved semi-structured interviews with individuals in accordance with the sampling methodology outlined in section 5.7.

One-on-one virtual interviews were conducted in order to allow for in-depth data collection.

There is a myriad of considerations one needs to be mindful of regarding the execution of data collection efforts. Specifically in this study, many challenges were faced in the collection of data. Several incubator managers who had agreed to take part initially, were eventually excluded due to a perceived unwillingness to schedule interviews. In addition, recruiting incubator managers was a challenge, leading to the difficulty in achieving the targeted sample size. This was mitigated partly due to a large extensive outreach campaign on the part of the researcher, with 52.5% of incubators identified in the country being contacted to participate in the study. The decision not to contact the remainder was driven primarily by a desire to avoid bias in the data due to the overwhelming presence of public or university incubators in the sample. Further to this, technical challenges regarding the audio recording of one interview led to that interview being excluded. Despite these difficulties, nine interviews were achieved.

5.8.1 Semi-structured interviews

Semi-structured interviews are the most common form of qualitative research, where the researcher prepares a discussion guide but is not required to strictly adhere to it. This allows the researcher to raise issues that had not necessarily been foreseen or to adapt the questioning style, order, and language to suit the context in which the interview is taking place (Clarke & Braun, 2013:78). Due to the lack of research on incubators in the South African context as well as the perceived heterogeneity of incubators in general, it was determined that semi-structured interviews were most appropriate for the purposes of this study.

5.8.2 Discussion guide

An interview or discussion guide is a series of questions designed to guide the discussion being had with an interview participant. Using a discussion guide, assists in developing a rapport with the participant and assists in translating a study's research questions into interview questions that are best able to glean the data most relevant to the topic being researched (Clarke & Braun, 2013:83-84). The discussion guide used in this study is outlined in Table 5.6 below.

Table 5.6: Discussion guide

Interview Question	Research Question	Research Objective
1. To start with, I would like to know more about your perspective about what defines a business incubator. a. What elements of this definition are most important to you? b. Do you see incubators as being separate to other types of business support?	RQ6	RQ6.a
2. What do you believe the purpose of a business incubator is? a. Why do you believe this is the main purpose of an incubator?	RQ6	RQ6.a
3. What do you believe the objective or goal of a business incubator is? a. Why do you believe this is the objective/goal of a business incubator? b. Do different types of incubators need/have different goals? c. Do you agree with the objectives/goals currently being pursued by incubators?	RQ6	RQ6.b
4. How do you personally determine whether an incubator is meeting that objective? a. What specific metrics do you use to determine whether an incubator is meeting that objective? b. Why those metrics? c. What metrics should be used?	RQ6 RQ7	RQ6.b RQ7.a RQ7.b
5. What relationship does funding have with regards to the objectives of an incubator? a. How do you perceive the source of funding of the incubator to impact the objective of the incubator? b. To what extent does the source of funding impact the objective of the incubator, if you believe it does?	RQ4 RQ8	RQ4.c RQ8.a
6. What challenges do you believe incubators face in pursuit of those goals? a. What could be done to help incubators address these challenges?	RQ7 RQ8	RQ7.b RQ8.a
7. What impact do you believe incubators have on the economic development of the country, if any? a. What could be done to increase this impact if you believe there is any?	RQ7 RQ8	RQ7.a RQ8.a
8. Who do you perceive as being the primary stakeholders for business incubators? a. Considering the most salient stakeholders hold the greatest power, legitimacy, and urgency, how would you rank these stakeholders in terms of their salience?	RQ4	RQ4.a RQ4.b

Interview Question	Research Question	Research Objective
1. What role do you see incubators playing with regards to government? a. Do you believe incubators are currently fulfilling this role effectively? b. How should incubators' efficacy in fulfilling this role be measured?	RQ5 RQ8	RQ5.a RQ5.b RQ8.a
1. What role do you see incubators playing with regards to businesses? a. Do you believe incubators are currently fulfilling this role effectively? b. How should incubators' efficacy in fulfilling this role be measured?	RQ5 RQ8	RQ5.a RQ5.b RQ8.a
11. What role do you see incubators playing with regards to communities? a. Do you believe incubators are currently fulfilling this role effectively? b. How should incubators' efficacy in fulfilling this role be measured?	RQ5 RQ8	RQ5.a RQ5.b RQ8.a
12. How do you perceive the overall efficacy of business incubators? a. Do you believe that incubators in general are meeting the objectives described earlier? b. Are there types of incubators you believe are more effective than others? c. Are there types of incubators you believe are less effective than others?	RQ7	RQ7.a RQ7.b

For this study, the discussion guide was developed and tested through the pre-test phase. After the pre-test, the discussion guide was shortened to make it more concise and reduce redundancy.

5.8.3 Pre-testing of discussion guide

To ensure the relevance and validity of the discussion guide, a pre-test was conducted. Three incubator managers at a hybrid incubator in South Africa were recruited to participate in the pre-test. The purpose of the study was outlined, and each participant was briefed on the pre-test. A collaborative approach was adopted, allowing for specific feedback from the participants regarding the length, clarity, and relevancy, of the discussion to be incorporated. The pre-test was successful and minimal changes were required.

5.9 DATA ANALYSIS

According to Clarke and Braun (2013:174), thematic analysis has recently become a more widely respected, accepted, and utilised method of analysing qualitative data. The strength of the thematic analysis lies in its flexibility, allowing the method to be used across a variety of research questions or objectives. Themes can be identified ahead of the data analysis (known as a 'top-down' approach) or identified within the data (known as a 'bottom-up' approach). However, it is often the case that researchers use a hybrid of both methods in analysing the data relevant to a qualitative study (Clarke & Braun, 2013:178). In this study, a hybrid approach was used, where themes identified in the literature and proposed in the conceptual model in Chapter 4 were imposed upon the data to some extent, whilst also allowing for themes to emerge. This was deemed appropriate since despite an increase in incubation-related research, there is still a lack of South African-focused studies and adopting a hybrid approach allows for the contextual differences rather than attempting to fit a 'square peg into a round hole'.

Using the thematic analysis method, transcripts of the semi-structured interviews conducted with participants were analysed using Atlas TI. This method enabled patterns and themes to be identified within the data, allowing for a more holistic comprehension of the phenomenon being studied. This study adapted the six-step process prescribed by Braun and Clarke (2006:87) which followed the following process:

- Familiarising oneself with the data

  To become familiar with the data, the researcher listened to the audio recordings of the interviews and read the transcripts several times. This allowed the researcher to become immersed in the data.
- Generating initial codes

  Each transcript was coded individually. Upon completion of the initial coding exercise, the codes were reviewed to reduce redundancies within the code before settling on a final set of codes relevant to the study.
- Identifying themes within the codes

  Once the code set was finalised, the codes were analysed to identify themes that had emerged from the study.
- Analyse themes according to the conceptual model

Further to the themes being identified, they were analysed according to the conceptual model proposed in Chapter 4. This was to validate or challenge the conceptual model proposed, ensuring the relevance of the data to the model and the research questions being studied.

- Review themes and conceptual model
  The themes and conceptual model were then reviewed, ensuring the final framework proposed in Chapter 6 is true to the themes identified and addressing the literature underpinning the conceptual model initially proposed in Chapter 4.
- Writing up
  The results were then presented in Chapter 6.

Following the above process allowed for themes to emerge from the data without the prejudice of imposing the conceptual model upon them initially, whilst ensuring the literature underpinning the conceptual model was appreciated and addressed in the development of the final framework presented in Chapter 6.

5.10 REFLEXIVITY

A researcher's reflexivity is an important part of a qualitative study. Understanding one's subjectivity regarding the topic being studied and challenging one's own preconceptions is necessary to account for any potential influence this may have had on the data analysis.

To account for the researcher's subjectivity, it is important to note his professional history working in the incubation industry in South Africa, having previously worked in a non-profit incubator in Johannesburg for two years and maintaining an ongoing professional relationship with this incubator for an additional two years. Thus, the researcher has more than four years of professional expertise in business incubation in both South Africa and the United Kingdom. The exposure to the incubation industry in South Africa sparked the author's interest in this field and shaped his own personal views regarding effective incubation practices, including which, incubation typologies and models are most effective. This is further shaped by a change of employment, where the researcher is currently employed in a university-based incubator in the United Kingdom. This exposure to different incubation contexts highlighted the

importance of context regarding incubation practices for the researcher, having seen first-hand the positive impact that central government support has had on the incubators in the United Kingdom, and what a perceived lack of government support has had on incubators in South Africa. Further to this, the contrast in focus or objectives for incubators across the two contexts, with incubators in the United Kingdom primarily focused on innovation compared to those in South Africa who are perceived to focus primarily on job creation, further influenced the researcher's perspective. This experience helped shape the development of the discussion guide used to collect data.

5.11 TRUSTWORTHINESS

The trustworthiness of a qualitative study is defined by four criteria: credibility; dependability; confirmability; and transferability. To demonstrate the quality and academic rigor of this research, each criterion of the study is discussed in the following sections.

5.11.1 Credibility

A study's credibility is dependent on how closely the researcher has represented the actual perspectives of the participants (Lietz & Zayas, 2010:191). Bloomberg and Volpe (2018:162) support this notion by stating that credibility involves the accuracy of how the researcher has represented the participants "thoughts, emotions, and actions". With regards to this study, credibility is ensured by using the following two strategies: triangulation and an established data collection technique. To fulfil the requirements of data triangulation, this study gathered data from multiple organisations across different incubator types, a recognised technique with regards to data triangulation according to Polit and Beck (2013:590). This study used stratified sampling, ensuring that a range of views regarding the topic were collected. A total of 10 organisations, distributed across different incubator types, participated in the present study. This addresses the need to gather data from multiple organisations. With regards to the use of an established data collection technique, this study used semi-structured interviews, a well-established data collection tool for qualitative researchers. The methodology for the semi-structured interviews is outlined in section 5.8. These two strategies thus ensure the study is credible.

5.11.2 Transferability

Another of the recognised criteria with regards to trustworthiness is transferability. Polit and Beck (2013:585) state that transferability relates to the extent that a study's findings can be related to other contexts. To demonstrate the transferability of this study's findings, a detailed description of the context in which the study took place is included. The distribution of incubator types is examined and explained in section 5.7.5, allowing for the specific context relevant to each incubator type to be appreciated. In addition, the general context of incubators in South Africa is explored and dissected in Chapter 2. This allows for an appreciation of the context in which the study took place and ensures the transferability of the findings.

5.11.3 Dependability

To fulfil the requirements of the dependability criterion with regards to a study's trustworthiness, researchers are required to demonstrate the study's processes to such an extent that an external party would be able to follow and evaluate the research process used (Lietz & Zayas, 2010:195). Taking this into consideration, the present study provides a detailed audit trail containing both detailed descriptions of the research design and data collection and analysis techniques used, as outlined in section 5.8. The audit trail also includes a critical reflection on the research process and methods used (Shenton, 2004:63-74; Thomas & Magilvy, 2011:153).

5.11.4 Confirmability

Lietz and Zayas (2010:195) state that a study must clearly identify and demonstrate how the study's findings are linked to the data collected to achieve confirmability. In essence, confirmability dictates that the study's findings result from the perspectives of the participants rather than the biases or preferences of the research (Polit & Beck, 2013:585; Shenton, 2004:72). This study ensures confirmability using audit trails and triangulation, as mentioned above. In addition, the researcher has accounted for their reflexivity, which enhances the confirmability of this study by reducing the impact of the researcher's biases and perspectives on the responses given by the participants.

5.12 ETHICAL CONSIDERATIONS

Ensuring the rights, values, and interests of participants are respected is a critical consideration when engaging in research. Guided by the University of Pretoria's ethical guidelines, each organisation was contacted via email to request their

participation in the study. Before each interview, the aims of the study were explained, and the consent of each participant was requested. This was followed by requesting a signed informed consent form from each participant. The purpose of the study was outlined, and the participant's confidentiality was assured.

The researcher ensured that the study met the minimum ethical requirements required by the Faculty of Economic and Management Sciences of the University of Pretoria for a doctoral thesis. As such, an ethical clearance certificate was applied for and obtained for this study. This is a thorough process that ensures that the research being conducted within the faculty is sufficient regarding the ethical requirements imposed upon such a study, thus ensuring the rights, values, and interests of the participants and the researcher are protected.

5.13 SUMMARY

The chapter explains the research methodology used in this study. The chapter opened by stating the problem this study seeks to address – the lack of a consolidated framework with which to assess the efficacy of BIs. This research aims to propose a framework that would address this problem. The chapter went on to outline the research questions this study is answering and the specific research objectives that each question seeks to achieve, before giving an account of the research philosophy underpinning this study as well as the research design and method used to answer the research questions. The chapter concludes with an account of the researcher’s reflexivity, the trustworthiness of the study, and the ethical considerations relevant to the study.

CHAPTER 6:

FINDINGS AND INTERPRETATIONS

6.1 INTRODUCTION

This study began by introducing the key concepts and theories relevant to the topic through a thorough literature review in Chapters 2, 3, and 4. Chapter 2 examined BI as a phenomenon and established an understanding of the field necessary for engaging with Chapter 3, which explored perspectives on incubator efficacy. Chapter 3 provides the insight required to understand the two perspectives on incubator efficacy that underpin the conceptual model proposed later in the study. Chapter 4 explores stakeholder theory and its relevance to incubator efficacy measurement, concluding with a proposed conceptual model of incubator efficacy measurement. Chapter 5 outlines the methodological approach adopted for this study, discussing qualitative research methodologies, and describing the process used in conducting the empirical phase of the study.

Chapter 6 moves on to presenting the findings and interpretations of the data analysis process. Six themes are identified by discussing the data according to the themes and sub-themes emerging from the analysis. Although the purpose of the study is to propose a consolidated framework for measuring incubator efficacy and to maintain a data-led approach during the presentation of the findings, the conceptual model underpinning the framework is not included in Chapter 6. This allows themes to emerge from the data that are relevant to the model but not bound by it. The framework based on the conceptual model proposed in Chapter 5 is presented and discussed in Chapter 7.

6.2 QUALITATIVE RESEARCH PROCESS

To provide context for the findings presented in this chapter, a summary of the process used to collect and analyse the data is required. This study identified several research questions relevant to the purpose of this study – to propose a stakeholder-led, consolidated framework for measuring incubator efficacy. Once the research questions were identified, specific research objectives linked to each question, were detailed. The research objectives guided the development of the discussion guide.

Upon examination of the research paradigm employed in this study, an exploratory qualitative research design using semi-structured interviews was deemed appropriate. The discussion guide was developed and upon achieving ethical clearance for this study, a pre-test with three incubator managers was conducted. Thereafter, a sample of 10 incubator managers from an array of incubator types throughout South Africa was achieved, however, after a failure of the recording equipment, this number was revised to nine. The nine interviews were recorded and later transcribed. Employing thematic analysis based on the methodology proposed by Braun and Clarke (2006:77-101), the nine interviews were analysed, allowing themes to emerge from the data. The results of this process are presented in the remainder of this chapter.

6.3 PARTICIPANT PROFILE

As outlined in Chapter 5, this study recruited participants from incubators that covered a range of incubator types. These incubators, whilst all operating within South Africa, are in a variety of locations, covering the breadth of the country including rural, urban, and township contexts. The distribution and sample of the population are detailed in the sections to follow.

6.3.1 Distribution of population

Through the process of recruiting participants for this study, a total of 78 active incubators in South Africa were identified. This builds on the findings of Crampton (2019) who identified 70 incubators operating in the country. This study confirmed whether the incubators listed by Crampton (2019) were still active, before including incubators listed on additional publicly accessible databases such as those provided by SEDA and industry organisations such as Launch League. This process led to the final population being deemed to be 78. This is not considered exhaustive or definitive, however it is considered sufficient for the purposes of this study as this number includes all incubation programmes deemed reasonably accessible to the average business owner as a result of their availability on publicly accessible lists and/or databases.

Most of the active incubators in South Africa are deemed to be public incubators. Representing 42.3% of the total population of active incubators, public incubators are those that receive most of their funding from government sources and/or are run by

government departments or agencies. The 42.3% equates to 33 incubators across South Africa. The abundance of government-linked and/or run incubators in the country is a significant finding, especially when considering the findings of Bowmaker-Falconer and Herrington (2020:21) who found that public incubation support in South Africa was largely ineffective.

Further to this, university incubators were found to make up 16.67% of the population of active incubators in the country. This equates to 13 incubators. For the purposes of this study, incubators based at both universities and technical and vocational education and training (TVET) colleges are included under the university incubator typology. In terms of the 13 university incubators identified, all but four were found to receive government funding and five mentioned SEDA as a key-partner. This provides further evidence of the pervasiveness of government funding in the incubation industry in South Africa.

Private, for-profit incubators make up 15.4% of the of active incubators, equating to 12 incubators. These incubators maintain a profit motive and may offer enterprise and supplier development solutions for corporates as part of their offering. This number includes well-known accelerators such as Founders Factory and The Grindstone Accelerator. Five of the 12 private, for-profit incubators identified are accelerators, with some overlapping with those primarily focused on delivering enterprise and supplier development-linked support.

The remaining proportion of the population of active incubators is distributed amongst private, not-for-profit incubators (referred to as not-for-profit incubators in the context of this study), making up 11.5% of the population, and hybrid incubators – incubators which maintain a substantial amount of both public and private funding – that make up 9% of the population. The distribution of the population across incubator types is relevant to this study as it highlights the pervasiveness of government involvement in incubation in the country, with 62.8% of the identified population having been linked to SEDA by the author and 67.9% of the population having been identified as receiving government-linked funding for their incubation activities. This highlights the dependence of the sector on government stakeholders for funding and suggests government as a highly salient stakeholder for most incubators in South Africa.

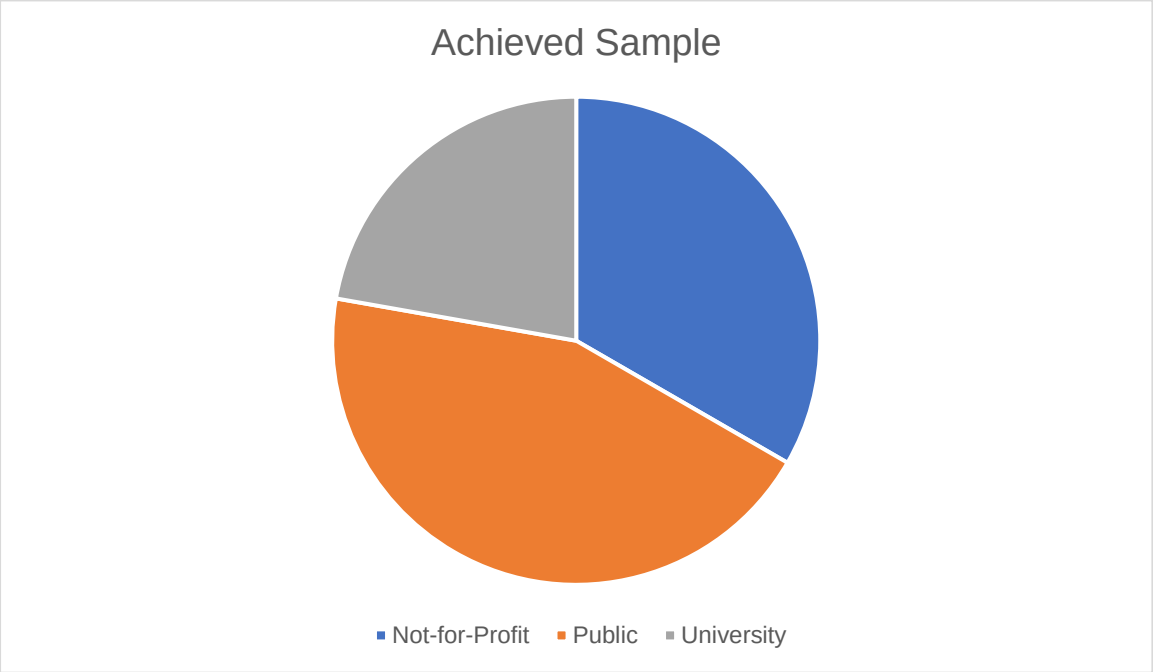
Further to identifying the incubator types of each incubator within the population, the context in which each incubator operates was determined, identifying four primary incubation contexts – urban, rural, township, and mixed. Incubators operating in the urban contexts were deemed to be primarily operating in a major city, whereas rural incubators were identified as specifically operating outside of urban areas. Township incubators are those operating in the unique socio-economic context of townships – a legacy of apartheid legislation – whereas mixed incubators were deemed to be operating across multiple locations.

Of the 78 incubators identified as the population for this study, 38 were found to be operating in a primarily urban context, representing 48.7% of the total population. This implies a significant bias towards incubation in an urban context and highlights the potential inaccessibility of most incubators for non-urban businesses. Further to this, an additional 21 incubators were found to operate in a mixed context, potentially across urban and rural settings, contributing 26.9% of the overall population. Subsequently, 11 incubators were found to operate exclusively in a township setting, highlighting the lack of appropriate business support in this context. Township incubators contributed 14.1% of the total population. Further to this, eight incubators were found to operate in a rural setting, equating to 10.3% of the population of active incubators. The lack of incubators in rural and township contexts is a potential area for improvement in terms of the availability of incubation support, however, these contexts present additional challenges for incubation managers, as outlined in section 6.4.

6.3.2 Distribution of sample

In total, 10 participants were recruited; however, nine participants constituted the final sample due to an audio recording error. The distribution of the achieved sample according to the incubator typology proposed in Chapter 2 is summarised in Figure 6.3 below.

Figure 6.3: Summary of achieved sample



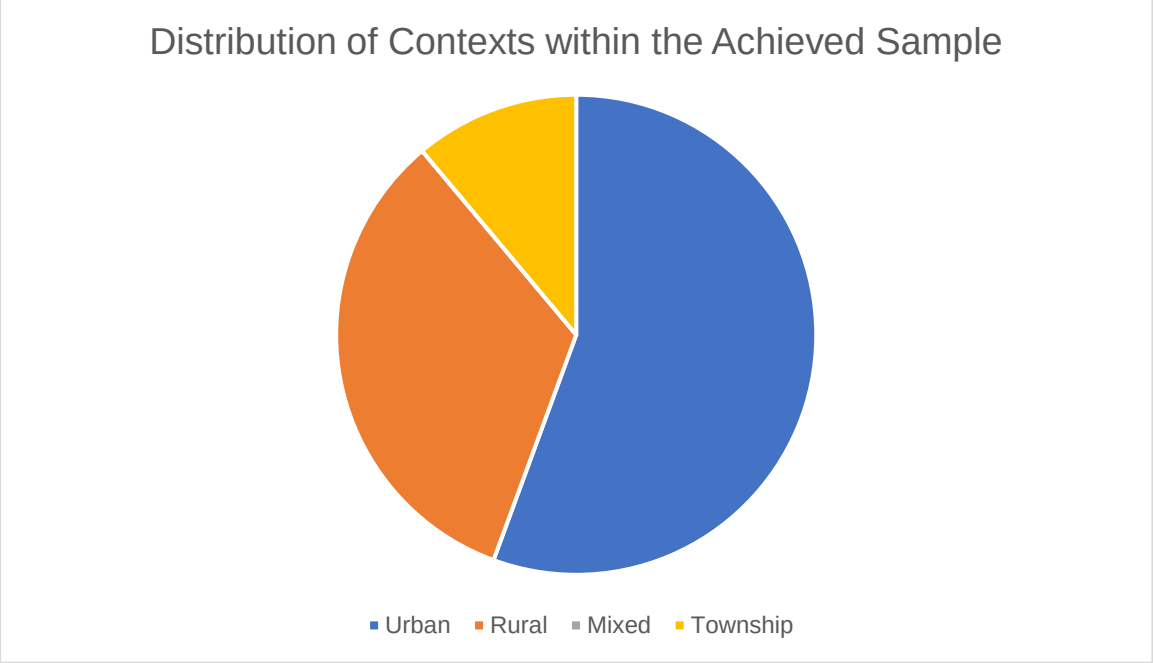
Source: Author's own compilation

As shown in Figure 6.3, the bulk of the achieved sample met the definition of a public incubator, constituting 44.4% of the sample. The remainder of the sample consisted of university incubators, constituting 22.2% of the sample, and not-for-profit incubators, constituting 33.3% of the sample. The prevalence of public incubators mirrors the distribution of the population, where public incubators constitute 42.3% of the population. Similarly, the number of university incubators in the sample is aligned with that of the population, representing 22.2% and 26.9% respectively. However, the sample departs from the distribution of the population with regards to the lack of private, for-profit and hybrid incubators, which constitute 15.4% and 9% of the population respectively. The relatively small number of hybrid incubators in South Africa resulted in making it difficult to recruit from this group for the sample. With regards to private, for-profit incubators, one participant was recruited, however, was later excluded due to a failure of the audio recording software. However, despite the larger number of private, for-profit incubators in the country, the difficulty in recruiting from this group was deemed to be a result of a lack of will on the part of the incubators to share data, despite participant anonymity being assured. This echoes the findings of Hausberg and Korreck (2020:151-176) who found that difficulties in accessing

quality data is a significant barrier to developing research on the phenomenon of BI efficacy.

Examining the achieved sample for this study identified five urban incubators, representing 55.6% of the sample. This mirrors the distribution of the population, of which 44.4 incubators operate in urban environments. The sample included three rural incubators, comprising 33.3% of the sample and one township incubator, comprising 11.1% of the sample. This departs from the distribution of the population, of which rural incubators comprise 10.3%, implying a willingness amongst rural incubators to participate in research disproportionate to their prevalence in the South African incubation landscape. However, the distribution of township incubators in the sample mirrors that of the population. The distribution of incubator contexts is summarised in Figure 6.4 below.

Figure 6.4: Distribution of contexts within the achieved sample



Source: Author's own compilation

It is worth highlighting that no incubators operating in mixed contexts were included in this study. This is primarily due to the prevalence of government run incubators working in mixed contexts, as per the definition supplied in this chapter. During the recruitment of participants for this study, there was a challenge in recruiting

government run incubators to the sample. This is likely due to a moratorium on research imposed by SEDA, as was communicated to the researcher during the recruitment process.

6.3.3 Participant profiles

As previously stated, nine participants constituted the final achieved sample of this study, spread over a range of incubator types and contexts. In order to contextualise the results of this study, presented in section 6.4, a profile of each participant is provided, without specific identifying criteria that would affect the participants anonymity. Tables 6.1 to 6.10 below, gives a breakdown of each participant's profile.

Table 6.1: Participant profile 1

Incubator Type	Not-for-profit
Incubator Context	Rural
Source of Funding	Government
SEDA-affiliated	Yes
Industry Focus	Agriculture
Accelerator	No
Included in Study	Yes
Interview Length	57:47

Table 6.2: Participant profile 2

Incubator Type	Not-for-profit
Incubator Context	Township
Source of Funding	Government
SEDA-affiliated	Yes
Industry Focus	General/ICT
Accelerator	No
Included in Study	Yes
Interview Length	25:48

Table 6.3: Participant profile 3

Incubator Type	University
Incubator Context	Urban
Source of Funding	Government/University
SEDA-affiliated	No
Industry Focus	Digital
Accelerator	No
Included in Study	Yes
Interview Length	41:08

Table 6.4: Participant profile 4

Incubator Type	University
Incubator Context	Urban
Source of Funding	Government/University
SEDA-affiliated	Yes
Industry Focus	Hi-Tech
Accelerator	Yes
Included in Study	Yes
Interview Length	30:22

Table 6.5: Participant profile 5

Incubator Type	Private, for-profit
Incubator Context	Urban
Source of Funding	Private
SEDA-affiliated	No
Industry Focus	Software-as-a-Service
Accelerator	Yes
Included in Study	No (audio recording failure)
Interview Length	36:16

Table 6.6: Participant profile 6

Incubator Type	Public
Incubator Context	Urban
Source of Funding	Government
SEDA-affiliated	No
Industry Focus	Various
Accelerator	No
Included in Study	Yes
Interview Length	31:04

Table 6.7: Participant profile 7

Incubator Type	Public
Incubator Context	Rural
Source of Funding	Government/Private Sector
SEDA-affiliated	Yes
Industry Focus	Mining Supply Chains
Accelerator	No
Included in Study	Yes
Interview Length	34:28

Table 6.8: Participant profile 8

Incubator Type	Not-for-profit
Incubator Context	Urban
Source of Funding	International Donors
SEDA-affiliated	No
Industry Focus	Social Enterprises
Accelerator	No
Included in Study	Yes
Interview Length	30:21

Table 6.9: Participant profile 9

Incubator Type	Public
Incubator Context	Rural
Source of Funding	Government
SEDA-affiliated	No
Industry Focus	Bio-fuels
Accelerator	No
Included in Study	Yes
Interview Length	25:27

Table 6.10: Participant profile 10

Incubator Type	Not-for-profit
Incubator Context	Urban
Source of Funding	Government
SEDA-affiliated	No
Industry Focus	Media and Film
Accelerator	No
Included in Study	Yes
Interview Length	36:16

Despite an achieved sample of nine, profiles for all 10 recruited participants are presented for the sake of completeness and transparency. The inclusion of incubators with varied industry focuses, from an array of incubator contexts, and several incubator types assists in identifying the relevance of the themes and sub-themes to incubation in South Africa as an industry.

6.4 THEMES AND SUB-THEMES

As the data analysis for this study progressed, six key themes emerged from the data. These themes – incubator-stakeholder conflict, restrictive incubation environment, incubator impact on economic development, incubator impact on business growth, incubator impact on ecosystem, and incubator impact on communities – are presented individually, with interpretation provided for clarity and context. It is important to note that, where deemed necessary, certain names of organisations have been removed to ensure the anonymity that participants were assured of.

6.4.1 Incubator-stakeholder conflict

Throughout the data analysis process, a consistent theme of discontent among incubator managers emerged. A range of issues was highlighted in the interviews that spoke of the breadth of their discontent and disagreement with stakeholders. This theme 'incubator-stakeholder conflict' and three sub-themes were identified – funding requirements and expectations, the influence of government, and the South African socio-economic climate. These sub-themes are detailed in the sections to follow.

Incubator-stakeholder conflict is the umbrella term used to encompass the disagreement evident between incubator managers and stakeholders. The conflict lies primarily between incubators and their funders, yet also with the relevant government stakeholders. This conflict is conflated by the effects of the South African socio-economic climate, with important questions regarding incubator focus and efficacy being influenced by the broader socio-economic climate. The codes that constitute each sub-theme are outlined once the interpretation of the sub-theme is presented.

6.4.1.1 Funding requirements and expectations

While analysing the data, it became clear that funders can play a primary role in defining the scope of an incubator's activity. This was highlighted by Participant 1, a non-profit incubator funded through SEDA, who stated:

> *"So basically, you know, an answer to a question in terms of how one defines an incubator, to a degree, it is in terms of what the funder themselves actually describes in terms of your requirements."*

The extent to which the funders influence the incubator's scope is clear, with Participant 1 going to such lengths as to say that the very definition of an incubator relies on what the funders prescribe. This is a topic the participant expanded on by

offering an analogy of what a small business requires and compares that with the measures their funder uses to assess its efficacy.

Participant 1 explains how SEDA dictates the measures used to determine the incubator's performance by stating:

> *"…what the funder, SEDA in this case requires of us in terms of what we need to do to show performance from them and what we actually do as an incubator differ, quite substantially. Because, for SEDA doesn't look at types of interventions that reduce for example farm planning, market access, those aren't necessarily indicators they measure our performance on, they measure our performance in terms of, let's say, turnover of the incubatees, the amount of training sessions we've held, your monthly jobs created."*

Participant 1 goes on to offer the following analogy of incubator support and expands upon the disconnect between the funder's measures of efficacy and the support required by incubated businesses to ensure success. Participant 1 states:

> *"If you look at a motor vehicle and a successful SMME operating, it needs a chassis, suspension, it needs an engine, it needs steering, etc, you know, and all of the components of the support that we provide should create comprehensive vehicle that can move. So, where ever there's a gap it might be as a farm planning, it might be in market access, might be loan financing. All of those aspects are required. We don't necessarily get measured on them by the funder. So, the way they defined the incubation services is very much around… one, training in that you've got to show that you've done certain training and the other aspect that they've concentrate very heavily on is around formalization. They're interested in one of the key indicators is job creation. They want to see people registered with SARS, have a UIF number and SPL contributions and the like. They're not really interested in formal jobs that that aren't registered as such. Even though we know a lot of incubatees don't want to formalise jobs, especially during Covid and stuff that was a hell of a risk. So, it's difficult to achieve those indicators that they set with our client's perception of reality on the ground. But definitely, one tries to create an incubation service that is as comprehensive as possible, depending on the type of needs that we identify from project to project."*

The extent to which the funders desired outcomes – in the case of Participant 1, the creation of formalised jobs – are disconnected from the realities small businesses face when starting and growing, is evident in the above quote. This disconnect seemingly contributes to the discontent and conflict that exists between incubators and their stakeholders.

The perspective that funders dictate and define the scope of an incubator's activities is shared by Participant 4, a university incubator that is partly funded by SEDA, who stated:

> *"I think the quantum of funding that's available to the incubator is, is in my view, directly related to the scope and scale of the incubator."*

Participant 4 went on to expand on this by stating:

> *"It impacts in that the, you know the term he who pays the piper calls the tune? So, ultimately, the funder, the fund objective in various way impact if not influence what, what is required in a way."*

Participant 5, a public incubator funded through a mix of government-linked and donor funding, provides a counterpoint by agreeing with the influence of funding, however, stating that the objective of the incubator may dictate the funding available to them. Participant 5 stated:

> *"…so funding is a big factor, but I think you know, the nuances basically have everything to do with the foundation of the incubator and type of ecosystem or what is the main objective it is meant to solve? Right. For instance, if you look at a … incubator like …, you know, the end goal, or the end result is to ensure competitiveness of the … industry in the country. Right. And therefore, any funding mechanism, you know, has to come with that in the, you know, with that end goal in mind. And, you know, similar to my one, I mean, the end goal is to ensure that, you know, there's a reduction of carbon emissions and all of that and some of the funding that we are able to, to, to attract, you know, it's, it's, you know, it's the technologies or the product that we have in the incubator proving that they are able to do that, you know, they're able they are fulfilling that mandate."*

Participant 7, a non-profit incubator funded through a mix of government and Broad-Based Black Economic Empowerment (BBBEE) funding, agreed with Participant 5 by focusing on the main objective relevant to their incubator, whilst also highlighting the role that incubators play regarding their funders – that of implementers and/or project managers. Participant 7 stated:

> *"But remember the main objective anyway is to bring to create a business that becomes compliant for delivering their services. But then you, you measure that also against the set objectives of your clients, which are the stakeholders that you know, that we are doing what we're doing on whose behalf because we are really the implementers and the project managers and so on."*

The statements by Participants 1, 4, 5, and 7 support the notion that funders are a primary influencer of incubator focus and direction. Funders are perceived as prescriptive, dictating not only the focus of an incubator's activities and the outcomes an incubator is expected to produce, but can extend their reach to dictate the content and eligibility criteria related to the incubation programmes. This is expanded on below.

Participant 3, a university-based digital incubator, gave an account of a situation where the funder made unrealistic demands of their incubation programming and the impact this had on the success rate of the programme. Participant 3 stated:

> *"What happened was, we had this big corporate coming in with these crazy ideas, right? So, they want they said, Okay, we're spending millions and we want to, these guys need to want to incubate … all of this like very like high tech, you know, but then, actually one outcome, but then at the same time, they have all of these SDG goals. So now there's the same people that need to deliver these very high-tech results, also need to be from a very low-income household or something. I don't remember when we had to do a lot of research at all like what was the minimum income is, it was something absolutely ridiculous. So, it had to be underserved populations. You ended up with this group that had no tertiary education, barely graduates from high school, didn't have money for Internet didn't have money for transport. And they had to find solutions for like pervasive connectivity, you know, and it was a complete mismatch. And it didn't matter how much we tried to communicate this to the*

clients. I mean, just from face value, you could already tell that this is going to be a disaster and they did not budge. So, we try 14 people… And all of those 14, only I think three of those companies still exist today. So, it really was not successful."

The substantial failure rate shown in the quote above by Participant 3 indicates the negative impact that a substantial disconnect between funder expectations and requirements can have on the efficacy of an incubation programme. Participant 7 concurs with this perspective, highlighting the importance of understanding the business environment to the efficacy of an incubator's programme by stating:

"However, the environment has to be conducive for SMEs to exist because this is where we want to be honest with our stakeholders to say, we can set up because you're paying us to set up that's not a problem. We can run the incubation that we can do. However, the to go back to your other question. The output of what we're trying to do is to create a viable SMEs. So yes, we will do it, we will probably graduate them or take them through the programme. But the question is, are they going to be able to survive? And for them to survive the environment must be conducive for them to exist as businesses going forward."

The disconnect between funders and incubators is not limited to private sector funders. Participant 1 gives an example of the kind of disconnect experienced between incubators and government funders, commenting on the attitude of the government by stating:

"..Okay, well, we've given you the money and therefore you must comply with our requirements and our rules. Or on the other hand, if we shouldn't perform well, we could be seen in some cases as undermining the state, because we made their programmes look bad. … And so, you know, in that regard there's sort of all this resentment and this attitude, "oh no, we're exposing them". And it shouldn't be like that it should be a question, "well how can we step in and support each other?" So, I really do believe that incubation should be seen as supportive and complimentary to the state I don't think it should be competitive."

In addition to the disconnect between funder expectations and the reality of what is achievable through an incubator's programme, particularly overbearing reporting

requirements imposed on incubator managers by funders emerged as a common issue with Participant 2 commenting on the amount of time incubator managers need to spend on fulfilling funder reporting requirements by stating:

> *"So, a lot of the time incubators are when they are funded, they sometimes, the person running the incubator are so busy, you know, running writing reports, you know, following up with small businesses to get reports that they can submit to funders."*

Participant 8, however, offers an alternative perspective, offering a view of the benefits of a more flexible approach from funders by stating:

> *"I have funders that are more unrestricted. It's also very helpful because… because entrepreneurship is so dynamic, and things change and as an incubator, an ideal incubator for me as much as changing and forming companies in the feedback on what they doing so, you have unrestricted funding, it means that you can move a direction within the incubator correctly and according to the need, whereas if you have a restricted funder that that wants to pay a couple of line items it means that you're stuck with that objective even when that objective doesn't make sense."*

Participant 8 adds another dynamic to the conversation by highlighting a misalignment between the funder's expectations of funding incubation support for businesses directly as opposed to funding the incubator's activities as a whole. Participant 8 stated:

> *"And I say that lightly in the sense that a lot of people, especially when we're doing fundraising for the incubation itself, we find a lot of funders that are saying, we want to fund directly, the entrepreneurs. However, they fail to recognize the value in the (support to businesses) that has been given to the point that they fundable. So that impacts already like okay, the operation (is providing support) but operations have not (been) funded."*

The benefit of funding the incubator's operation as opposed to ring-fencing funding to incubated business-facing activities only is seemingly lost on funders. This is linked to the difficulty that incubators face in becoming sustainable and a lack of funding for incubators, addressed in section 6.4.2.1.

Further to an expectation of the funder to narrowly define and dictate the scope, content, and audience of incubation programmes, and the often-unrealistic expectations placed on the outcomes of the programmes, another factor impacting the funding requirements and expectations is the prominence of BBBEE within the incubation industry in South Africa. BBBEE is pervasive within incubator funding, with all non-profit and university incubator participants highlighting BBBEE legislation with regards to funding. BBBEE legislation revolves around five elements that contribute a varying number of points towards the BBBEE scorecard. The element that carries the most points is Enterprise and Supplier Development and is the element that enables funding to be funnelled towards incubation programmes. Participant 3 spoke of the benefit of BBBEE legislation effectively forcing funding into the sector, even if the incubation programmes are ultimately unsuccessful by stating:

> *"Then the second thing is and I think this is potentially something that you won't agree with but, the fact that broad-based black economic empowerment forces corporates to spend on this, even if the incubation isn't successful, it's still, they will still spend in a different sector of the economy that didn't support entrepreneurs, it might not have gotten that funding, and it also forces corporates to look to new technology."*

Participant 3 identifies an important factor regarding BBBEE related funding in that it can unlock funding for incubation programmes in industries and sectors that otherwise would not have been funded. This is in addition to the role that BBBEE funding plays in supporting not-for-profit and university incubators. Participant 7 identified the importance of BBBEE, whilst highlighting their approach to managing relationships with BBBEE funders, commenting that:

> *"I'm sure you know, as well in South Africa, the big issue on you know, black empowerment, SMEs, women ownership, the youth and all of those, so we then tend to then report that as part and parcel of the report because we know it's a need, but what's important for us, the critical thing is, the ability to produce quality products at the right price that indeed will turn it into a business to business relationship as opposed to an enterprise support programme."*

Participant 7 went on to highlight that a drawback of BBBEE funding is that funders may not focus on funding effective incubation programmes, however, rather those that deliver outcomes required by BBBEE legislation. Participant 7 commented that:

> *"…for the private sector … because for them, it's a scoring thing, you know, because in the minds they've got the mining Charter, which demands expects them to contribute towards enterprise, you know, development and small business development."*

This perspective was further supported by Participant 1, who highlighted how private sector funders can be motivated by improving their BBBEE scores into funding incubation programmes. Participant 1 stated:

> *"…let's say, if we were a private farming company that wanted to expand our share of let's say, avocados in the export market, we might look at an incubator, to get fair trade points to get BEE preference points for local supply into … or whoever. Because you do get extra sort of recognition for your support for BEE and for helping emerging farmers. That will be a commercial intention underpinning your incubator."*

The motivations of private funders may be linked to improving their BBBEE scorecards, as stated by Participant 1, which could be linked to the disconnect between funder expectations and incubator realities outlined earlier in this section. The codes relevant to this sub-theme are summarised in Table 6.11 below.

Table 6.11: Codes relevant to sub-theme: Funding requirements and expectations

Codes	Number of Quotations
Broad-Based Black Economic Empowerment	11
Misalignment between Funder Requirements and Incubator Realities	28
Source of Funding Defining Incubator Objectives	10

6.4.1.2 Government influence

Another sub-theme identified under the 'incubator-stakeholder conflict' umbrella concerns the influence that government has on the incubators within South Africa and how incubator managers perceive their influence. This is seen as a distinct sub-theme as it concerns the influence of government outside of funding expectations.

Participant 1, made the following comment on a perceived lack of insight into business conditions:

> *"I think you know, there's, there's a disjunctioning (sic), they don't understand business. They don't understand business, they don't understand the SME environment. Treasury and the Department (of Small Business Development) and the (Small Enterprise Development) Agency are totally out of touch with what it requires to run a business in this country."*

This is a scathing indictment of South African governmental institutions, particularly the DSBD and SEDA, who fund a significant number of incubators in the country. This perspective is shared by Participant 3, who stated:

> *"Again, sometimes, government is also not really sure what it wants to get from the programme. They also need to hit their targets. They also need to look good. But again, it comes down to this whole thing about learning. Do we really know what is impactful and what they actually want to achieve? And even if targets were hit, did it actually mean anything? So, I think for various reasons like I said in my previous answer, yes, I think incubators are very important to government, they play a big role in kind of being a conduit to innovation and understanding government's constituents. But it's, yeah, they're not doing the right things."*

Participant 3 highlights the importance of incubators to the government, despite their perceived lack of understanding about what interventions are impactful and uncovers a disconnect between government's set targets and what constitutes an impact on incubators. Participant 7 expands on this comment by offering a specific example of how this lack of understanding affects the accessibility of small business funding, by stating:

> *"Now, if you look at some of the biggest challenges that we have in is also the lack of understanding of the SME development environment, say by both the government and in some instances, the private sector and also the entities that we try to procure from in that, again, in a third world context, where you want funding for instance, and you find that funding is being offered on based on private sector terms, you know, where, you know, within a South African context or third world context for that matter, you get SMEs, being started up by businesses, that they have no collateral whatsoever. And you find the funder coming in and say, well, we'd like some collateral, and so on."*

This quote identifies some of the potentials for government to have a negative influence on the broader entrepreneurial landscape by setting standards or precedents in governmental funding that may then extend into the private sector. Participant 8 offers a different perspective, stating a desire to work more closely with governments, which may help to alleviate the disconnect between incubators and government that is currently being experienced. Participant 8 stated:

> *"I think that there needs to be a much closer coalition with governments and incubators where this kind of interrogation and challenge analysis of what is the main challenge in the economy. This is the money that we have, what can we do with this money? Who's going to do what? And then coming back after the incubators have implemented to monitor and evaluate and keep working like that as a process, I think where incubators can be like that player like it's almost like the experimental researcher within the economy."*

A desire for increased collaboration is shared among most of the participants. Participant 2 highlights this by stating:

> *"Now with government, the ecosystem is fairly you know, they all operate in their own little silo, which shouldn't be the case. So, when I started at this business incubator, I ensured that these government institutions are brought closer to our incubators so that they can be part of, of our ecosystem. So, so that's what how I see it and what are now it should actually be done."*

This view is echoed by Participant 6, who goes on to identify incubators as being able to assist the government in achieving economic growth, stating:

> *"I think by design incubators, are supposed… are meant to assist government, with, you know, everything economic development, you know, get up the to get the GDP, GDP up, you know, facilitate for exports, you know, assist government to, you know, to export as much as possible but also when it comes to issuing of service delivery, let our technologies also be relevant to some of the issues that we are faced with."*

Participant 7 agreed, pointing to the need for a robust ecosystem that includes government entities to enable effective incubation activities, stating:

> *"And also if you look at from a from an incubation point of view, we've always said this to both the private and public; incubation is not something that an entity can do on their own. If it's to really work, government has to be involved. The municipalities have to be involved."*

Furthermore, a desire for government to be more amenable towards collaboration and to rectify the perceived lack of insight on the part of the government, there emerged an opportunity for the government to offer additional support for incubators and incubator managers to develop the competencies required to run an effective incubator. Participant 2 stated:

> *"…that's also where the funding comes in, you know, government funding, they give the funding, yet they lack that support for the incubator. So, they just say, "okay, brilliant idea, here's your funding, off you go", but there's no real handhold, you know, process in the in the startup of the incubator."*

This perspective is shared by Participant 1, who decried the state of the relationship between incubators and the government. Participant 1 commented:

> *"What we find here, is that we find sometimes the government sees us as competition, that they say, "we are the government, we are the people with the decision mandate to do this work. What are you doing stepping into the space? You're exposing us and making us look bad?" So, you find a very immature relationship in many cases, where we, let's say… when we when we do something well, government may look at this and see this as a threat to their own performance. Take away their mandate, stepping on their toes. When we*

perform badly government can now say, "Ja, well look, that that is why we need to keep doing what we do."

The perceived breakdown of the desired symbiotic relationship between the government and incubators is an immense barrier to effective incubation and a major contributor to incubator-stakeholder conflict. A perceived lack of efficacy on behalf of the government is shared by Participant 8, who stated:

"…So, I definitely think that it's a missed opportunity for public not to walk close to incubator because there's a lot of innovation that has happened there that's causing a lot of the problems we're trying to solve… I think, then with government like I, I as a personal thing. Our government is good at getting money, but very good at not doing anything with that money that is supposed to do."

This echoes the desire to work more closely with the government towards developing a more robust incubation ecosystem as stated above. The codes relevant to this sub-theme are summarised in Table 6.12 below.

Table 6.12: Codes relevant to sub-theme: Government influence

Codes	Number of Quotations
Collaboration with Government	6
Lack of Government Support	13
Lack of Government Understanding of Sector	10
SEDA/Government Funding	30

6.4.1.3 South African socio-economic environment

The impact of the South African socio-economic environment – the combination of social structures and economic systems that influence the distribution of resources – on incubator-stakeholder conflict is not to be underestimated. The analysis highlighted several instances where the misalignment between incubation objectives and stakeholder expectations was due to the influence of factors such as high unemployment and low entrepreneurial activity rates. This can occur where stakeholders do not account for the impact that socio-economic factors have on the

ability of incubators to deliver on the objectives set for them. This can also occur where stakeholders place a significant emphasis on addressing an element or elements of the socio-economic environment, such as high unemployment, rather than supporting the underlying objective of incubators – supporting early-stage businesses – which can then deliver a positive impact on these socio-economic factors.

The specific focus on improving elements of the socio-economic environment is a substantial factor that emerged from the analysis, which can lead to further incubator-stakeholder conflict. Participant 3 highlighted how there is often an incongruence between the social objectives of the stakeholder – in this case addressing income inequality – and the incubation activity their incubator conducts, stating:

> *"… there's the same people that need to deliver these very high-tech results, also need to be from a very low-income household or something. … it had to be underserved populations. You ended up with this group that had no tertiary education, barely graduated from high school, didn't have money for internet, didn't have money for transport, and they had to find solutions for like pervasive connectivity, you know, and it was a complete mismatch. And it didn't matter how much we tried to communicate this to the clients."*

Participant 2 identifies the prevalence of a 'social leaning' in incubators, specifically as a 'township incubator', stating:

> *"I'll always say that you know, "yes, we an incubator" where people think incubators, they automatically think business incubators, but because we township incubator, we focus on two things, businesses, but also, you know, getting the unemployed more employable. So, transferring skills to the unemployed in our communities as well. That seems to be a big issue as well, is unemployment in townships."*

The need to provide additional services other than business support in order to address factors that negatively impact on the socio-economic environment such as high unemployment, further supports the social inclination theme that emerged in this study. This is further evidenced by Participant 1, who identifies motivations for several incubators by stating:

> *"Whether they're doing it from a social point of view to let's say, expand the market supply … or they're doing it as we are in terms of having a sort of a socio-economic mandate of job creation, skills development, agricultural production in the in the country."*

The social leaning of several incubators can lead to conflict between incubators and their stakeholders, especially incubated businesses and potential funders. The underlying objective of incubators is to assist the development of early-stage businesses – where this objective is supplanted by a social mandate linked to increasing employability or addressing unemployment directly. For example, this can lead to a muddying of waters that may impact on the satisfaction of incubated businesses with the services provided, or may reduce the return on investment provided by the incubator to their funders. Whilst an argument can be made that all incubators maintain a social mandate of sorts due to their perceived positive impact on economic development (as discussed in Chapter 3), this is primarily due to the spill-over benefits of encouraging and supporting early-stage businesses as opposed to their direct involvement in reducing unemployment. Thus, the overtly social leaning of several incubators contributes to a perceived conflict between incubators and stakeholders.

A significant factor that emerged from the analysis speaks to the difference between a 'traditional' Western perspective of incubation and what is relevant to the South African incubation context. The socio-economic environment in South Africa impacts the realities that incubators face in supporting early-stage businesses. Where stakeholders adopt a 'Western' perspective in their approach to incubation, this may not account for the socio-economic factors that incubators face, leading to a misalignment between the objectives set for incubators by stakeholders and what is practically achievable by incubation activity. Participant 3 gave an overview of how this impacts the incubation activities at their incubator, stating:

> *"So, I think I see the definition of a business incubator in South Africa and Africa in general as being quite different to what we've come to understand in the media and especially from an American perspective. I think that's my first point of departure. In, in America, especially when we have people coming into our precinct, we often have people coming in with this perception of, this is like a*

shark tank environment. You know you have like VC funders lining up and everything is the next Uber all. So, I think it's important to draw that distinction first."

Participant 3 goes on to elaborate as follows:

"So, the first thing that I really value in the incubator space especially, in, on our continent, is the learning. For too long we have been looking to the west to understand what they're doing and trying, yeah to just copy-paste that here and it hasn't worked as well, for many reasons."

The participant highlights another issue related to imposing Western measures of efficacy on the South African incubation context, stating:

"…the two very important things is, the first thing is, we don't know what we're measuring for. That makes it very difficult to understand whether it's successful or not. We have to start throwing away, not all of the Western measures, but a lot of them because we're not starting from the same place. And then the second thing is people are… people, the companies and the incubators are nervous, too... for like results, because then they don't get funding and they might not survive. And that's not great because then we don't really know what's going on."

This suggests that the South African socio-economic context impacts the measures used to assess the efficacy of incubators and these inappropriate measures may lead to a lack of funding. This can occur when incubators fail to meet objectives set by stakeholders that do not account for the South African socio-economic environment, which may impact on the incubators' ability to secure additional funding, suggesting a contribution to the incubator-stakeholder conflict.

The South African socio-economic climate adds further nuance to incubator-stakeholder conflict in that the vast inequalities experienced between urban and rural entrepreneurial ecosystems have resulted in a push to develop rural and township-focused incubators. This, whilst a worthy goal, has seemingly led to increased conflict between incubators and their stakeholders as the expectations placed upon incubators

do not seem to consider the substantial differences between regional entrepreneurial ecosystems. Participant 7 points to this by stating:

> *". So for us, we then said yes, we can set up in the rural and Township. However, the environment has to be conducive for SMEs to exist because this is where we want to be honest with our stakeholders to say, we can set up because you're paying us to set up that's not a problem. We can run the incubation that we can do. However, the to go back to your other question. The output of what we're trying to do is to create viable SMEs. So yes, we will do it, we will probably graduate them or take them through the programme. But the question is, are they going to be able to survive? And for them to survive the environment must be conducive for them to exist as businesses going forward."*

Further to this, a perceived lack of measurement of the spill-over effects of incubation activities has added to the socio-economic environment-related impacts on incubator-stakeholder conflict. This perceived under-appreciation of the spill-over benefits caused by successful incubation programmes has led to discontent among some incubator managers, with Participant 4 stating:

> *"I think, the one that's I haven't seen for a long time, is the indirect jobs or indirect kind of contributors think that that is not well measured, and it doesn't do justice to the work that a lot of incubators do. Maybe it's because it's hard to measure, it's easier to measure… But that's sort of if there's one that I will single out is indirect, indirect spin-off on indirect jobs indirect… what do you call it, a trickle down? Effect?"*

Participant 3 agrees with this perspective, discussing how funders measure impact, stating that:

> *"So right now, they're just focused on immediate results within our incubator, but how do we aggregate those and see what are the bigger impacts?"*

These issues speak to the impact that the South African socio-economic climate has on incubator-stakeholder conflict regarding efficacy measurements, incubator focus, and incubator efficacy. The codes relevant to this sub-theme are summarised in Table 6.13 below.

Table 6.13: Codes relevant to sub-theme: South African socio-economic climate

Codes	Number of Quotations
Lack of Measurement of Spill-over Effects	2
Rural vs Urban Entrepreneurial Ecosystems	3
Social Focus of Incubators	14
South African context vs Western Context	5

6.4.2 Restrictive incubation environment

As the analysis progressed, the impact of the environment in which incubators operate on their efficacy emerged as a major theme. The theme was identified as the 'restrictive incubation environment' and identified two sub-themes – incubator resource scarcity and the prohibitive incubation context. This theme is concerned with the impact of the environment in which incubators operate on incubator efficacy. The codes relevant to each sub-theme are summarised after the findings are presented.

6.4.2.1 Incubator resource scarcity

A significant restriction on the efficacy of incubators is the perceived lack of funding for incubators. This was identified as a vital issue by six of the nine participants interviewed for this study.

Participant 6 relates the perceived lack of funding to the impacts of efficacy. Even with somewhat secure government-linked funding, the participant felt under-resourced, stating:

> *"So, in essence, incubators by design should be and in terms of how the interventions that we have in place, we should be successful. But unfortunately, it always goes back to the budget issue. It always goes back to how under-resourced we are as government incubators. I'm yet to see a government you know incubator that says we are just fine. And most of our of the incubators that we have are mostly government will rely on government funding."*

Participant 8 dives into this by explaining how a lack of funding has led to incubator managers spending a substantial amount of time on marketing and networking towards fundraising rather than on delivering support to entrepreneurs, stating that:

> *"Because the system is not coordinated enough …, incubators have to spend quite a lot of time justifying who they are in the system if that makes sense. Which has another money implication because that's marketing, that's networking. But at the same time then the energy goes on validating your positioning as an entity within the economy, as opposed to them working with entrepreneurs and giving them sort of the support that they need."*

Participant 9 highlighted how a lack of funding from their primary funder led to approaching alternative funders which did not align with their incubation programme, stating:

> *"With regards to the incubation, mostly, we under the SEDA technology programme it funds most of the incubators in the country. So, most of our incubation operations under the SEDA technology programme, but then of course, there will be an instance when you approach different potential funders for specific projects. So, which they are somewhat in line, but they're not specific to the incubation services that run…"*

This lack of incubator funding has led to an increased focus on ensuring sustainability for incubation programmes which often includes exploring alternative funding routes or means of income generation. Participant 2 highlights the paradox facing incubation managers, stating:

> *"They forget that they should actually also look at creating sustainability for the incubator itself. So, you're not generating revenue for the incubator that they also don't rely on, on government funding. It's pointless you know an incubator, you know, teaching how to become sustainable, but yet they not sustainable."*

This issue is not unique to Participant 2, with most of the participants drawing attention to incubator sustainability as a major challenge. This is supported by Participant 4, who states:

> *"…maybe we can qualify that further and say it is about sustainability. How to that the biggest issue that that I've come across, I've never come across an incubator head that's not talking about sustainability is top of mind. So, sustainability is certainly the big issue…"*

This is again supported by Participant 1, who identifies a decrease in available funding, stating:

> *"I think you know, the challenge we have, again, with sustaining the incubator, you know in terms of the amount of money we attract to actually provide the services, we found over the last four years, our funding has decreased, whereas they're asking us to perform higher and higher levels of achievement. So, I find these expectations are extremely unrealistic."*

Furthermore, due to a lack of funding for incubators, there is a lack of available talent possessing incubator management competencies. A lack of talent is seen as directly affecting the efficacy of incubators in the country. This is highlighted by Participant 1, who stated:

> *"So sometimes they don't know how to, you know, use the funds, but also, they, they lack experience in the incubation space. So, yes, they got this brilliant idea of how to, on how to set up an incubator, but they don't actually know how to run an incubator."*

Participant 2 supports this, identifying a changing trend regarding the availability of talent for incubators, commenting that:

> *"…so many people kind of jumped ship from corporates and went into this space because then it kind of felt like they wanted to give back or a lot of people wanted to get into master's programmes abroad. So that drove a lot of talent but as of late, I think that's changed quite a quite a bit. So, I mean, incubators can't pay corporate rates, especially because there's a lot more technology requirements in talented teams, and people just can't afford tech talent."*

This was echoed by Participant 8, who highlighted the strain this lack of talent places on incubation management to recruit and upskill talent, stating that:

> *"…the other one that I wanted to share is also the ability to attract good talent. So yeah. So, unless for example, you are a corporate-linked incubator or university-linked incubator, if you're part of that entity, or one of the many independent entity in order to afford good talent is quite difficult, which then makes it also it quite… it means that you… which is not wrong, because it isn't,*

there's young people and people see but that means you also have to do a lot of development work with your team."

A lack of talent adds to the overall resource scarcity facing incubators in South Africa. The codes relevant to this sub-theme are summarised in Table 6.14 below.

Table 6.14: Codes relevant to sub-theme: Incubator resource scarcity

Codes	Number of Quotations
Barriers to Accessing Funding for SMEs	10
Incubator Sustainability	8
Lack of Collaboration	4
Lack of Incubator Efficacy	16
Lack of Incubator Funding	20
Lack of Incubator Management Competencies	13

6.4.2.2 Prohibitive incubation context

In addition to the resource scarcity faced by incubators, incubation managers operate their programmes in a heavily prohibitive incubation context, facing substantial challenges to the effective delivery of incubation programmes. These challenges are widespread and were highlighted across the participants in this study, regardless of incubator type.

Of the nine participants, five pointed directly at a lack of policy or legislative support for incubators in South Africa as a substantial factor impacting on the incubation environment in the country. Participant 6 delves into this lack of appropriate policy by stating:

"…so, it's really an economic development tool for me and should it be well resourced, and you know, we sort out some of the policy coordination failures that we have. Because there's unintended consequences where we put progresses that, you know, are supposed to remedy something, but at the same time, they're spoiling something else. Right. And that's the policy coordination failure that I'm talking to."

Considering the lack of policy coordination highlighted above, some of the disconnects between incubators and governments mentioned above may be solved through a more comprehensive incubation policy. Participant 8 expands on this point, stating that:

> *"So, (in) South Africa we're very … dialogue, very stuck on dialogue, very stuck on ideology and policy development, but very, very, not even looking at where we're failing which is implementation, and which is where, for example, we have examples of good implementation or bad implement implementation with an integrated bill as well."*

In addition to the assumed legislative failings identified above, a perceived lack of a high-quality pipeline of small businesses entering incubation programmes poses another challenge to incubator managers. Of the nine participants, five highlighted this as a relevant issue, with Participant 10 describing the situation as follows:

> *"But we can't now look at the incubator alone, the talent, the talent also needs work and help. The general misconception of things happening overnight success. Unfortunately, Rome was not built in a day and incubators as much as incubator can serve a company that can't accelerate fast enough to have the patience and the perseverance that is required for that. Realize now back on to the entrepreneurs who come into the incubator space so I guess what makes an incubator effective, it's the balance for the right pool of talent, where you find people that come in and make things happen without a lot of inconsistencies and all those things."*

This view is supported by Participant 4, who identified a link between poor-quality incubated businesses and the funding that businesses can attract, stating:

> *"So, incubators don't necessarily get the quality of businesses that they would like to get which then means that they don't have the opportunity to make the most impact and then it also impacts the type of money that they attract."*

Participant 1 concurs, highlighting a perceived lack of entrepreneurial competencies in the market:

> *"I think the other thing is also, to be frank about it, … running a business isn't everybody's cup of tea, the actual entity and the spirit of being able to be an*

entrepreneur and to stand on your own, it's a very, very select group of people that can grow that journey."

The lack of quality businesses entering incubation programmes severely affects the efficacy of the programme, which in turn restricts the efficacy of the incubator. In addition to a lack of talent and the restrictive legislative environment, the difficult business environment facing incubators and their incubated businesses is a common factor identified by incubator managers as a challenge facing their operations. Participant 7 highlighted how complex and overbearing compliance requirements placed on South African SMEs contribute to the difficult business environment, stating:

"And again, from a context point of view, from the perspective of a South African or third world point of view, the, the sort of the bridges or the obstacles to being compliant is the very reason why most entities, including government will not be able to support SMEs but then the obstacles being compliance issues, so incubation in our context is the ability to address those compliance issues. And make sure that the candidates are compliant in meeting whatever the requirements will be either in production or so on."

The focus on addressing compliance issues for SMEs highlights the seriousness of the matter. This perspective is shared with Participants 1, 4, 6, 8, and 10, with Participant 6 giving an example of the issues their incubated businesses face in accessing market opportunities, as a result of the business environment in South Africa, stating:

"We need to contribute towards ensuring that you know, our government is effective; and through deployment of technology. So, I'll give you an example. And this speaks to the access to markets because if we have taken up office technologies by whoever it unlocks a certain market for the startups. So, we have an open innovation programme. Where we would you know, municipalities or solution features in general will come to us and say we have water leaks, for example, in the City of Tshwane, we need a technology that will detect those water leaks report that we have okay, we've got a technology like that. Let's run the pilot, right. So, we co-fund a pilot with a municipality or whoever that solution seeker is. But then when the pilot becomes successful, and there's an appetite to take it up, but then, you know, the PFM (Public Finance Management) may

have to have to kick in. So now they have to run it in the process. Then somebody else ends up getting the tender and not the entrepreneur."

This is an example of the procedural barriers in place when attempting to access market opportunities within the public sector and adds to the prohibitive incubation context detailed above. The codes relevant to this sub-theme are summarised in Table 6.15 below.

Table 6.15: Codes relevant to sub-theme: Prohibitive incubation context

Codes	Number of Quotations
Barriers to Accessing Funding for SMEs	10
Difficult Business Environment	16
Lack of Incubator Policy	4
Lack of Quality SMEs Entering Incubators	7

6.4.3 Incubator impact on business growth

The impact of incubation programmes on the growth of incubated businesses emerged as a major theme throughout the analysis process. Business growth is identified as a key objective by seven of the study's nine participants. Participant 6 identified business growth as the underlying purpose of an incubator, stating:

"I think for me, it is facilitating growth, more than anything else, from wherever the business is, to a point where it's, as I said, relevant to the to the intended market. So, it's facilitating growth more than anything."

Participant 2 shared this view, offering a familiar analogy to explain their definition of an incubator:

"I define business incubators as fairly similar to the term incubator, you know the incubator when a kid is born premature or whatever, the incubators provides that support for the for that kid to obviously, to get better and to grow. So, fairly simple, for the incubators is that support system for businesses to grow."

This perspective was echoed by Participant 4, who stated:

"That was an incubator is certainly to enhance the… we often talk about improving the survival rate but it's it just enhances the strength of a business to grow and to enhance the strength of a business to grow and survive in its earliest stages of growth..."

Participant 9 expands on the business growth view to focus on the sustainability of the business and states the following:

"…some would leave after three to five years but then of course, later on would realize that they're just not ready to be the to be out there on their own. So, for us to know that we've done well when the client that was with us, they're out there (and) were offering the same product they were offering when they were under our incubation, and then they're doing so without …most of our influence or us in the end to address this in such regard. .... Mainly technically in business operation wise, they're not dependent on us."

The unsustainability of incubated businesses is once again highlighted by Participant 8, who describes an incubator's objectives by stating:

"I would say the objective would be to develop or grow businesses, to those that are starting we should assist them to, to grow or develop to move from the startup phase to be commercially viable or even somewhat sustainable."

With this focus on business growth and sustainability, incubators are tasked with providing access to the resources required for growth. Providing access to resources is widely accepted as a key function that incubators fulfil, with all nine participants mentioning access to resources during the interviews. Participant 10 describes the need for incubators to provide access to resources as follows:

"If you look at access to many resources, unfortunately, one who's having a business … does not have access to all the tools and the resources they would need, because they don't have anyone to guide them on the journey."

This perspective is shared by Participant 8, who states:

"…we reasonably provide when we get resources, but we give them the skills, the business skills and the technical skills with regard to the product that … we'll be producing. But then, of course, we were we went out to the facilities

that we have on our site so that that they can start with their production while they are waiting on acquiring or sourcing their own facilities."

This was echoed in Participant 6's statement, which focuses on the link between enabling access to resources and the measure of efficacy applied to the incubation programme. Participant 6 states:

"I think I think speaking to the two which is access to funding, and access to infrastructure, that is what we measure. Oh, we also measured the amount of money that we use or spend on mentorship, because we've got a cohort of mentors, right. So that's access to to development. Also, you know, how much training or how much incubate do we train as another thing we measure per quarter, and how much training we… so we do look at those four pillars of our value proposition or objectives as you rightfully put them, and we put those matrices to try and measure the efficacy."

In addition to enabling access to resources, incubators create impact through their ability to provide both access to their networks for incubated businesses as well as to enable networking between entrepreneurs on their programmes. The importance of networking is highlighted by Participant 4, who links access to networks to build SME's credibility, by stating:

"I see a senior role where the market linkages aspect of it comes into the fold, because typically access to networks as well. So typically, a small business does not have much in terms of access to credible networks and so on the credibility and certainly in my walk in this journey, it's been about being able to bring in networks that because of the platform is credible and so on, it also opens into… I've got businesses that we're incubating that have access to corporates that would not even have listened to them and they not been part of us. That is a very key role that they need support."

Participant 3 supports this perspective by pointing to the link between networks and being able to access market opportunities by commenting:

"I think we have a lot of SMMEs with incredibly good ideas and good technology, but if they don't have the right networks, and the right connections, they often fail not because they didn't have a good product or a good idea, because they didn't meet the right people and that's often limited to the people

privileged enough to have gone to the right schools or have worked in the right corporates. So, I think that's the most important kind of support that you can offer."

This is supported by Participant 2, who identifies the importance of networks regarding enabling the incubator to reach its objectives, stating:

"We just facilitating all of this, we connecting the small businesses to our stakeholders. And, if we look at the bigger picture and the stakeholders are looking at okay, they helping us make our job easier to reach our targets. So again, it becomes a numbers game for our stakeholders."

Enabling networking between entrepreneurs can facilitate additional opportunities within the incubator itself. This view is evident considering Participant 8's perspective who stated:

"…how do we help these small businesses connect with each other person to help each other go operationally and financially and then the other one is really how do we help them."

This view is supported by Participant 10, who states:

"So not working in silo, the incubator space really does because it's a shared working space, people just come into an open floor, they sit down, they have access to the network. So, if you're working at home, you're usually working in a silo, but if you in an incubator space you at least have a network of people like you that are in a similar environment and you can now live with networking environment, because you are in that incubator space."

Further to enabling access to resources and incubator networks, incubators can have a tremendous impact on the growth of an incubated business through the development of the entrepreneur's skillset and addressing a lack of an entrepreneurial mindset. This perspective was highlighted by Participant 2, who, discussing the lack of an entrepreneurial mindset, comments:

"…you know, the unknown of starting a business and this is predominantly an historical thing within the coloured, the coloured communities is that when you get a job, you stick to that job, and you retire with that same job. And I think it's that that mentality you know, that mindset needs to change a bit. If you've got

a brilliant idea, why don't you come and start a business you know, and you think it's gonna work. And I think that mindset needs to change, but what we seeing a lot here in our community is that a lot of other people have full-time jobs, but I'm wanting to start a business. So, we do we do take them onto the programme. I tend to you in a way because they won't give the business as much attention as the person running their business full-time."

This is echoed in Participant 1's statement which touches not only on entrepreneurial skills and mindset, but also business skills and acumen in general, stating:

"But business skill, it's not something that one can develop overnight. It's something that almost needs to be handed over from one generation to another. So, business acumen is a knowledge of system and understanding of customer relations of product development. Such a broad range of skills needed in one person to be successful. And it's a chronic, chronic gap missing in our country. We don't have that entrepreneurial attitude. I think there's still a high level of dependency in the state and an impact on the state of so-called enabling environment."

Adding to this, the development of entrepreneurial skills through training and mentorship is vital in developing entrepreneurs, as highlighted by Participant 9:

"The businesses that we worked with, I would say firstly, the thing that we assess the most is skills. We skill them with regard to both say business skills and technology, technical skills…"

This focus on skills is echoed by Participant 10, who gave an example of the skills development they undertake in their incubator:

"But in a business incubator environment, you have either a coach like I am to these guys here, we have an entrepreneur coach, who can tell you Oh, you want to make bricks? Well, the first thing you need to know is how much cement is gonna cost you. That way, when you just run into meetings, without having the right foresight on what to expect, and what goes into making the break and how they can monetize and all of those things. So, both incubators for entrepreneurs, play the crucial role of helping them understand how to articulate their business idea, how to find the problem and come up with a solution for

that problem. And also, how to navigate the end stages of their business journey."

The outcomes of an incubator's ability to assist in enabling business growth is also highlighted as specific objectives of incubators in the interviews, with Participant 2 suggesting that:

"So, for me, it's obviously the success stories that people receive. And that could be, you know, increase in turnover…"

Participant 1 agreed, stating that:

"…one would normally establish a development goal, our development goal is to create income generation and sustainable livelihoods through standard agricultural production, that's maybe a goal that we contribute towards and then our project goal is to run a successful incubation service for selected emerging farmers or what we call, incubatees from the province and then when it comes to objectives then, maybe set of four or five. Where one would look at sustainable income generation, sustainable production, increased employment, you know, stable use of natural resources, improved productivity, improved skillsets, so you'd have a set of objectives."

Further to an increase in turnover, incubators are also seen as a means for encouraging new product development. Participant 4 highlights this, stating:

"In our case, we've got companies that are developing products. So, and we're having this conversation earlier this week, that you know, with new products comes you know, potentially a new firm that's going to manufacture and create jobs."

These factors – ensuring business growth and sustainability through the development of entrepreneurial skills; enabling access to incubator resources and networks; encouraging an increase in revenue generated; and assisting with new product development – are collected under the theme of 'incubator impact on business growth' and highlights the impact incubators can have on elements related to growing a start-up or small business. The codes relevant to this theme are summarised in Table 6.16 below.

Table 6.16: Codes relevant to theme: Incubator impact on business growth

Codes	Number of Quotations
Business Growth as an Incubator Objective	11
Business Sustainability as an Incubator Objective	15
Developing Entrepreneurial Competencies as an Incubator Objective	29
Enabling Access to Incubator Networks as an Incubator Objective	11
Enabling Access to Resources as an Incubator Objective	31
Enabling Networking Between Founders as an Incubator Objective	4
Increased SME Revenue as an Incubator Objective	12
Lack of Entrepreneurial Mindset as an Incubator Challenge	4

6.4.4 Incubator impact on economic development

During the data analysis, a clear theme emerged regarding an incubator's ability to encourage economic development. This was a commonality across the sample, with eight of the nine participants pointing to economic development as an important objective for their incubators. Participant 1 gives an overview of the role incubators play regarding economic development, addressing a market need that neither the government nor the private sector can provide. Participant 1 comments:

> *"The fact that most incubators are operating in the context of levels of unemployment, and low levels of skills. And in both areas, I believe that incubators are absolutely vital because they go where the private sector cannot go or is unwilling to go and they go to areas where the government isn't efficient enough."*

Participant 3 concurs, stating:

> *"I think a lot of incubators focus on "what does it mean for the country rather?" And I think, again, from my perspective, that right now is what is the real goal of incubators should be. It should serve the economy in general."*

Agreeing with the above, Participant 4 outlines how economic development is a shared objective across all incubator types, stating:

> *"…economic growth, if that's the shared objective economic growth, I think we differ on how to achieve those objectives, but we all I think we are in agreement. Our objective is to grow the economy."*

This perspective is echoed by Participants 6, 7, 8, and 9. Participant 10 sums up the impact incubators can have on economic development by stating:

> *"…business incubators empowering entrepreneurs because once was entrepreneurs graduates out of the business incubator space, they then can see this and create job opportunities, pay wages and salaries. Where now, we can start to see a whole lot of impact being made to you know, just business support and startups graduating…, creating more jobs. This is going to see business incubators contributing to the economic growth of, I guess the country in the province and the local municipality districts."*

The focus on job creation as a means of economic development is not unique to Participant 10, with all participants agreeing that it is a crucial measurement of their efficacy as an incubator. Participant 2 offers an ecosystem view, stating that job creation and business sustainability are common goals across a wide range of ecosystem role players, stating:

> *"It also depends on the incubator, whether it's a government-funded incubator or it's privately funded. I think, you know, these funders, incubatees, incubators, I think more or less have the same goal, I stand under correction. But I think that goal is obviously to ensure sustainability businesses, but to also, you know, but also to increase jobs, you know. Job creation seems to be also an important factor for business incubators."*

Participant 10 expands on this and explains why job creation is a feature of all the participants in this study, stating:

> *"The whole crisis of unemployment and people losing jobs. So, in my humble opinion, I think business incubators are the only way for us to start responding to the 60 plus rates, I think it's going up now, the 60 plus percent of you know, unemployment in our country. It's quite a scary stat if you think about half of the*

country's population does not have a job. They're not able to bring food to their family. So, crime rates are the only thing we complain about in the country."

This is echoed by Participant 9 who suggests that sustainability of businesses is a means to an end towards creating jobs, stating:

"They should be measured by the impact that they have with regard to when… the sustainability of the businesses that they support, … and then the jobs created thereafter with regard to after developing such a business and then they did the jobs created by such businesses that are particular by such incubators."

Whilst agreeing that job creation is a key objective for incubators, Participant 8 offers a different perspective, alluding to the need to expand the definition of what a 'job' is to fully leverage the potential impact incubators can have on job creation. Participant 8 states:

"…success as a business model that has been able to generate economic participation opportunities. So, it's broader than sort of job creation because we understand that job creation, we're always talking about job creation and incubators and entrepreneurs doing this, but it's not happened like that. So, we're like okay, should we broaden it?."

Encouraging employment growth is not only seen as an incubator objective, but a key objective for the government in terms of their incubation strategy. It appears that despite noble objectives, these strategies are not always effective. Participant 7 offers this view:

"…government's objective is one, they just want to see jobs created, and they also want to look good and in the South African context, 'cause I'm sure in other countries as well, it also becomes politicized, depending on who's in power, they want to be seen to be doing certain things, but now, the challenge to what they have from a government is putting resources purely for the needs to be seen to be supporting, but not actually understanding the cost and the needed the cost to actually be effective."

Participant 6 echoes this view, however, expands this outlook to include other elements of economic development, stating:

> "*I think by design incubators, are supposed… are meant to assist government, with, you know, everything economic development, you know, get up the to get the GDP up, you know, facilitate for exports, you know, assist government to, you know, to export as much as possible but also when it comes to issuing of service delivery, let our technologies also be relevant to some of the issues that we are faced with.*"

Further to job creation, there is limited focus on other means of encouraging economic development, such as increasing tax revenue. Participant 4 states:

> *"There's broad objectives for incubators, if I would look at it as, for example, from a country perspective, you want incubators to help more companies to form and grow so that there's increased revenue for the country."*

This is supported by Participant 7, commenting:

> *"And then obviously, they must be a compliant taxpayer. Because one of the reasons why we do what we're doing, by the way is to widen the tax base and that's why we creating these businesses and for them to do that they have to be compliant with Treasury regulation."*

This perspective is not widely shared among the participants, with some of the other participants focusing on the creation of new ventures as an objective, rather than the potential for increased tax revenue. Of the nine participants, six identified new venture creation as a key objective for their incubators. Participant 9 states:

> *"I would say the objective would be to develop or grow businesses, to those that are starting we should assist them to, to grow or develop to move from the startup phase to be commercially viable or even somewhat sustainable."*

Further to assisting in creating new ventures, incubators play an important role in improving the survival rates of start-up businesses. Participant 4 states:

> *"So, from my perspective (there) is a is sort of a bundle of support that is evidently required for for a startup for a business starting up but also for an*

existing business; studies aimed at improving the survival rate of a business had it not been able to access those services."

Participant 7 echoes this, stating that:

"But we also want to make sure that they'll be able to stay in business for at least 12 months after graduating. And the things that I've just told you are the conditions for our graduation process to say, how do we then determine you as a graduate it's because you then have met all those conditions and you know, you go your employees are fully recognizable and auditable and verifiable and so on."

This is a perspective shared across the sample, with six of the nine participants explicitly stating that improving start-up survivability is an important objective for their incubator. Participant 8 offers a view as to why this is important for incubators, stating:

"…where we have like 95% of SMEs just never making it forward. I mean, I don't think there's anyone who's even doing research from idea if it didn't become a real venture, what that looks like. That is the relevance of incubators is in order to kind of reduce that failure and to rather build a more thriving economy that is more inclusive of different and new actors as businesses and entrepreneurs."

These elements – increasing employment; increasing tax revenue; creating new ventures; and increasing the survival rate of new businesses – contribute to economic development and are relevant to the theme of incubator impact on economic development. The codes relevant to this theme are summarised in Table 6.17 below.

Table 6.17: Codes relevant to sub-theme: Incubator impact on economic development

Codes	Number of Quotations
Decreasing Failure Rates as an Incubator Objective	6
Economic Development as an Incubator Objective	22
Improving SME Survival Rates as an Incubator Objective	10
Increased Tax Revenue as a Government Objective	4
Job Creation as a Government Objective	36

New Venture Creation	12

6.4.5 Incubator impact on entrepreneurial ecosystem

Whilst the incubator's impact on business growth was a significant theme, the incubator's impact on the entrepreneurial ecosystem emerged as a substantial theme, with six of the nine participants explicitly highlighting their role in enabling the entrepreneurial ecosystem in the interviews. Participant 7 describes their role as follows:

> *"So, our programme and I always say that we are not there to run SME businesses. We are there to create an ecosystem. We are there to facilitate opportunities and facilitate and create a linkage…"*

Participant 2 concurs with this perspective, stating:

> *"So, I think that's the role that they are playing currently in our incubator, but we have various other stakeholders that also play a very similar role as well, you know, because obviously, we want to be that centre of you know, where everybody can have access to it and that's what we wanting to do."*

This role as an enabler of the entrepreneurial ecosystem requires making linkages between various opportunities within the ecosystem and the incubated businesses. This is evident in the following perspective shared by Participant 7:

> *"So, we trying to bring the parties on one table and say let's look at the case at hand. And if there's been funding or I mean if there is a market opportunity or procurement opportunity to fund us, we need to come on board. Sometimes the market says okay, I need guarantee of funding before I can give you this opportunity. And sometimes the funder says but I need the market. So, we're coming in as a sort of convergence of those two entities and it's what we're currently doing and, in some instances, we've now also been able to do core funding exercises or merging of funders in that regards."*

Linking funding and market opportunities to incubated businesses is a key function of incubators within the entrepreneurial ecosystem. Participant 9 states:

> *"Well, it's a mix, it's a mix, both private and government funding, type of funding we assist in both. So wherever there's an opportunity, we make sure that we assist with that market or that linkage…"*

Participant 4 focuses on facilitating linkages to market opportunities, explaining that:

> *"… (we) support businesses to really have a platform to operate. But more and more I see a senior role where the market linkages aspect of it comes into the fold…."*

Participant 4 adds to this by discussing how facilitating these linkages should impact the incubated business:

> *"I think that what we, what I look at in seeing whether it's effective is seeing how it's almost like an indirect because you, like I say, there's a company that we put them in touch with one of the major banks and anything that comes out of it should be able to reflect in the bottom line. So, So, you see, so it's not like the linkage itself, I mean, I can put companies in touch with 20 corporates in a year. So what? It is ultimately being measured in the number of sort of relationships, contracts, but ultimately in the bottom line is from exchange of income."*

This perspective is shared across the sample, with all nine participants explicitly referring to the facilitating of linkages between incubated businesses and market and funding opportunities in the entrepreneurial ecosystem, as a key role their incubators play.

In addition to facilitating linkages, incubators are also seen as facilitators of information, particularly enabling innovation knowledge flows between stakeholders within the entrepreneurial ecosystem. Participant 4 describes their role as follows:

> *"…our focus is very much the community and being a hub for technology. Our responsibility is to be a conduit for technology and make technology accessible. The kind of like a middleman between the different stakeholders…"*

Participant 8 concurred and offered an example of a situation where the flow of innovation resources into the incubator was reciprocated by the transfer of incubation expertise to another ecosystem player:

"We really try to partner with universities because they have technical skills, they have sort of innovation skills that are in there, which we lack … (what we brought) to the University of Limpopo venture departments were like how can we share what we as an incubator are and you share what you are as a university sort of incubator, in order to be able to enable one another because they can't run programmes. So how can we run programmes for them? Obviously, that will also create sustainability for us. And then how can they bring expertise and experts, for example, for the, for the incubator…"

The combination of facilitating linkages to market and funding opportunities, enabling innovation knowledge flows as well as the entrepreneurial ecosystem, form part of the theme 'incubator impact on entrepreneurial ecosystem'. The codes relevant to this theme are summarised in Table 6.18 below.

Table 6.18: Codes relevant to theme: Incubator impact on ecosystem

Codes	Number of Quotations
Enabling Access to Information	7
Enabling the Entrepreneurial Ecosystem	26
Enabling Innovation Knowledge Flows	4
Enabling Linkages between Funding Opportunities and Businesses	18
Enabling Linkages between Market Opportunities and Businesses	22

6.4.6 Incubator impact on communities

The final theme to emerge from the analysis is that of incubator impact on communities. Incubators fulfil a role within the entrepreneurial ecosystem, as outlined in section 4.4.3, however, they also play a role within the communities in which they are based. Participant 2 gives an overview of how their incubator works to create an impact in their community:

"We've got three programmes, we've got the business, the generic business incubation programme that runs for three years. Then we've got the coding programme, which is four, which is for 10 unemployed youth, between 18 and 25. And that's obviously for the community. So, first preference will be given to

youth in the community and that runs for a year and part of that year programme that they get taught how to code – so it's coding for non-coders, but they also get a monthly stipend as well. So that, it is like an internship…"

This focus on community skills development stems from a desire to address unemployment and may speak to the spill-over benefits incubators provide. Participant 2 goes on to state:

"I'll always say that you know, "yes, we an incubator" where people think incubators, they automatically think business incubators, but because we township incubator, we focus on two things, businesses, but also, you know, getting the unemployed more employable. So, transferring skills to the unemployed in our communities as well. That seems to be a big issue as well, is unemployment in townships. So, we try to, you know, transfer skills so that they can have that, that edge, you know, when they're going into interviews or for job applications."

Other incubators saw their role within the community differently, instead they are focusing on enabling access to resources for the community, which may take many forms. Participant 10 explains:

"So yeah, those are really community-driven initiatives, programmes, trainings, events, talks, master classes, general career exhibitions and those types of initiatives. It just helped communities also become sustainable to knowledge and access."

Participant 8 follows a different line of thinking, identifying the opportunity for innovation within the local communities, stating:

"It's like also identifying opportunities for innovation in the communities that they work. What I remember someone made a comment last week around already how already was able to pull different voices and different lenses and bring it together into sort of a shared objective, if that makes sense."

Further to this focus on enabling access to resources and developing skills within the community, there is another perspective that has emerged within this theme relating

to addressing a perceived lack of access to technology, as is evident in Participant 9's statement regarding the challenges their incubator faced:

> *"…another thing the technology, lack of technology like mostly you'd find clients that are in rural areas, like and then what we are doing now we can do with them because of these challenges*."

Although not as prevalent across the sample as other themes mentioned above, this theme offers insight into what may be an evolving area of focus for South African incubators. The codes relevant to this theme are summarised in Table 6.19 below.

Table 6.19: Codes relevant to theme: Incubator impact on communities

Codes	Number of Quotations
Enabling Access to Resources for Communities	7
Community Skills Development	2
Addressing a Lack of Access to Technology	2

As the previous sections have shown, several interesting and relevant themes have emerged from the data analysis process undertaken by this study. Supported by the direct quotations from participants, these themes – together with the results of the literature review conducted across Chapters 2, 3, and 4 – are used to construct the proposed framework presented in Chapter 7. This framework achieves the aim of this study, as outlined in Chapter 5.

6.5 CHAPTER SUMMARY

This chapter began with an introduction to the chapter, highlighting the decision to not include the conceptual model developed in Chapter 4 underpinning the proposed consolidated framework to allow the presentation of the themes to maintain a data-led approach, followed by an overview of the research process followed in this study, as described in detail in Chapter 5. The remainder of the chapter focuses on the themes and sub-themes that emerged from the data analysis process employed in this study. Overall, six themes were identified. The theme of incubator-stakeholder conflict was

discussed, with three sub-themes outlined – funding requirements and expectation, government influence, and South African socio-economic climate. The second theme to emerge was that of a restrictive incubation environment and included the sub-themes incubator resource scarcity and prohibitive incubation context. The remaining themes identified were incubator impact on economic development, incubator impact on business growth, incubator impact on entrepreneurial ecosystem, and incubator impact on communities. Each theme was discussed, citing multiple quotes from participants in the study.

Chapter 7 includes a discussion of these findings and their relevance to the conceptual model proposed in Chapter 4 as well as the final proposed framework for measuring incubator efficacy, and a discussion of the managerial implications of the study and avenues for future research.

CHAPTER 7:

DISCUSSIONS, PROPOSED FRAMEWORK, AND RECOMMENDATIONS

7.1 INTRODUCTION

This study began by introducing the key concepts and theories relevant to the topic through a thorough literature review in Chapters 2, 3, and 4. Chapter 2 examined business incubation as a phenomenon and established an understanding of the field necessary for engaging with Chapter 3. This chapter also provides the insight required to understand the two perspectives on incubator efficacy that underpin the conceptual model proposed later in the study. Chapter 4 explores stakeholder theory and its relevance to incubator efficacy measurement, concluding with a proposed conceptual model of incubator efficacy measurement. Chapter 5 outlines the methodological approach adopted for this study, discussing qualitative research methodologies and describing the process used in conducting the empirical phase of the study. Chapter 6 presents the findings that emerged as a result of the data analysis process, identifying six themes relevant to this study.

The study is concluded in Chapter 7, which draws conclusions based on the results presented in Chapter 6. The chapter goes on to propose the final consolidated framework of measuring incubator efficacy using both the conceptual model proposed in Chapter 4 and the empirical evidence gathered during this study. The chapter

concludes by exploring the managerial implications of the study and makes recommendations for future research.

7.2 CONCLUSIONS

The purpose of this study is stated as proposing a consolidated framework for measuring the efficacy of BIs. The research questions relevant to achieving this purpose were outlined in Chapter 5, section 5.4.1 and are outlined in Table 7.1 below.

Table 7.1: Research questions

RQ1	What is the current state of business incubation as a phenomenon?
RQ2	What are the different perspectives on business incubator efficacy?
RQ3	What is the relevance of stakeholder theory to incubator efficacy measurement?
RQ4	What groups of stakeholders are relevant to business incubators?
RQ5	What relationships between stakeholder groups and perspectives on business incubator efficacy exist that would underpin a conceptual model of incubator efficacy?
RQ6	What is the perceived purpose and objective of business incubation in South Africa?
RQ7	To what extent are incubators perceived as effective in South Africa?
RQ8	What relationships between stakeholder groups and perspectives on business incubator efficacy exist that would underpin a consolidated framework for measuring incubator efficacy?

To ensure the data being collected is relevant to the research questions, specific research objectives were outlined in Chapter 5, section 5.4.2. These objectives are outlined in Table 7.2 below.

Table 7.2: Research objectives and phases

Research Question	Research Objectives	Research Phase
RQ1	a) Track the development of incubation overtime b) Understand the current state of BI	Literature Review Literature Review
RQ2	a) Identify the purpose and objectives of BI b) Identify the different elements on incubator efficacy c) Categorise these elements into relevant perspectives on incubator efficacy	Literature Review Literature Review Literature Review
RQ3	a) Understand the applicability of stakeholder theory to the context of BI efficacy	Literature Review
RQ4	a) Determine which stakeholders are present and relevant to BI b) Understand the saliency of the identified stakeholders c) Determine the impact that the source of funding for the incubator has on the objectives the incubator pursues	Literature Review/Empirical Research Empirical Research Literature Review/Empirical Research
RQ5	a) Identify what relationships exist between the identified stakeholder groups and the different perspectives on incubator efficacy b) Determine the relevance of the stakeholder groups to each perspective on incubator efficacy	Literature Review Literature Review
RQ6	a) Understand what the perceived purpose of BI is in the South African context b) Determine the objectives incubators are currently pursuing in South Africa	Empirical Research Empirical Research
RQ7	a) Determine the perceived overall efficacy of incubators in South Africa b) Identify potential rationale for perceived efficacy	Empirical Research Empirical Research
RQ8	a) Determine what relationships exist between stakeholder groups and the perspectives on BI	Literature Review/Empirical Research

This study is broken down into two phases – the literature review and the empirical data collection and analysis. The research objectives were addressed in either the literature review, through the data analysis, or across both phases. The phased approach to this study is outlined in Table 7.3 below.

For ease of reference, research objectives are referred to using abbreviations in an

alpha-numeric system. For example, Research Question 1, Objective A is referred to as RQ1A.

7.2.1 Research question 1

Research question 1, stated as “What is the current state of business incubation as a phenomenon?” consists of two research objectives – RQ1A is stated as ‘Track the Development of Incubation Over Time’ and RQ1B is stated as ‘Understand the Current State of Business Incubation’. Both research objectives were addressed in the literature review, with specific focus given to the development of incubation over time in section 2.2, whilst the current state of incubation was dealt with across the remainder of Chapter 2.

This conclusion does not intend to restate the content of Chapter 2; however, it seeks to offer a brief overview of the content most relevant to answering research question 1.

BIs trace their origin to two major programmes established in the United States in the 1950s (Mian *et al.*, 2016:1). Since the establishment of these programmes, incubators have evolved and developed across three distinct waves of incubators (Mian *et al.*, 2016:2; Torun *et al.*, 2018:91). The ‘third wave’ of incubators represents those that have shifted from purely providing access to infrastructure and resources, to play a key role in building an ecosystem in which entrepreneurship can thrive (Bruneel *et al.*, 2012:112; Mian *et al.*, 2016:3).

Incubators have evolved to take on many forms, although a lack of an agreed typology among researchers reduces their ability to make fair and accurate comparisons of efficacy across incubator types. To address this, the typology in Table 7.3 below, was proposed for use in this study.

Table 7.3: A combined typology of business incubators

Proposed Incubator Type	Objective	Kuratko & LaFollette (1987:50) Typology	Von Zedtwitz (2003) Archetype	Barbero *et al.* (2012:894) Archetype
Private For-Profit BIs	Profit-driven	Private corporations	Independent commercial incubators	Private incubator
Not-for-Profit BIs	Local economic/area development	Private corporations, chambers of commerce, community-based organisations	Regional business incubators	Economic development incubator
Public BIs	Job creation	Local or national government	Regional business incubators	Economic development incubator
University BIs	Technology commercialisation and transfer	University sponsors	University incubators	University incubator/Basic Research Incubator
Hybrid BIs	Job creation/local economic development	Private corporations/local or national government	Regional business incubators	Economic development incubator
Corporate BIs	Innovation/ Research and Development	Private corporations	Company-internal incubators	Private incubator

This typology combines the typology previously proposed by Kuratko and LaFollette (1987:49), and the archetype by Barbero *et al.* (2012:894), and Von Zedtwitz (2003), taking into consideration the incubator's objective as well as their source of funding towards developing a more holistic typology. This is outlined in detail in Chapter 2 section 2.6.1.

Incubators have been identified by academia as fulfilling roles in terms of encouraging economic development, by enabling the entrepreneurial ecosystem and facilitating knowledge flows within the open innovation paradigm. These roles, discussed in detail in Chapter 2 sections 2.7.2, and 2.7.3 respectively, explain the motivation or rationale behind establishing and funding incubators. Filion *et al.* (2019:16) found that incubators can create employment at a lower cost per job created than other incentives, such as tax cuts, though offer a counterpoint in that incubated businesses

may become reliant on incubator support to maintain the jobs created. However, incubators are important for economic development, despite the threat of a lack of incubated business sustainability. The views of Haugh (2020:172) and Millette *et al.* (2020:5) are further supported by Mansano and Pereira (2016:30) who found that BIs are crucial to economic development through the commercialisation of the knowledge and technological outputs of universities and research institutes, offering another factor to consider when discussing incubation as an economic development tool.

7.2.2 Research question 2

Research question 2 'What are the different perspectives on incubator efficacy?' consists of three research objectives. RQ2A – to identify the objectives of incubators, RQ2B – to identify the different elements related to incubator efficacy, and RQ2C – to categorise the identified elements into relevant perspectives on incubator efficacy, are addressed in detail throughout Chapter 3. To avoid repetition, this conclusion offers a brief overview of the relevant content addressing the three research objectives, including the two perspectives on incubator efficacy that underpin the conceptual model put forward in Chapter 4.

Research has solidified incubators as drivers of economic development as both an enabler of innovation (Lamine *et al.*, 2016:1121-1141; Ngongoni *et al.*, 2017:56-65) and as a stimulant of economic growth through new venture creation and employment growth (Ferreiro-Seoane *et al.*, 2018:553; Torun *et al.*, 2018:93). New venture creation is one aspect of the positive effect of business incubation in terms of economic development, leading to increased tax revenue for both local and national governments (Ferreiro-Seoane *et al.*, 2018:553). The other major benefit of incubation is the potential for employment growth. Ventures created and incubated through BIs have the potential to substantially increase the number of employment opportunities available (Al-Mubaraki & Busler, 2015:17; Madaleno *et al.*, 2018:292). Both new venture creation and employment growth are vital elements to the economic growth benefits generated by BIs.

Although new venture creation and employment growth are hard measures of the economic growth benefits of incubators, there are other benefits to be seen in their

contribution to the entrepreneurial ecosystem in which they operate. The entrepreneurial ecosystem is considered a subset of the broader business ecosystem that, when operating efficiently, promotes new venture creation and as a result, employment growth (Carayannis *et al.*, 2018:4). An effective incubator would thus be a contributor and collaborator within the entrepreneurial ecosystem, providing the resources required to promote new venture creation, innovation, and, consequently, economic development. This sums up the objectives of incubators identified in the literature – to develop new ventures and enable venture growth, through facilitating innovation knowledge flows, with the overarching goal being to contribute to economic development. However, there are two perspectives identified in the literature as being relevant to incubator efficacy – the business growth and economic development perspectives.

There are three primary lenses to consider when examining the efficacy of BIs from the economic development perspective. Incubator efficacy, from the economic development perspective, is determined by the impact the incubator has on the entrepreneurial ecosystem in which it operates through the growth of businesses, the creation of new ventures, and the provision of resources to members of the ecosystem, the specific economic development indicators such as employment growth and new venture creation, and its ability to facilitate the requisite knowledge flow to enable open innovation. These three lenses guide how incubator efficacy is measured, providing a holistic overview of the economic impact the incubator delivers.

The business growth perspective on incubator efficacy considers those elements most critical to the growth of incubated businesses. These elements include financial growth, as discussed in Chapter 3, section 3.3.1, provision of resources (from the incubator to the incubated business) discussed in section 3.3.2, and the entrepreneurial experience discussed in section 3.3.3. Examining the financial growth element, the financial growth of incubated businesses is a result of increased revenue, increased profitability, and employee growth. These three measures are used to determine the business' financial growth. With regards to the provision of resources, the ability of the incubator to provide resources across five categories is considered an indicator of their efficacy in terms of this element. The five categories of resources are physical resources, business knowledge, network, legitimacy, and financial

capital. The incubator is expected to provide resources across all five categories to be considered effective. The final element is the entrepreneurial experience. Incubators are expected to deliver three primary benefits related to the entrepreneurial experience, including legitimacy, access to the entrepreneurial network, and credibility for businesses on the incubator's programmes.

7.2.3 Research question 3

Research question 3, stated as 'What is the relevance of stakeholder theory to incubator efficacy measurement' consists of one research objective. RQ3A is simply to 'Understand the applicability of stakeholder theory to the context of business incubation efficacy'. As highlighted in Table 7.3, research question 3 is addressed across both the literature review as well as the empirical research phase of this study. Stakeholder theory as an approach to measure incubator efficacy is discussed in detail in Chapter 4, section 4.3. This conclusion seeks to offer a brief overview of the research already discussed in Chapter 4, section 4.3 and moves on to discuss the findings of this study relevant to research question 3.

Incubators are multi-stakeholder organisations, with a wide array of role players impacted by the incubator's activities. As outlined in section 7.2.2, incubators operate within two perspectives of incubator efficacy – the business growth and economic development perspectives. If the outcomes of both perspectives are considered – increased revenue, increased profitability, employee growth under the business growth perspective and new venture creation and employment growth, providing resources to members of the entrepreneurial ecosystem, and enabling the knowledge flows required for open innovation – there are several stakeholders that are impacted by these outcomes. The outcomes associated with incubator activities are substantially externalised in comparison to traditional businesses. An example of this is that an effective incubator may improve the number of new ventures created through their programmes, whereas an effective 'traditional' business would see success as increasing the inflow of revenue to the business. This externalisation of outcomes requires incubators to consider the stakeholders that are being impacted by their activities to effectively gauge their own efficacy. This is in line with Fiet (2022:36) who posits that stakeholder theory dictates that modern businesses must consider stakeholders as well as stockholders to achieve growth. In the incubation context, this

translates to a consideration of the outcomes of incubation activities that lie outside of the specific scope of the funder or owner of the incubator.

An example of incubator outcomes that lie outside of the scope of the funder or owner, would be a university incubator in the United Kingdom that is given the objectives of commercialising the research outputs of the university, developing student entrepreneurship rates, and accelerating technology start-ups in the region. The stockholders of the incubator (the university in this context) would be focused on generating revenue for the university through the commercialisation of intellectual property into spin-out companies, improving the student experience through extra-curricular entrepreneurship activities, and improving graduate retention through creating exciting places to work through the technology start-ups being accelerated. However, other stakeholders, such as the businesses in the acceleration programme, would not be concerned with the priorities outlined by the stockholders (university) in this case. Instead, the businesses in the acceleration programme may focus on raising investment, building their initial team, developing their minimum viable product, and going to market successfully. Due to the substantial differences between the stockholder (the university) and the stakeholder (incubated business) priorities, the incubator must consider the breadth of interests across the relevant stakeholder group, which is aligned with findings of Fiet (2022:36). The priorities of each stakeholder group can be categorised into either the business growth or economic development perspectives on incubator efficacy, as outlined in Chapter 3. In this example, the university's objectives would fit within the economic development perspective, as improving graduate retention and commercialising university research outputs through employment growth as a result of businesses being accelerated or spun out of the university, as well as the new venture creation associated with student entrepreneurship activities are all related to an overall objective of economic development. The business objectives would fall under the business growth perspective, as raising funding, developing new products, hiring employees, and generating revenue as a result of going to market, are all related to the growth of the business.

As outlined in Chapter 4 and shown above, incubators are multi-stakeholder organisations, whose outcomes are directly related to several stakeholders and can

be considered as being external to the organisation itself. As such, the present study determined that stakeholder theory is the most appropriate theoretical underpinning for investigating incubator efficacy. This is aligned with findings by McAdam *et al.* (2016:265-287), Messeghem *et al.* (2018:4-21), Miles (2017:437-459), and Vanderstraeten and Matthyssens (2010), who identified and adopted a stakeholder theory-based approach to incubator efficacy measurement.

7.2.4 Research question 4

Research question 4, stated as ‘What groups of stakeholders are relevant to BIs consists of three research objectives. RQ4A stated a ‘Determine which stakeholders are present and relevant to business incubation’ is addressed in both the literature review and empirical research phases of the study. Specifically, the literature relevant to RQ4A is discussed in detail in Chapter 4 section 4.4. RQ4B, stated as ‘Understand the saliency of the identified stakeholders’ is addressed in the empirical research phase of the study and will be discussed in more detail in the remainder of this section. Finally, RQ4C stated as 'Determine the impact that the source of funding for the incubator has on the objective the incubator pursues’ is addressed in both the literature review and empirical research phases. Specifically, RQ4C is addressed in Chapter 4 section 4.7. To avoid repetition, where research objectives are addressed in the literature review, a brief overview of the relevant literature as part of the discussion of the research question is presented.

Considering that stakeholder theory is a relevant and appropriate approach to measuring incubator efficacy, as outlined in section 7.2.3. and throughout Chapter 4, the next logical step is to understand which stakeholders are relevant to incubators. This is achieved by understanding which stakeholders are relevant in an incubation context, the saliency of the identified stakeholders, and the impact stakeholders have on the direction of an incubator. These aspects are considered in addition to the impact the source of funding has on the objectives the incubator pursues.

In Chapter 4, four groups of stakeholders from the literature were identified – government, incubated businesses, incubator managers, and the entrepreneurial ecosystem. This is in line with Messeghem *et al.* (2018:658-680), who identified

incubator managers, incubated businesses, and the government as stakeholders of incubators. In a separate study, Hausberg and Korreck (2020:151-176), although combining government and ecosystem as stakeholders under "environment" in their study, included the "entrepreneurial ecosystem" as a stakeholder of incubation activities. The interpretation of the stakeholders identified in these two studies led to the four groups that were identified in Chapter 4.

In the South African context in which this study takes place, participants in this study identified their funders as a primary stakeholder in their organisations. This is in addition to the government, a primary stakeholder for most of the participants in this study. Considering that most of participants were funded through government funding, either through the DSBD's SEDA or various provincial agencies, it was noted that incubation managers identified 'governments' separately to 'funders'. This implies that the government is seen as not only funders but often a potential market for incubated businesses as well. This was highlighted by several participants who referred to local and provincial governments as enabling 'access to market' or the incubated businesses. The prevalence of incubation managers' complaints regarding a lack of effective incubation policy in this study, highlights the additional consideration government as a stakeholder requires. This infers that the inclusion of the government as a stakeholder is relevant to the measurement of incubator efficacy for the participants in this study, due to the government's multi-faceted role as funder, market, and policymaker in the incubation landscape. In addition to this, the present research suggests that the government is perceived as the most salient stakeholder to participants due to the overwhelming influence the South African government has on incubator funding, market access for incubated businesses, and incubator policy.

In addition to identifying the government as a primary stakeholder, participants in this study highlighted the role that private sector funders play regarding incubation activities in the country; this is unpacked from the identification of 'funders' as primary stakeholders. Through the enforcement of BBBEE legislation, specifically the enterprise and supplier development requirements, the South African government has unlocked a variety of private sector funding for incubation activities in the country, creating an additional primary stakeholder in the South African incubation landscape that was not included in the stakeholder groups proposed in Chapter 4. According to

the participants in this study, the private sector plays a multi-faceted role for incubators, like that of government, in that they are often seen as both funders and a viable point of access to the market for incubated businesses. Although the potential benefits of a stakeholder in both funding incubation activities and potentially enabling access to market for incubated businesses are substantial, the lack of incubator funding identified by participants in this study contributes to an environment in which incubator managers are unable to turn down potential funding opportunities. This is further impacted by a perceived disconnect between funder expectations and the realities that incubators face. The practical inability of incubator managers to turn down potential funding means that they are thus beholden to the often-unrealistic expectations of private sector funders, leading to an increase in incubator-stakeholder conflict, as outlined in Chapter 6, section 6.4.1. Despite the potential for incubator-stakeholder conflict, the private sector is considered a relevant and salient stakeholder for incubators in the context of this study. The private sector is considered the second most salient stakeholder in the context of this study, due to its ability to act as a funder of incubator activities and as a market for incubated businesses.

Incubator managers are identified as a stakeholder group by both Hausberg and Korreck (2020:151-176) and Messeghem *et al.* (2018:658-680). These findings are echoed in this study, with incubator managers playing a key role in driving incubation activities and managing relationships with other stakeholders. The importance of the incubator managers in maintaining a focus on delivering value for the incubated businesses is a perspective shared amongst all participants. This evidences a shared understanding that incubators exist to assist the establishment and the growth of businesses through the accumulation and provision of a wide array of resources. This underpins the importance of incubator managers in managing disjointed stakeholder priorities whilst ensuring the incubator delivers on its purpose and is thus relevant to the context of this study. The present study proposes that incubator managers are seen as a salient stakeholder but are not perceived as being as salient as the government, and the private sector. Incubated businesses and incubator managers are seen as being equivalent in terms of saliency for the incubator since incubators react to the resource requirements of incubated businesses in developing their incubation programmes.

Incubated businesses, another stakeholder group identified by both Hausberg and Korreck (2020:151-176) and Messeghem *et al.* (2018:658-680), play an important role in the context of incubation. As the vehicle through which many of the intended outcomes of incubation activities are realised, they are a vital stakeholder group to all incubators. There are, however, some elements which affect their perceived saliency. Participants agreed that incubators act as accumulators and providers of resources that are relevant and required by incubated businesses to encourage their growth and development. This infers a requirement to understand the resource needs of the incubated businesses as they progress along the venture lifecycle. These resources can take many forms including financial resources, enabling access to infrastructure in the form of offices, labs, and/or equipment, training and skills development, mentorship, and access to the incubator networks. The requirements of the incubated businesses' shape, in part, the development of an incubator's programmes and the resources they are required to provide. Incubated businesses are also a crucial resource for the incubators involved in this study, helping to ensure access to funding for the incubator by ensuring incubators can deliver the outcomes set by their funders. This is particularly relevant to the participants in this study as a perceived lack of high-quality businesses applying for incubation programmes was a shared concern of many incubators, contributing to the restrictive incubation environment in which incubators operate. Considering the role that incubated businesses play in the development of incubation activities and the impact they can potentially have on achieving additional funding, they are considered a relevant and salient stakeholder for the context of this study.

Many participants in this study identified the entrepreneurial ecosystem as a key stakeholder in the incubation context in South Africa. Although a nascent industry in the country, incubator managers highlighted the role that incubators play within the ecosystem, but also the importance of the ecosystem in enabling the provision of the resources required by incubated businesses. The entrepreneurial ecosystem (also referred to as 'the ecosystem'), a set of interdependent factors that enable entrepreneurship (Nicotra *et al.*, 2017:640-673) holds incubators as intermediaries, enabling the flow of resources between stakeholders, enabling entrepreneurial activity and business growth (Theodoraki *et al.*, 2020:1781). Participants confirmed this view, positioning incubators as accumulators and providers of resources, access to which is

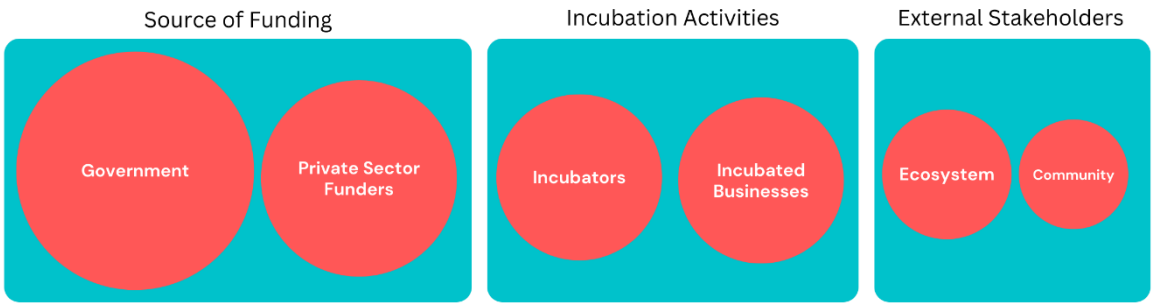
provided through the entrepreneurial ecosystem in which they sit. The ecosystem has a vested interest in the efficacy of incubators through their perceived ability to enable entrepreneurial activity, a goal shared by the ecosystem itself (Colombo *et al.*, 2019:419-428). Participants in this study referred to the ecosystem as an important factor in ensuring the efficacy of their programmes, specifically highlighting the role that knowledge bases, such as universities and research institutes, and funding institutions, such as the Industrial Development Corporation (a South African governmental institution), play as providers of resources. As such, the entrepreneurial ecosystem is seen as a relevant and salient stakeholder in the context of this study, although less salient than the stakeholders already identified in this section.

In the process of conducting this study, another stakeholder group relevant to the participants emerged. The local community emerged as a stakeholder group, separate and distinct from the entrepreneurial ecosystem. This departs from the findings of Hausberg and Korreck (2020:151-176) and Messeghem *et al.* (2018:658-680), neither of which included a specific focus on the local community as a stakeholder for incubators. This may be a result of the focus on Western incubators in developed countries which is a feature of current incubation literature (Messeghem *et al.,* 2018:658-680; Torun *et al.,* 2018:91-100). This is particularly noteworthy due to the common reference to a departure from a 'Western' or 'traditional' incubation context by participants in this study. Considering the South African socio-economic climate, a sub-theme of incubator-stakeholder conflict described in Chapter 6, section 6.4.1.3, the relevance of the local community and a perceived obligation amongst incubator managers to contribute to the community directly, is a logical conclusion. This departure from the 'traditional' incubation context (in which incubators are contributing to their communities through the economic development benefits they produce), to a more socio-economic-orientated incubation context (where incubators may seek to create an impact on their communities directly), may be a result of the pervasiveness of government-linked incubator funding as discussed among participants in this study. As described in Chapter 6, section 6.4.6, the impact of incubators on communities emerged as a significant theme in this study. The participants of this study highlighted the importance of the community to their incubation activities to such an extent that in some cases incubators offered specific programmes that focused on developing the community's technology skills, hosting events, training, and talks relevant to the

communities. This also enabled access to incubator resources for the community through initiatives such as makerspaces and providing access to technology to the community through the incubation spaces. Although only 33% of participants explicitly stated their focus on community initiatives, this theme is still significant. The specific focus on developing the community in which the incubator is located, infers that the community is a relevant stakeholder in the context of this study, although, one that is considered less salient that other stakeholders already identified in this section.

The extent to which an incubator focuses on one perspective over another is a result of the saliency of the stakeholders in relation to the incubator. However, an incubator exists to assist the development and growth of early-stage businesses through the provision of tangible and intangible resources (Torun *et al.*, 2018:91-100), thus incubators can be seen to have business growth as a priority, regardless of stakeholder saliency. The extent to which an incubator focuses on the economic development perspective is, however, a result of the saliency of the stakeholders relevant to the incubator. In Chapter 4, it is proposed that the source of incubator funding moderates the relationship between the incubator and the economic development perspective of incubator efficacy. This is supported by the work of Fan *et al.* (2019:1379), who found that the source of funding for collaboration between universities and industry, affected the innovation climate in those programmes. Equally, Chandra and Fealey (2009:67) found that widespread governmental funding altered the strategic focus of incubators in China and Brazil towards the economic development perspective of incubation efficacy. In the context of this study, most of the participants identified ‘funders’ as the most salient stakeholder of their incubators. Upon further investigation, it was found that most participants in this study are at least partly funded by the government, with one outlier relying on international donor funding. The pervasiveness of government funding in the incubation context in South Africa and the socio-economic orientation evident in the participants in this study, suggests a link between receiving government funding and maintaining a socio-economic orientation. This corroborates that the source of funding moderates the focus placed on the economic development perspective, as suggested in Chapter 4, for the participants in this study. An overview of the saliency of incubator stakeholders is represented in Figure 7.1 below.

Figure 7.1: An overview of stakeholder saliency



In Figure 7.1, the six relevant stakeholder groups are categorised according to their primary link to the incubator, as perceived by the participants in this study. The government and private sector funders are primarily seen as sources of funding, whereas incubators themselves and incubated businesses are primarily concerned with incubation activities. The wider entrepreneurial ecosystem and the community are perceived as external stakeholders of incubation activities. Figure 7.1 represents the relative saliency of each stakeholder group by the size of the circles identifying each stakeholder group. In the context of this study, the government is seen as the most salient stakeholder group, primarily due to the pervasiveness of government-linked funding for incubators. Private sector funders were identified as the next most salient group due to the widespread use of private-sector funding for incubation activities. The incubators and incubated businesses share a similar level of perceived salience, in effect co-creating the bundle of resources and incubation programmes as a result of incubators reacting to incubated business needs. The ecosystem is seen as an important, if somewhat secondary stakeholder with the community perceived as the least important stakeholder by participants.

To summarise, six groups of stakeholders relevant to the participants in this study exist. In addition to the stakeholder groups previously identified in the literature and outlined in Chapter 4 (government, incubators, incubated businesses, and ecosystem), this study identified two additional stakeholder groups relevant to the present study; the private sector and communities. This departs from the conceptual model proposed in Chapter 4 and the additional stakeholder groups will be included in the final proposed framework for measuring incubator efficacy. Further to this, the findings regarding the source of funding acting as a moderator of the relationship

between incubators and the economic development perspective of incubator efficacy, agreed with the conceptual model put forward in Chapter 4.

7.2.5 Research question 5

Research question 5, stated as 'What relationships exist between stakeholder groups and perspectives on BI efficacy exist that would underpin a conceptual model of incubator efficacy?', consists of two research objectives. RQ5A stated as 'Identify what relationships exist between the identified stakeholder groups and the different perspectives on incubator efficacy', and RQ5B, stated as 'Determine the relevance of the stakeholder groups to each perspective on incubator efficacy', are addressed in the literature review phase of this study. When addressing the research question in terms of the literature review, instead of unnecessary repetition, a brief overview of the relevant content is preferred. Research question 5 is addressed in detail in Chapter 4, section 4.5 of this study.

While reviewing the literature relevant to this study, four primary stakeholder groups were identified – government, incubators, incubated businesses, and the ecosystem. This builds on the work of Hausberg and Korreck (2020:151-176) and Messeghem *et al.* (2018:658-680), who identified the ecosystem, government, incubators, and incubated businesses as stakeholders of incubators, respectively. As outlined in Chapter 4 section 4.4.1, the government has an inherent interest in the efficacy of incubators due to their role as a tool towards economic development and the government's focus on sustainable regional economic development and job creation (Harper-Anderson, 2018:119-134; Rogerson, 2017:1-12; Van der Spuy, 2019:16). Governments, in turn, support BIs through funding, supportive policies, and procurement opportunities (Buys & Mbewana, 2007:356-358). This highlights the role of governments in supporting incubators. The goal of governments when supporting incubators is to promote economic development, thus it is appropriate that they are seen as being most relevant to the economic development perspective on incubator efficacy.

Incubated businesses are an inherent cog in the incubation machine, primarily concerned with accessing resources and networks through the incubation programmes they have joined (Bøllingtoft & Ulhøi, 2005:274; Hausberg & Korreck,

2020:151-176). Incubated businesses seek out incubation programmes with the goal of business growth. This, however, is the result of the incubator's ability to provide access to a wide range of resources. These may well include financial, physical, and other 'tangible' resources; however, it also includes legitimacy and credibility, access to networks, potential market, and funding opportunities, and a beneficial entrepreneurial experience. The bundle of tangible and intangible resources is a primary driver for incubated businesses to engage in incubation programmes. Considering the motivation for incubated businesses to join incubation programmes is to achieve business growth, incubated businesses are deemed to be most relevant to the business growth perspective on incubator efficacy.

Hausberg and Korreck (2020:151-176) identified the entrepreneurial ecosystem as a stakeholder of incubators, highlighting the role incubators play as intermediaries within the ecosystem (Theodoraki *et al.*, 2020:1781). Ecosystems exist to promote entrepreneurship and economic development – a shared purpose with the incubators that exist within the ecosystem that pursue business growth and economic development as primary objectives. This shared purpose identifies the ecosystem as a relevant stakeholder, falling under the economic development perspective of incubator efficacy

The fundamental process that incubator managers fulfil – supporting incubated businesses – as well as the findings of Kakabadse *et al.* (2019:6) that demonstrate that incubator managers are directly impacted by the decisions and actions of other stakeholders, ensure they are a relevant stakeholder with regards to incubator efficacy. They play a dual role of directly impacting business growth as a business support mechanism, however, also maintain an economic development perspective, due to their need to manage the expectations of other stakeholders. Thus, incubators are seen as focusing on both perspectives of incubator efficacy.

The links between stakeholders identified in Chapter 4 and the perspectives on incubator efficacy detailed in Chapter 3, as discussed in section 7.2.5, are outlined in the conceptual model presented in Figure 7.2 below.

Figure 7.2: A conceptual model of stakeholder perspectives on incubator efficacy

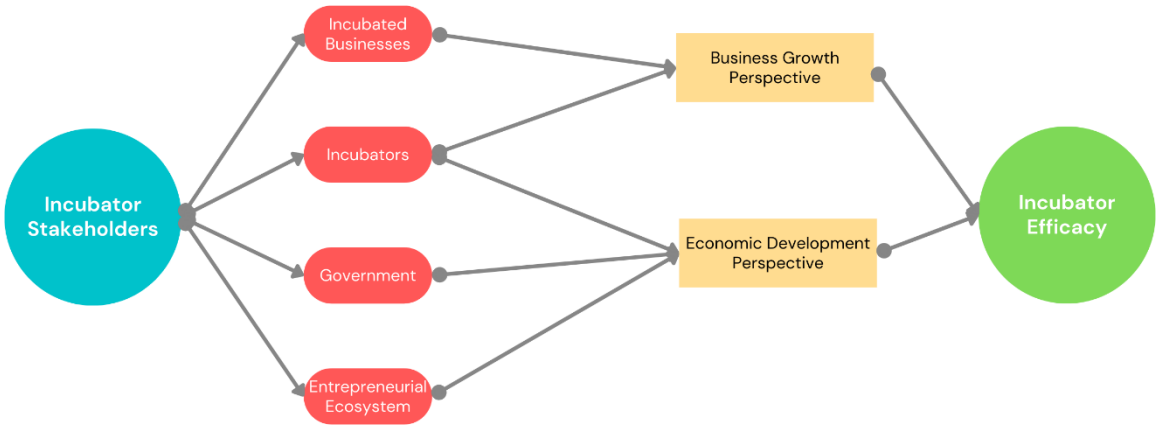


Figure 7.2 shows that incubated businesses are considered to focus on the business growth perspective of incubator efficacy, whereas the government and ecosystem stakeholder groups are focused on the economic development perspective. Incubators themselves maintain a dual focus on both perspectives.

7.2.6 Research question 6

Research question 6, stated as 'What is the perceived purpose and objectives of business incubation in South Africa?', consists of two research objectives. Both RQ6A stated as 'Understand what the perceived purpose of business incubation is in the South African context' and RQ6B, stated as 'Determine the objectives incubators are currently pursuing in South Africa', are addressed in the empirical research phase of this study.

In seeking to address RQ6A, participants were asked to define, from their own perspective, what an incubator is, what is the purpose of an incubator, and the objectives incubators should be pursuing. These questions sought to understand how incubation is perceived in the context of this study and to identify potential primary objectives that incubators are pursuing.

Most of the participants in this study identified enabling incubated business growth as the underlying purpose of BIs. Under the theme of 'incubator impact on business growth', participants identified an incubator's purpose as 'facilitating growth', providing

a ‘support system’, ‘enhancing the strength of a business to grow and survive’, and to ‘develop and grow business’. There was a substantial alignment across the sample towards this perspective, with incubators understood to exist to serve the purpose of enabling incubated business growth.

The importance of facilitating access to resources was a widely shared view among the participants in this study. Participants identified ‘access to resources’ as a vital component of achieving the purpose of business growth. The bundle of resources collected by the incubator and distributed to the incubated business may consist of a variety of resource types, however, facilitating access to funding and market opportunities through the incubator’s network was seen as a critically important element of the bundle of resources available. This highlights the importance of the incubator network to a successful incubation programme. This is in addition to enabling networking between the entrepreneurs supported by the incubation programme, thus creating opportunities for collaboration.

Further to the need for incubators to facilitate access to resources and incubator networks, incubators were found to be able to impact the growth of a business through the development of the entrepreneur’s skillset and developing an entrepreneurial mindset, in the context of this study. This perspective was particularly pertinent amongst participants who operated in rural and township incubators. This may be due to the substantial barriers rural and township incubators face in supporting largely informal businesses that operate in these contexts. Due to the informal sector’s prevalence in these contexts, it may be that financial support is more difficult to secure, thus incubators operating in these contexts shift focus towards developing an entrepreneurial mindset. This may also be a result of the survivalist nature of most of informal sector businesses.

Overall, the outcome of facilitating access to resources, access to networks, and developing the skills and mindset of the entrepreneur was found to be primarily an increase in revenue for the incubated business and, as a secondary measure, the development of new products. This view was shared widely amongst the sample and reinforces the view that incubated businesses are inherently focused on realising the business growth perspective on incubator efficacy.

Although the purpose of incubators was clear and shared among the sample, there is seemingly a disconnect between the agreed-upon purpose of the incubator and the primary objectives participants outlined for the incubators. Most of the participants outlined their objectives by citing measures associated with the economic development perspective outlined in Chapter 3. Most of the participants in this study explicitly highlighted economic development as a goal for their incubators. This may be a result of the pervasiveness of government-linked funding for incubators across the sample, with all participants seemingly at least partly funded by local, provincial, or national government departments or agencies. Job creation was specifically highlighted by most of the participants as a primary objective for their incubators. This suggests that the 'traditional' / 'Western' incubation objectives such as funding raised and new products to market (Messeghem *et al.,* 2018; Torun *et al.,* 2018;) do not carry the same weight in the South African incubation context. In addition, it appears that participants in this study are at times, managing conflicting priorities. Elements such as improving survival rates and encouraging new venture creation (although considered economic development measures despite an intrinsic link to the business growth perspective), are being deprioritised in place of seeking job creation. Incubator managers face a challenge in achieving a balance between encouraging business growth and maintaining a focus on achieving the economic development objectives set out for them by funders. In essence, incubators are incentivised to encourage incubated businesses to take on employees with the focus on job creation permeating the narrative behind incubation in the country in general, as is evident by the wide-spread focus on job creation as a primary objective in this study. This may create an array of problems as pressure on incubator managers to deliver on job creation targets, combined with a perceived lack of incubator funding, could lead to bias within the incubation programme, such as favouring high employment businesses over high growth businesses in the application process. In addition, this may lead to a subconscious bias towards enabling job creation in business support activities, potentially in situations where it is not in the best interest of the business being supported. This poses a significant challenge to the emphasis placed on job creation by funders, where the longer-term benefits of a substantial number of growing businesses may not be realised due to a short-term focus on job creation. It is worth noting that employment growth is indeed a measure of business growth, as proposed in the business growth perspective of incubator efficacy in Chapter 3. However, there

is a distinction between employment growth as a result of business growth and an inherent focus on delivering short-term employment growth due to the objectives set by incubator funders. An example of this distinction is the pressure applied on one participant to deliver formal, permanent jobs in an environment that is traditionally suited to seasonal and casual employment. This is not in the best interests of the incubated businesses as it removes the flexibility they require, to meet seasonal changes in demand, and adds an unnecessary financial and administrative burden on their small business. Unfortunately, interrogating the potential side-effects of a focus on job creation rather than business growth, is beyond the scope of this study and this phenomenon requires additional research to fully understand the prevalence of this issue. The overwhelming focus on economic development objectives and the pervasiveness of government-linked incubator funding reinforces the view that the government is primarily concerned with realising the economic development perspective on incubator efficacy.

In discussing the role incubators play in terms of the government, participants in this study identified an emphasis on creating impact alongside government initiatives. Several participants highlighted that a lack of collaboration between incubators and the government and a lack of understanding of the incubation context in South Africa, hindered their ability to achieve their objectives. This meant that they were seeking to achieve the desired objectives despite a difficult incubation environment that is characterised by poor incubation and procurement legislation and a lack of government support for incubators beyond the provision of funding. This is in addition to a perceived lack of incubator funding, which was highlighted by most of the participants in this study.

Despite an overwhelming emphasis on economic development objectives set by the funder, participants identified business growth objectives as relevant to their programmes such as increasing revenue, achieving sustainability, enabling access to resources and networks, and developing entrepreneurial skills. These objectives are seen as important, however, take a definitive ‘backseat’ to the economic development objectives set by the incubator’s funders. This speaks to the balancing act that incubators are required to maintain and satisfy both their funders’ requirements as well as deliver on their purpose of business growth. This reinforces the view taken by the

present study, that incubators are focused on both the business growth and economic development perspectives of incubator efficacy, with the source of funding dictating to what extent the incubator focuses on the economic development perspective.

In summary, according to participants in this study, incubators exist to encourage the development and growth of incubated businesses. This is achieved through enabling access to resources, access to the incubator network, and developing the skills and mindset of the entrepreneurs engaged in the incubation programme. In the context of this study, incubators are primarily focused on delivering on the economic development objectives (such as job creation) set by their funders, rather than delivering the growth of incubated businesses that would potentially lead to the economic development benefits desired in the future. This is exacerbated by a restrictive incubation environment where funders' expectations do not meet the reality of the incubation industry. The government has an overwhelming influence over the direction and funding of incubators, and a perceived lack of incubator funding, increasing the pressure on incubator managers to deliver the outcomes their funders require. However, incubators appreciate the fact that to be effective, they are required to deliver on the business growth objectives desired by the business they incubate. This leads to an important, however, secondary set of objectives focused on delivering the antecedents to business growth; access to resources, networks, and developing entrepreneurial skills and mindset, outlined in Chapter 3. Thus, incubators maintain focus on both the business growth and economic development perspective of incubator efficacy.

7.2.7 Research question 7

Research question 7, stated as ‘To what extent are incubators perceived as effective in South Africa?’, consists of two objectives. Both RQ7A, stated as ‘Determine the perceived overall efficacy of incubators in South Africa’, and RQ7B, stated as ‘Identify potential rationale for perceived efficacy’, are addressed in the empirical research phase of this study.

During this study, participants shared a similar perspective on incubator efficacy in South Africa. Participants identified that incubators are effective in delivering on their objectives (with regards to both the business growth and economic development

perspectives of incubator efficacy), however, that there is substantial room for improvement. Several factors are hindering the efficacy of incubators in South Africa, as identified by the participants in this study. In the data analysis of this study, two themes emerged that are relevant to this research question, incubator-stakeholder conflict, and the restrictive incubation environment.

Participants highlighted a substantial disconnect between the requirements and expectations of funders as well as the realities that incubators face in delivering on their purpose. This is a contributing factor to incubator-stakeholder conflict. Funders hold substantial influence over an incubator's focus, activities, target audience, and outcomes, with both government and private sector funders dictating the terms of efficacy relevant to the incubator. Participants noted scenarios where this disconnect led to ineffective incubation programmes targeting inappropriate businesses due to a misunderstanding of the incubation process and unrealistic and inappropriate measures of efficacy imposed on the incubator by their funders.

In addition to the disconnect between funder requirements and expectations and incubator realities, participants highlighted the pervasiveness of government influence on incubators in the country. Participants identified a substantial lack of understanding of the requirements for running a successful business in the country on the part of the DSBD and SEDA. This translates into a misalignment between the government-set objectives that incubators are required to achieve and the ability of the incubator to deliver impact to the incubated businesses. This was highlighted by participants as extending to private sector funders as well, with some participants challenging the objectives set out by private sector funders.

Considering the South African socio-economic climate and the extent to which government influences the incubation landscape in the country, the measures used to determine efficacy are crucial. Participants identified that 'traditional' or 'Western' measures such as funding raised by incubated businesses are inappropriate in the South African context. Whether this is due to the pervasiveness of government influence and funding in the sector or if there are indeed more appropriate measures for an effective incubator, remains to be seen. However, what is clear is that participants feel the measures used to determine their efficacy in the context of this

study are inappropriate and do not reflect the true nature of the impact that they are having. Specifically, the lack of measurement of spill-over benefits from incubation is highlighted as well as a lack of appreciation for the substantially different contexts in which incubators are located; for example, rural and township incubators should be measured differently to urban incubators. This is a significant factor, with one participant indicating that the impact of the environment in which the incubator is located substantially impacts the ability of the incubated businesses to grow and survive. The influence of the South African socio-economic climate is the final element constituting incubator-stakeholder conflict.

Another key theme underpinning incubator efficacy in South Africa is that of a restrictive incubation environment. This theme emerged from the data analysis and helps to explain a perceived under-performance on the part of incubators in the country. The emergence of this theme highlights the importance of the environment in which the incubator operates. The 'incubation environment', in the context of this study, includes multiple factors, such as the legislative environment that influences the incubator resource landscape, including incubator funding, and impacts on the 'friendliness' of the legislative environment towards small businesses, the prevalence of high-quality small businesses entering incubation programmes, and a lack of market opportunities.

Participants in this study identified a major restriction on incubator efficacy in incubator resource scarcity. Incubator resource scarcity refers to the lack of resources that restricts incubators from fulfilling their mandate and achieving their objectives. A substantial factor within this is a perceived lack of incubator funding, as identified by participants. Despite the pervasiveness of government-linked incubator funding, participants felt severely under-resourced, with incubator sustainability a major concern for most of the participants. Participants drew a direct link between a lack of funding and a lack of incubator efficacy. A lack of incubator funding adds pressure to the organisation, requiring incubator managers to shift focus away from supporting incubated businesses and towards securing additional funding. A lack of funding may also exacerbate the problem of an incubator focusing on delivering short-term deliverables such as job creation to meet funder objectives instead of ensuring a long-term impact on the businesses being incubated, as discussed in this section. An

additional factor resulting in incubator resource scarcity, is the lack of talent possessing sufficient incubator management competencies. Several participants highlighted the challenges they faced in attracting and retaining appropriate talent within incubation teams, leading to incubator managers being required to spend additional time and resources on recruitment and training, potentially impacting on the efficacy of the incubator.

An additional factor contributing to the restrictive incubation environment is the fact that incubator managers face several challenges in delivering an effective incubation programme. Most of the participants highlighted a lack of policy or legislative support for incubators in South Africa as a significant factor impacting on the incubation environment in the country. The lack of quality businesses entering incubation programmes was another major element of the restrictive incubation environment highlighted by the participants of this study, outlining a direct link between the quality of businesses entering the incubator and the efficacy of the incubator. Further to this, participants highlighted how complex and overbearing compliance requirements placed in South African SMEs contribute to a difficult business environment, which in turn reduces the ability of incubated businesses to access market opportunities, inhibiting business growth and impacts on the efficacy of the incubator.

Further to the factors hindering incubator efficacy, participants identified two factors where incubators have a substantial impact, although, are not necessarily considered when assessing the efficacy of incubators. Participants identified the impact of incubators on the entrepreneurial ecosystem and on communities as two factors that should be considered when assessing the efficacy of incubators.

Participants in this study highlighted the impact incubators have on the entrepreneurial ecosystem, referring to the intermediary role they play within it. Participants described this role as ‘facilitating opportunities’ and ‘creating linkages’ between ecosystem role-players and incubated businesses. This extends to funding and market opportunities within the ecosystem and ensures incubated businesses have access to them. These linkages are a means to an end, rather than an end itself, with participants identifying that facilitating these linkages should result in an impact on an incubated business bottom-line, whilst enabling new ventures into the entrepreneurial ecosystem itself.

There is a specific focus on how these opportunities benefit the incubated businesses, with all the participants in this study explicitly stating that facilitating linkages between market and funding opportunities and the incubated businesses is a substantial part of the role incubators play. A secondary impact that incubators seek to make on the ecosystem is the flow of innovation knowledge resources between ecosystem role-players, as outlined in Chapter 3. Participants felt this impact was not considered when assessing incubator efficacy.

Further to this focus on the ecosystem, incubators also impact the communities in which they are located. The impact on communities emerged as a developing theme and the community emerged as an additional stakeholder group relevant to incubators. Participants identified additional community initiatives that focused on skills development and providing access to incubator resources and technology as examples of the impact they can have on communities, however, which is not necessarily considered when evaluating an incubator's impact. The impact that incubators have on their communities as well as the ecosystem, may support the view that incubators are effective.

To summarise, incubators are perceived as being effective according to the participants of this study. However, there remains substantial room for improvement. Incubators justify their efficacy through the impact they can have on both business growth and economic development, despite a restrictive incubation environment characterised by a lack of sufficient policy support and incubator resource scarcity as well as the prevalence of incubator-stakeholder conflict. These elements hinder the efficacy of incubators and are identified by participants as substantial barriers to creating effective incubators in South Africa. The impact of incubators is further amplified through the positive effects they have on the entrepreneurial ecosystem, facilitating linkages between role-players and driving new venture creation (and the community), creating community skills development initiatives, and enabling access to resources and technology.

7.2.8 Research question 8

Research question 8, stated as ‘What relationships exist between stakeholder groups and perspectives on BI efficacy that would underpin a consolidated framework for

measuring incubator efficacy?' consists of a single objective. RQ8A, stated as 'Determine what relationships exist between stakeholder groups and the perspectives on BI efficacy', is strikingly similar to RQ5A. However, there is a vital distinction between the two. Where RQ5A focuses on the relationships between stakeholders and incubator efficacy perspectives that would underpin the conceptual model proposed in Chapter 4 and is addressed purely in the literature review, RQ8A is instead focused on the relationships identified in the empirical research phase and how this underpins the final consolidated framework that is proposed in section 7.3.

Considering the review of the literature put forward in Chapter 4, there are four stakeholder groups relevant to incubator efficacy. However, considering the discussion of findings in section 7.2.4, an additional two groups of stakeholders were identified. Thus, incubators can be considered to have six groups of stakeholders, according to participants. In addition, Chapter 3 outlined two distinct, yet related perspectives on incubator efficacy, the business growth and economic development perspectives. In the conceptual model proposed in Chapter 4, each stakeholder group perceives the efficacy of incubators according to one of the two perspectives detailed in Chapter 3. This is except the incubators themselves, which straddle both perspectives of incubator efficacy, with the focus the incubator places on the economic development perspective moderated by the source of the incubators' funding. Based on the review of the literature, this study proposed that government stakeholders are primarily concerned with the economic development perspective on incubator efficacy. This is echoed by the ecosystem, which is also primarily concerned with the economic development perspective of incubator efficacy. Incubated businesses, however, are focused primarily on the business growth perspective of incubator efficacy, considering their vested interest in growing their businesses. These relationships are summarised in Figure 7.3 below.

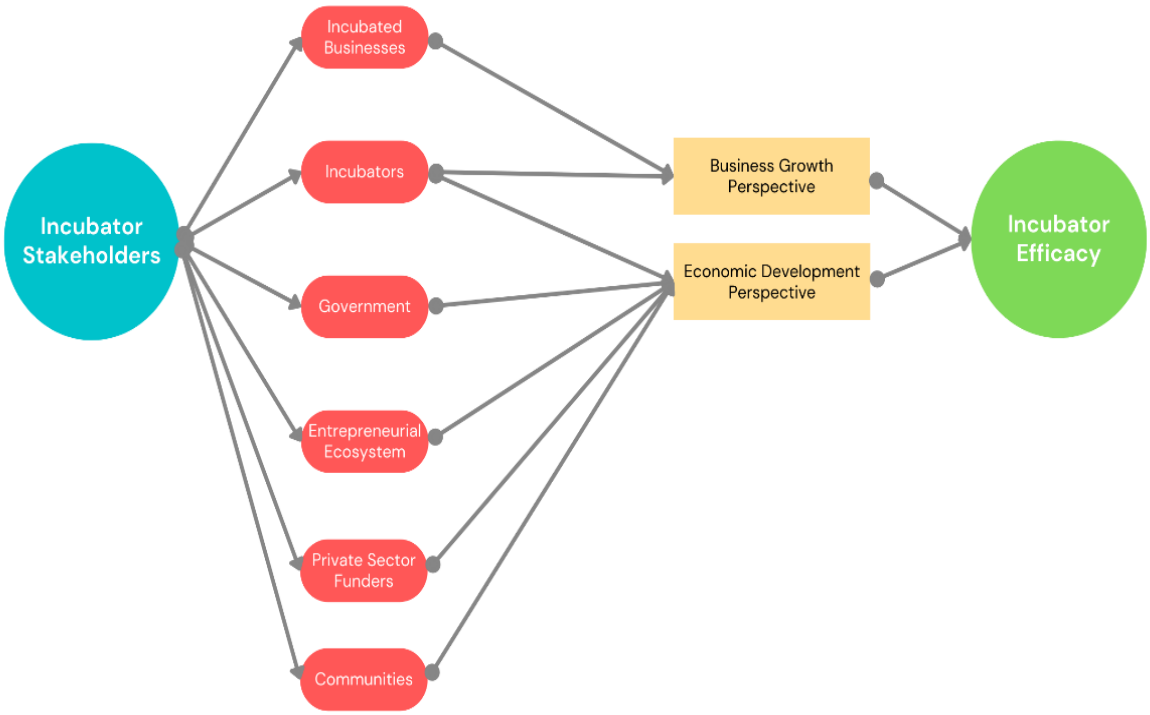
Considering the two additional stakeholder groups identified in section 7.2.4, it is necessary to identify how they relate to the perspectives on incubator efficacy put forward in Chapter 3. Starting with the private sector as a stakeholder, section 7.2.4 detailed how the private sector is perceived as both a funder and a potential market for incubated businesses. The section also detailed that the emergence of the private sector as a significant funder of incubation activities is perceived by participants in this study as being a result of the South African governments' BBBEE legislation that

requires investment into enterprise and supplier development initiatives. As BBBEE legislation restricts non-compliant private sector businesses from engaging in business with the government, there is a perceived economic motivation behind the provision of funding for incubators supplied by the private sector. However, as compliance to access business opportunities with the government is the primary driver for the private sector providing incubator funding, and BBBEE legislation seeks to affect economic development through enterprise and supplier development initiatives outlined in the legislation, the private sector is thus considered to maintain an economic development perspective on incubator efficacy, as opposed to a business growth perspective.

The community was identified as a stakeholder of incubators in section 7.2.4., with some incubators participating in this study seeking to directly impact the community through skills development and training initiatives as well as providing access to resources for the community, to improve employability and foster innovation. Considering the socio-economic orientation of incubators that emerged in this study and the South African socio-economic climate, communities as an incubator stakeholder are proposed to focus on the economic development perspective on incubator efficacy, as opposed to the business growth perspective. This is in line with the employment growth, provision of resources, and training elements of the economic development perspective outlined in Chapter 3.

Having considered the discussion in this section, it is necessary to amend the summary of relationships between incubator stakeholders and perspectives on incubator efficacy shown in Figure 7.3 below. Including both the private sector and community stakeholder groups under the economic development perspective, Figure 7.3 gives an overview of the relationships between stakeholder groups and perspectives on incubator efficacy that have emerged and are relevant to this study.

Figure 7.3: An updated overview of the relationships between incubator stakeholders and perspectives on incubator efficacy



This overview forms the basis of the final consolidated framework for measuring incubator efficacy proposed in section 7.3.

7.3 CONTRIBUTIONS

This study makes contributions to theory and practice, by achieving the stated research aim of proposing a consolidated framework for measuring incubator efficacy. The study's contributions are outlined below.

7.3.1 Theoretical contribution

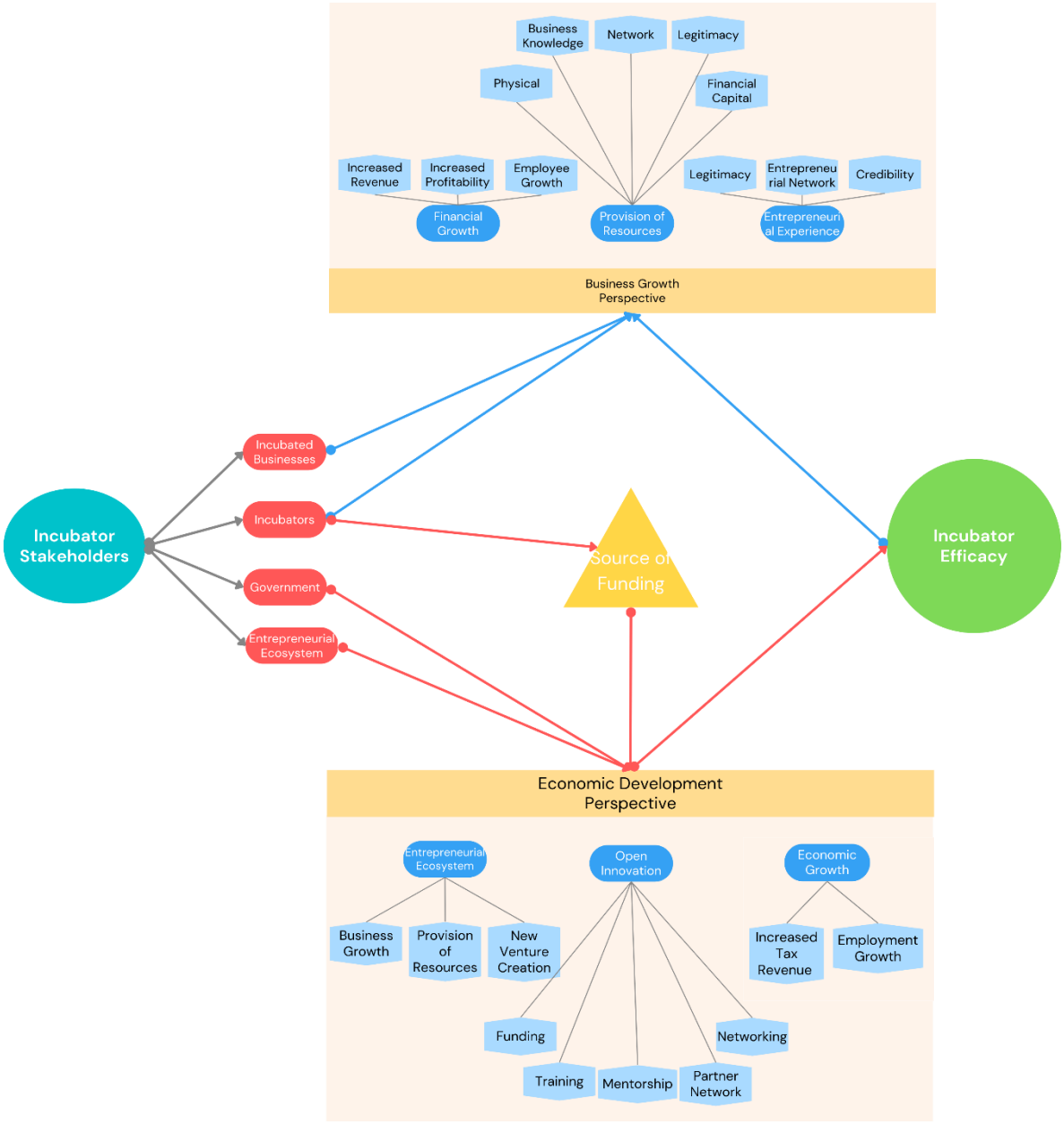
The primary theoretical contribution of this study lies in the development of a consolidated framework for measuring the efficacy of BIs. This framework is the evolution of the conceptual model proposed in Chapter 4, based on the relevant literature, and includes the findings of this study, as outlined across section 7.2. The original conceptual model proposed in Chapter 4 is outlined in section 7.3.1.1, followed by an overview of how the findings were integrated into the conceptual model in section 7.3.1.2., with the final proposed framework presented and discussed in section 7.3.1.3.

7.3.1.1 Final proposed consolidated framework

This study sought to address the lack of a consolidated framework for measuring incubator efficacy applicable across multiple incubator types. There is currently a lack of consensus among researchers regarding the measurement of incubator efficacy, with the lack of a consolidated framework preventing effective comparisons of incubator models and processes, leading to a lack of insight in terms of their impact. To address this gap, a conceptual model of incubator efficacy was built, based on the relevant literature. The development of this conceptual model is detailed in Chapter 4.

During the data analysis, participants reinforced the need for a consolidated framework for evaluating the efficacy of incubators, highlighting the dissatisfaction with the measures imposed upon them by funders. Participants further highlighted how the disconnect between the measures and objectives funders impose and the realities faced by incubators in South Africa, impact on both perceived efficacy and incubator sustainability over the long-term. As discussed in section 7.2.6, this disconnect has wider implications and may lead to incubators subconsciously contributing to a lack of business growth through a focus on delivering on short-term objectives, such as job creation. The conceptual model proposed in Chapter 4 is displayed in Figure 7.4 below.

Figure 7.4: A conceptual model of incubator efficacy



The conceptual model in Figure 7.4 consists of the four identified stakeholder groups, as discussed in section 7.2.4. and displays the relationships between the stakeholder groups and the two perspectives of incubator efficacy identified in Chapter 3, section 7.2.5. Furthermore, the conceptual model includes the source of funding as a moderator of the relationship between incubators and the economic development perspective on incubator efficacy, as discussed in section 7.2.5 The model infers that incubated businesses are focused on the business growth perspective on incubator efficacy, whilst government and ecosystem stakeholders focus on the economic development perspective. Incubators maintain a dual focus on both perspectives,

however, the extent to which incubators focus on the economic development perspective is determined by the source of funding.

7.3.1.2 Combination of conceptual model and empirical evidence

This study set out to answer a range of research questions to propose a framework for measuring incubator efficacy. Research questions 1, 2, 3, and 5 were specifically designed to address the context in which incubators operate, identify perspectives on incubator efficacy, and identify the stakeholders relevant to incubator efficacy. This was largely addressed in the literature review phase of the study. However, questions 4, 6, 7, and 8 were designed to investigate how these relationships exist in the South African incubation context, and to determine how incubators perceive their purpose and objectives as well as their overall efficacy, to test and challenge the proposed conceptual model, to develop a more comprehensive framework for measuring incubator efficacy.

In section 7.2.4, the four stakeholder groups identified in Chapter 3 were confirmed in the context of this study. However, participants highlighted two additional stakeholder groups – private sector funders and the community. These stakeholder groups were defined and discussed in section 7.2.4 and were found to be aligned with the economic development perspective of incubator efficacy, as detailed in section 7.2.8.

As detailed in section 7.2.6, South African incubators involved in this study perceive their purpose to be enabling the development and growth of businesses. However, they perceived their primary objectives to be the delivery of economic development benefits, such as job creation. This perspective echoes the conceptual model in affirming that incubators are concerned with fulfilling both a business growth and an economic development agenda. This was reinforced in section 7.2.4, where participants highlighted the importance of funding in setting incubator focus, objectives, and target audiences, thus confirming that in the context of this study, the source of incubator funding does indeed moderate the relationship between incubators and the economic development perspective on incubator efficacy.

Further to this, in section 7.2.7, participants confirmed that they perceived incubators as effective in achieving their objectives, however, there remained significant room for

improvement. Participants alluded to the presence of incubator-stakeholder conflict and a restrictive incubation environment as primary hindrances to incubator efficacy.

The elements detailed in section 7.3.1.2 shaped the development of the final proposed framework, outlined in section 7.3.1.3.

7.3.1.3 Proposed consolidated framework

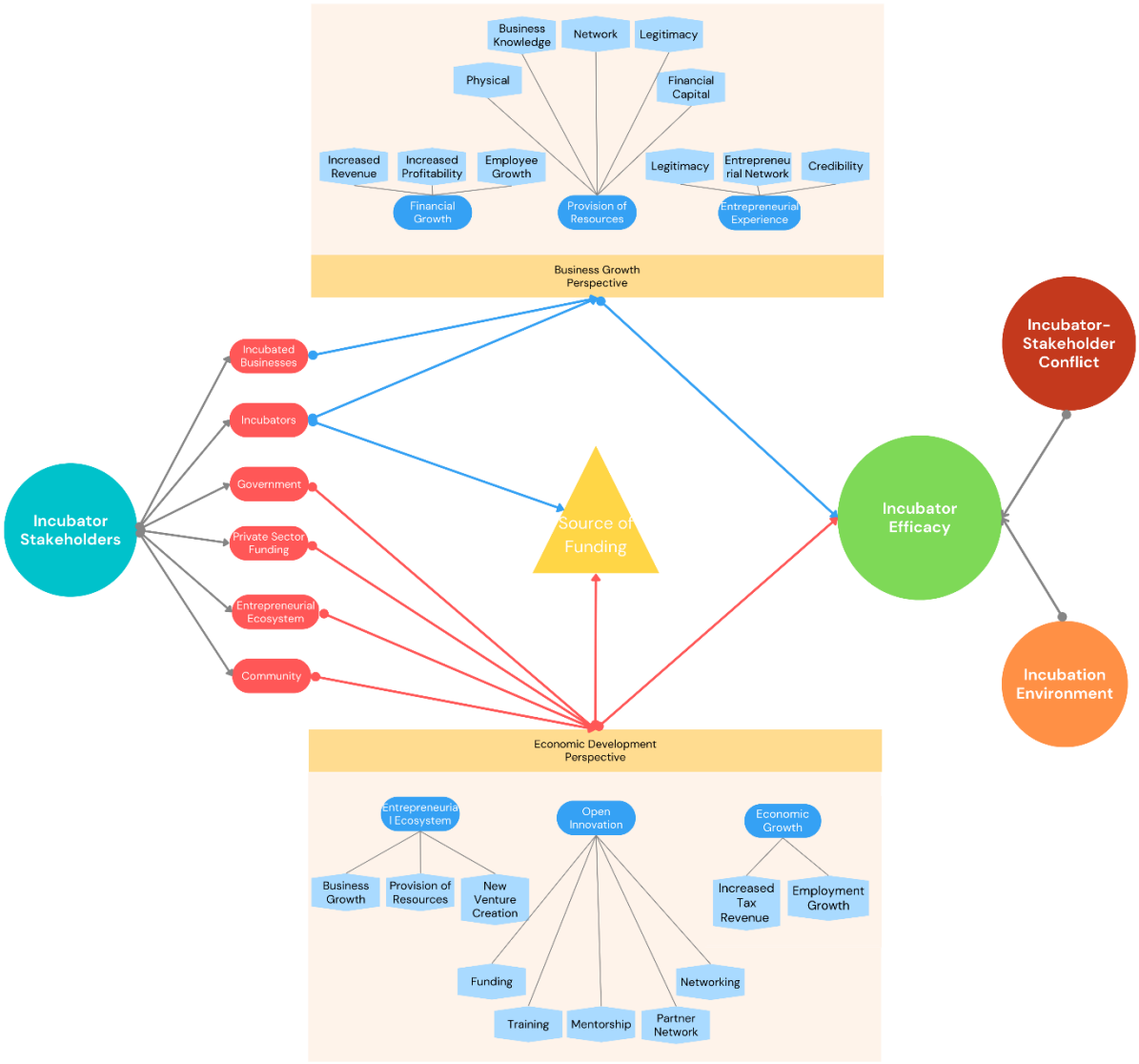
As previously stated, the purpose of this study and its primary contribution is the development of a consolidated framework for measuring incubator efficacy. Starting with the conceptual model outlined in Chapter 4 and summarised in section 7.3.1.1, the study first identified the stakeholder groups relevant to incubators during the literature review, as discussed in Chapter 4. The study goes on to describe two perspectives of incubator efficacy in Chapter 3, summarised in section 7.3.1.1. These two perspectives – the business growth perspective and economic development perspective – describe the two primary objectives underpinning business incubation as a phenomenon. The relationships between the stakeholder groups identified in Chapter 4 and the incubator efficacy perspectives outlined in Chapter 3 are summarised in the conceptual model proposed in Chapter 4. This conceptual model forms the basis of the final proposed consolidated framework outlined in this section.

Upon completing the literature review phase, the study collected empirical data from a sample of incubator managers in South Africa. This data was analysed, with six major themes emerging from the data. These themes are outlined in Chapter 6 and the implications thereof are discussed in detail in section 7.2. The study highlights the significant findings that will be integrated into the proposed framework, including the introduction of private sector funders and the community as stakeholders of incubator efficacy, both falling under the economic development perspective as well as introducing elements related to incubator-stakeholder conflict and the incubation environment. The proposed consolidated framework is outlined in Figure 7.5 below.

The final proposed consolidated framework begins with outlining the relevant stakeholder groups. The stakeholder groups identified in this study include incubators, incubated businesses, government, private sector funders, ecosystem, and community. This includes the four stakeholder groups identified in the literature review

phase of the study as well as the two additional stakeholder groups that emerged from the empirical research phase of this study – privates sector funders and community. The framework continues by outlining the relationships between the six stakeholder groups and the two perspectives on incubator efficacy described in Chapter 3 – the business growth and economic development perspectives. As previously stated, incubated businesses are primarily concerned with the business growth perspective of incubator efficacy. Government, private sector funders, ecosystem, and community stakeholders are primarily concerned with the economic development perspective of incubator efficacy. Finally, incubators are seen to maintain a focus on both perspectives. In addition to these relationships, the source of incubator funding is described as moderating the relationship between incubators and their focus on the economic development perspective. These relationships and the moderator are described in Figure 7.5. The stakeholder groups and relationships identified in this section were confirmed as being appropriate for the context of this study, since participants identified their stakeholders and the objectives the funders set for them. In addition, the source of funding was confirmed as a moderator of the relationship between incubators and the economic development perspective. This is appropriate for the context of this study, since the impact funders have on the focus, objectives, and target audience of the incubator emerged through the analysis of the data collected during the empirical research phase of this study.

Figure 7.5: A proposed consolidated framework for measuring incubator efficacy



The business growth perspective of incubator efficacy consists of three primary elements – financial growth, the provision of resources, and the entrepreneurial experience. Each element includes several specific indicators. Financial growth indicators include increased revenue, improved profitability, and employee growth. These relate to the impact an incubator's activities should have on the financial health of incubated businesses. Provision of resource indicators relate to physical resources, business knowledge, networks, legitimacy, and financial capital, and can be considered the bundle of resources incubated businesses expect incubators to enable access to. Entrepreneurial experience indicators include legitimacy, the entrepreneurial network, and credibility. These are the intangible resources an incubator provides to incubated businesses and are included in the benefits that incubator programmes offer. These indicators relate to the specific indicators used to determine whether an incubator is effective in meeting their objectives from a business growth perspective.

The economic development perspective of incubator efficacy consists of three primary elements – the entrepreneurial ecosystem, open innovation, and economic growth. Like the business growth perspective, each element consists of several indicators. The entrepreneurial ecosystem includes three primary indicators – business growth, provision of resources, and new venture creation. The rationale for a distinct focus on business growth outside of being an indicator of developing the economy through enabling the entrepreneurial ecosystem is that incubators exist to facilitate business growth, as outlined in both the literature review and the empirical research phases of this study. This purpose requires a specific understanding and focus on business growth as a distinct element of incubator efficacy. These speak to the benefits incubators provide to the entrepreneurial ecosystem, stimulating entrepreneurial activity and facilitating access to resources, with the intent being to stimulate economic development. Open innovation includes the specific indicators of funding, training, mentorship, partner network, and networking. These indicators speak to the facilitation of knowledge flows that enable the open innovation paradigm to take hold and to encourage economic development. The final element of the economic development perspective is termed economic growth and consists of two primary indicators – increased tax revenue and employment growth. Although there is some overlap between both the perspectives, the necessity for two perspectives is due to the different lenses through which incubator managers perceive their activities in the context of this study.

Considering the purpose of incubators – to facilitate business growth – and the overwhelming focus on economic development from other stakeholders, for the purposes of this study, it was deemed necessary to create two distinct perspectives on incubator efficacy within this model.

These two perspectives dictate the perceived efficacy of incubators, within the context of this study. While conducting this study, two additional factors emerged that influence the perceived efficacy of incubators – incubator-stakeholder conflict and the incubation environment. As outlined in section 7.2, incubator-stakeholder conflict refers to the disconnect between the expectations of stakeholders and the realities incubators face, relating to funding and outcomes, among other elements. The incubation environment refers to the impact elements such as incubator resource scarcity and the general incubation environment, such as the relevant legislative environment, the business environment, and entrepreneurial activity rates in the country that impact upon the perceived efficacy of incubators. Both factors can affect the perceived efficacy of incubators, however, are seen as external factors that impact the perceived efficacy of incubators outside of the direct outcomes of their incubation activities, hence their position behind incubator efficacy on the graphic representation of the proposed model in Figure 7.5.

The proposed consolidated framework is deemed relevant to the context in which this study took place, having been shaped by the analysis of participant data. The sample of this study included a variety of incubator types, covering the breadth of South Africa, and included incubators in rural, township, and urban contexts. As such, the study considers a variety of incubator types and contexts in the development of the framework. This achieves the aim of this study as stated in Chapter 5, proposing a framework for measuring the efficacy of BIs based on stakeholder theory. The framework addresses the gap identified by Hausberg and Korreck (2020:151-176), Mian *et al.* (2016:1-12), and Torun *et al.* (2018), of a common framework with which to evaluate the efficacy of incubators based on quality data from incubators. However, further research is required to validate the model and confirm its applicability to incubators in general.

7.3.2 Combined incubator typology

To allow for comparisons across incubator types and contexts, researchers must agree on an incubator typology. This study proposes a new typology, combining the findings of

Barbero *et al.* (2012:894), Kuratko and LaFollette (1987:49), and Von Zedtwitz (2003:176-196), that is relevant to the South African incubation context. This typology is detailed in Chapter 2.

This typology was found to apply to the South African incubation context; however, further research is required to determine its validity in other contexts.

7.3.3 Incubator-stakeholder conflict

In the data analysis process of this study, a major theme of incubator-stakeholder conflict emerged from the data. This phenomenon has not been broadly covered in the existing literature and is an area that deserves the focus of future research to be properly understood. In the context of this study, incubator-stakeholder conflict consists of three factors – funder expectations and requirements, the influence of government, and the South African socio-economic climate. These elements are outlined in detail in Chapter 6 and section 7.2. Incubator-stakeholder conflict impacts the perceived efficacy of incubators, in the context of this study and is thus, an element for consideration for incubator managers and other stakeholders. The extent to which there is alignment between stakeholder expectations and incubator outcomes reduces incubator-stakeholder conflict, whereas the inverse increases incubator-stakeholder conflict. This is a potentially substantial area of research that would enrich the understanding of the context in which incubators operate.

7.3.4 Stakeholder theory

This study adopted the stakeholder theory as its theoretical basis, identifying the stakeholders relevant to incubators in the South African context and exploring their perspectives on incubator efficacy towards constructing the consolidated framework proposed in section 7.3.1.3. This study contributes to stakeholder theory research through applying the theory to the unique context of incubator efficacy research in a developing economy, such as South Africa. In addition, this study identified two additional stakeholders relevant to incubators in South Africa in private sector funders and communities. This aids in contextualising incubation research in South Africa and provides an opportunity for future researchers to explore the impact that these stakeholders have on incubators and their activities in a developing economy context.

7.4 PRACTICAL CONTRIBUTIONS

This study offers several practical contributions that are relevant to both incubator practitioners and policymakers. First, this study proposed a consolidated framework for measuring incubator efficacy. The framework gives practitioners an opportunity to understand how their relevant stakeholders perceive their efficacy, allowing for the development of best practice and the evolution of incubation programmes in the future. In addition, policymakers may be able to apply the framework to fully understand the context in which incubators operate to refine and improve policymaking to increase the efficacy of incubators. This is particularly relevant in the South African context where a large majority of incubators are publicly run or funded. Secondly, the study expands on previously identified stakeholders to include both private sector funders and communities as relevant stakeholders to incubators in South Africa. The addition of these stakeholders allows for a better understanding of the wider implications of incubation activities. Lastly, this study identified several issues that permeate the incubation environment in South Africa, identifying the prevalence of incubator-stakeholder conflict. Outlining this concept and identifying the factors relevant to it, allows policymakers to adjust their approach to incubation legislation in order to address incubator-stakeholder conflict with a view to improving communication with incubators and providing a more encouraging environment for incubators.

7.5 RECOMMENDATIONS AND FUTURE RESEARCH

The results of this study offer a range of areas for improvement in terms of the management of incubators as well as potential avenues for future research which are detailed in sections 7.5~~6~~.1 and 7.5~~6~~.2 below.

7.5.1 Managerial recommendations

This study identified several areas where incubator managers could improve their management of incubation programmes. The most important area is the need to manage the incubator-stakeholder conflict that arises from a disconnect between the expectations imposed on incubators from their stakeholders and the realities incubators face in delivering their incubation programmes daily. Contributing to this conflict is a perceived lack of understanding of the incubation environment South African incubators operate in. This could be addressed by an increased effort on the part of government and other stakeholders in understanding how the difficult business and legislative environment impacts the ability of incubators to deliver on their outcomes. Further to this, adjusting incubation outcome

requirements to cater for the environment in which they operate would deliver higher quality outcomes by reducing the pressure placed on incubators to deliver unrealistic outcomes and maintain focus on delivering on the stated purpose of supporting incubated business growth.

7.5.2 Future research

This study identified several avenues for future research. First, the proposed framework in section 7.3.1.3 should be validated through a quantitative study to ensure its applicability to incubation in general. This should be followed by additional research into whether the framework is relevant to other incubation contexts outside of South Africa. Second, the concept of incubator-stakeholder conflict should be studied further to ensure a more comprehensive understanding of how this concept influences the efficacy of incubators in other contexts. Third, the typology proposed in section 7.3.2 should be validated in additional incubation contexts to ensure its applicability and relevance to incubation in general.

7.5.3 Limitations

Although this study sought to be as thorough as possible, every study faces certain limitations. In the context of this study, the findings are not able to be applied to incubation in general due to the methodology this study followed. In addition, the findings are limited to the South African context, with additional research required to determine their applicability in alternative contexts. Lastly, this study faced limitations due to a small sample size. Although representing a substantial proportion of the population of incubators in South Africa, a larger sample would have been preferred. The sample did not include any private, for-profit incubators, the only incubator type not represented in the sample. This is a feature of the South African incubation context that is home to relatively few private, for-profit incubators, however, future studies would ideally ensure their samples include examples of this incubator type.

7.6 CHAPTER SUMMARY

This chapter began with an overview of the content to come, accounting for the chapters preceding it and the content contained in this chapter. Section 7.2 began with a recap of the research questions and objectives this study sought to answer and address. Section 7.2.1 answering research question 1, proposed a new typology relevant to this study and the South African incubation context. In answering research question 2, section 7.2.2 described the two perspectives on incubator efficacy identified in this study, including different indicators related to each perspective, as outlined in Chapter 3. Section 7.2.3 described the

applicability of stakeholder theory to the context of incubator efficacy, as outlined in Chapter 4. The chapter continued with section 7.2.4, which identified six stakeholder groups including two additional stakeholder groups in the private sector funders and community. Section 7.2.5 identified the relationships between the identified stakeholder groups and the two perspectives on incubator efficacy identified in Chapter 3. Section 7.2.6 went on to detail the perceived purpose of incubators in the South African context and the objectives incubators are currently pursuing. The chapter continues with section 7.2.7 which discussed findings related to the perceived efficacy of incubators in South Africa and the potential rationale for this perceived efficacy among the study's participants. Section 7.2.8 presented the relationships between stakeholder groups and the perspectives on incubator efficacy that would underpin the proposed framework outlined in section 7.3.1.3. The chapter continued by outlining the conceptual model proposed in Chapter 4, before examining the contribution of the empirical research phase of this study and proposing a final framework for measuring incubator efficacy. The chapter concludes with an examination of the additional contributions this study makes in section 7.4, describing the recommendations based on the findings of this study in section 7.5.1 and the limitations relevant to this study in section 7.5.3.

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APPENDIX A

- Informed Consent Form -

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Economic and Management Sciences

Letter of Introduction and Informed Consent

Dept. of Business Management

A stakeholder approach towards a consolidated framework for measuring business incubator efficacy

Research conducted by:
Mr. RL Mould (12005844)
Cell: +44 7446 832 687

Dear Participant

You are invited to participate in an academic research study conducted by Rowan Mould, Doctoral student from the Department of Business Management at the University of Pretoria.

The purpose of the study is to understand how stakeholders measure business incubator efficacy and develop a framework for measuring the effectiveness of business incubators. Please note the following:

- Your participation in this study is very important to us. You may, however, choose not to participate and you may also stop participating at any time without any negative consequences.
- Please answer the questions in the interview as completely and honestly as possible. This should not take more than 60 minutes of your time.
- The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request.
- Please contact my study leader, Dr. Menisha Moos (menisha.moos@up.ac.za) if you have any questions or comments regarding the study.

In research of this nature the study leader may wish to contact respondents to verify the authenticity of data gathered by the researcher. It is understood that any personal contact details that you may provide will be used only for this purpose, and will not compromise your anonymity or the confidentiality of your participation.

Please sign the form to indicate that:

- You have read and understand the information provided above.
- You give your consent to participate in the study on a voluntary basis.

_____ _____

Participant's signature **Date**

APPENDIX B

- Discussion Guide -

DISCUSSION GUIDE

1. To start with, I'd like to know more about your perspective about what defines a business incubator?
    a. What elements of this definition are most important to you?
    b. Do you see incubators as being separate to other types of business support?
2. What do you believe the purpose of a business incubator is?
    a. Why do you believe this is the main purpose of an incubator?
3. What do you believe the objective or goal of a business incubator is?
    a. Why do you believe this is the objective/goal of a business incubator?
    b. Do different types of incubators need/have different goals?
    c. Do you agree with the objectives/goals currently being pursued by incubators?
4. How do you personally determine whether an incubator is meeting that objective?
    a. What specific metrics do you use to determine whether an incubator is meeting that objective?
    b. Why those metrics?
    c. What metrics should be used?
5. What relationship does funding have with regards to the objectives of an incubator?
    a. How do you perceive the source of funding of the incubator to impact the objective of the incubator?
    b. To what extent does the source of funding impact the objective of the incubator, if you believe it does?
6. What challenges do you believe incubators face in pursuit of those goals?
    a. What could be done to help incubators address these challenges?
7. What impact do you believe incubators have on the economic development of the country, if any?
    a. What could be done to increase this impact if you believe there is any?
8. Who do you perceive as being the primary stakeholders for business incubators?
    a. Considering the most salient stakeholders hold the greatest power, legitimacy, and urgency, how would you rank these stakeholders in terms of their salience?
9. What role do you see incubators playing with regards to government?
    a. Do you believe incubators are currently fulfilling this role effectively?
    b. How should incubators' efficacy in fulfilling this role be measured?

10. What role do you see incubators playing with regards to businesses?
    a. Do you believe incubators are currently fulfilling this role effectively?
    b. How should incubators' efficacy in fulfilling this role be measured?
11. What role do you see incubators playing with regards to the community?
    a. Do you believe incubators are currently fulfilling this role effectively?
    b. How should incubators' efficacy in fulfilling this role be measured?
12. How do you perceive the overall efficacy of business incubators?
    a. Do you believe that incubators in general are meeting the objectives described earlier?
    b. Are there types of incubators you believe are more effective than others?
    c. Are there types of incubators you believe are less effective than others?
13. Is there anything else you'd like to add?

APPENDIX C

- Certificate from Language Editor -

JANINE ELLIS

LANGUAGE EDITING / TRANSCRIPTION / TYPING

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Client

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02 May 2023

DECLARATION

To whom it may concern,

I hereby declare that I language edited the PhD thesis of Mr Rowan Mould, titled: ***A stakeholder approach towards a consolidated framework for measuring business incubator efficacy***

All aspects of this PhD thesis were looked at carefully, corrections made and suggestions given with regards to certain wording and sentence structure, however, the academic content was not influenced in any way. The layout and presentation as well as the referencing of this PhD thesis were edited as per the referencing and technical/style template/guide provided by the client. Final acceptance of all proposed corrections/changes/comments is at the discretion of the author.

Kind regards

Janine Ellis

Janine Ellis