

**AN EXPLORATORY CASE STUDY OF ACCELERATOR PROGRAMMES IN THE  
REPUBLIC OF SOUTH AFRICA**

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# **Abstract**

South Africa is facing a challenge of poverty, unemployment and low growth. Government has identified the small and medium-sized business (SME) sector as one of the ways through which to combat these challenges. Government has also set up programmes and agencies to support SMEs in their search for funding and other kinds of support. South Africa, however, has one of the highest rates of SME failures in the world, with the majority not surviving beyond three years. Alternative interventions are therefore required to support South Africa's SMEs to become sustainable companies beyond three years and to contribute positively to economic growth, poverty alleviation and job creation. This paper explores one kind of intervention that has been used internationally and that is increasingly being adopted in South Africa.

Accelerator programmes, aimed at supporting start-ups to get to the next level of their development, have been growing in numbers around the world, trying to replicate the success of the original accelerator programme – the Y Combinator – which was responsible for the success of household names such as Airbnb and Dropbox. Accelerator programmes help start-up companies define and build their initial products, identify promising customer segments, and secure resources, including capital and employees. By making these necessary resources available to start-ups, it may be possible to ensure that fewer start-ups fail and more SMEs remain sustainable into the future. Several accelerator programmes have been founded in South Africa, all with a similar aim: to accelerate the development of start-ups that have the potential to grow exponentially given access to the right resources. This paper examines how South African accelerator programmes work in terms of the key resources made available to the start-ups that participate in their programmes.

An increasing number of academic papers have been written on accelerator programmes internationally, but little information is available for the South African context. This research study investigated the phenomenon of accelerator programmes in South Africa through the lens of Resource-based Theory. The theory posits that, in order to gain a sustained competitive advantage, companies need to utilise their resources (including physical, human and

organisational) in a manner that is effective and efficient, both internally and externally. The research answers the following questions: How do accelerator programmes work in South Africa? What value (in terms of resources offered) do they claim to bring to start-ups that go through their accelerator programmes? An exploratory case study method was selected to understand the phenomenon of accelerator programmes in South Africa. Purposeful sampling was used in the selection of accelerator programmes, as it allows for the selection of information-rich cases.

The research findings indicate that accelerator programmes in South Africa follow the structure of providing start-ups, over a period between three months and one year, with resources that will assist them to be successful into the future. The investigation finds that human and financial resources are some of the most valuable resources that accelerator programmes provide to start-ups to help progress these start-ups to their next level of development. The most important resource is mentorship from knowledgeable industry players who are themselves entrepreneurs. Access to networks to gain access to the market, as well as funding, is also made available by accelerator programmes.

This investigation provides a glimpse of the accelerator programme phenomenon in South Africa and highlights the important role that mentorship from experienced entrepreneurs, and access to markets and funding, play in the development of start-ups.

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*“There are thousands of smart people who could start companies and don’t, and with a relatively small amount of force applied at just the right place, we can spring on the world a stream of new start-ups that might otherwise not have existed. ... really what motivates us is the completely amoral desire that would motivate any hacker who looked at some complex device and realised that, with a tiny tweak, he could make it run more efficiently. In this case, the device is the world’s economy, which fortunately happens to be open source” – Paul Graham (2009), one of the founders of Y Combinator.*

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# List of abbreviations

ASGISA - Accelerated and Shared Growth Initiative for South Africa

BER - Bureau for Economic Research

GDP - Gross domestic product

GEAR - Growth, Employment and Redistribution

GSMA - Global System for Mobile Communications Association

IDC - Industrial Development Corporation

ICT - Information and communication technologies

NDP - National Development Plan

RMB - Rand Merchant Bank

SAVCA - Southern African Venture Capital and Private Equity Association Enterprise  
Development Agency

SEDA - Small Enterprise Development Agency

SME - Small and medium-sized enterprise

SMME - Small, micro and medium-sized enterprises

Stats SA - Statistics South Africa

STEM - Science Technology Engineering and Mathematics

Sw7 – Start with Seven

DTI - Department of Trade and Industry

US - United States of America

WEF - World Economic Forum

# **Chapter 1 – The scope of the study**

## **1. Introduction**

Statistics South Africa (Stats SA, 2017b) reported that South Africa's unemployment rate reached 27.7% in the first quarter of 2017, the highest figure since September 2003. For the same period, economic growth, as measured by gross domestic product (GDP), contracted by 0.7%, which was preceded by a 0.3% contraction in the last quarter of 2016, putting South Africa in a technical recession (Stats SA, 2017a). South Africa therefore continues to face the challenges of job creation and economic growth. Interventions that have the potential to address these challenges need to be tested for their effectiveness so that available investments can be channelled accordingly.

### **1.1. South Africa's real-world context**

The appointment of Cyril Ramaphosa as president of South Africa in February 2018 saw a rise in business confidence (by 11 points), from 34 in the fourth quarter of 2017 to 45 in the first quarter of 2018 (Bureau for Economic Research, 2018). This, however, did not translate into higher economic growth, with the first quarter of 2018 recording a contraction of 2.2% GDP in the economy (Stats SA, 2018).

The National Development Plan (NDP), which was developed as the roadmap for South Africa to address poverty and inequality by 2030, aims to “draw on the energies of its people through growing an inclusive economy, building capabilities, enhancing the capacity of the state, and promoting leadership and partnerships throughout society” (National Planning Commission, 2011, p.14). The Plan recognises the role that small and medium-sized enterprises play in economic development and proposes that, to bring about the transformation of the economy and ensure sustainable job creation, there has to be support for small businesses through various government and private sector agencies, a reduction in regulatory compliance for small and medium-sized enterprises, as well as improving access to financial services for small and medium-sized enterprises (National Planning Commission, 2011, pp.39-40). The year 2017 marked five years since the NPD was adopted by parliament, and parliament conceded that

limited progress had been made towards achieving its goals by 2030 (Parliament of South Africa, 2017).

The meeting of the World Economic Forum ([WEF], 2016) in January 2016 acknowledged that the Fourth Industrial Revolution would bring about a disruption of the labour markets as machines replaced people in the workplace. With this comes a net loss of five million jobs in 15 major developed and emerging economies in the next five years. This means an increase in demand for skills that require critical thinking, creativity, emotional intelligence, digital and Science, Technology, Engineering and Maths (STEM) capabilities to match the skills demand of the Fourth Industrial Revolution (WEF, 2016). In South Africa, Cape Town was identified as one of the top cities in the world for technology start-ups, based on the business environment, tech environment, city buzz and wellness, talent pool and real estate costs (Savills World Research, 2017).

### **1.2. Contribution of and challenges faced by micro- and small enterprises**

Li and Rama (2015), in their study of the role of micro- and small enterprises in firm dynamics, productivity growth and job creation in developed countries, propose that these enterprises are generally underrepresented in data produced by studies of firm dynamics, productivity and job creation in developed countries. The authors propose that the role of micro- and medium enterprises in job creation and gross job destruction are underestimated (Li and Rama, 2015). Although large firms account for the largest amount of employment in the USA, start-ups, even though they account for only 3% of employment, also account for almost 20% of gross job creation (Haltiwanger, Jarmin and Miranda, 2013, p.360). At the same time, small companies in developing countries such as South Africa make a significant contribution to employment and job creation, with young firms that are less than five years old having higher employment growth (Ayyagari, Demirguc-Kunt and Maksimovic, 2014, p.95).

According to the 2016 report on the Small, Medium and Micro-enterprise (SMME) sector of South Africa, commissioned by the Small Enterprise Development Agency ([SEDA], 2016b, p.1), there were more than 2.2 million SMMEs, which made up 14% of employed South Africans and contributed 21% to the gross domestic product before tax and subsidies in 2015. On

the other hand, the same report notes that South Africa has one of the highest failure rates of SMMEs in the world, with the majority not surviving beyond three years (SEDA, 2016b, p.10). The long-term sustainability of SMMEs, if they are to address South Africa's economic challenges, requires attention and solutions.

The South African government has tried various ways to encourage economic growth and to accelerate job creation programmes, such as Growth, Employment and Redistribution (GEAR), the Accelerated and Shared Growth Initiative for South Africa (ASGISA), and the National Development Plan. These programmes did not achieve the required private investment, job creation and GDP growth. Ferreira and Rossouw (2016) note that the GEAR strategy aimed to produce annual growth of 4.2%, but achieved only 2.7% due to a cut in government expenditure. Although ASGISA brought about a decline in employment from 27.9% to 20.7%, this was short-lived, as the global financial crisis in 2008 made its impact, increasing unemployment to 25.7% (Ferreira & Rossouw, 2016, p.813).

### **1.3. Initiatives that support enterprise development**

Support for the development of SMEs has included incorporating policies and enterprise development provisions in Broad-based Black Economic Empowerment, which aims to support the growth of small businesses and entrepreneurship and also includes providing funding from government institutions such as SEDA, the Industrial Development Corporation (IDC) and others. The Small Enterprise Development Agency (SEDA), for example, provides support to small enterprises to ensure their growth and sustainability (SEDA, 2018). They do this through providing information, advice, consultancy, training and mentoring services in all areas of enterprise development. They measure their impact by measuring the growth in turnover and the number of people employed (SEDA, 2016a, p.25).

The IDC, on the other hand, focuses on supporting entrepreneurship in the manufacturing sector and aims to develop industrial capacity by providing financing (Industrial Development Corporation [IDC], 2018).

These institutions play an important role in the development of businesses in South Africa and provide much-needed support.

The introduction of the Broad-based Black Economic Empowerment (BBBEE) strategy and legislation has also included support for small and medium-sized enterprises. Preferential procurement and enterprise development have specific targets in the BBBEE Codes of Good Practice, for which private enterprises earn BEE points for procuring from Qualifying Small Enterprises and Exempted Micro Enterprises and also obtain points for helping to develop enterprises (Department of Trade and Industry [DTI], 2016).

The implementation of these sections of the policy, however, has also not achieved the imagined impact. According to Rogerson (2013), in many cases the programmes that are set up to meet these BBBEE targets do so at the peripheries of the organisations that implement them, do not add the value envisioned by the policy, and are often seen as a cost to the company (Rogerson, 2013, p.138)

According to Cohen (2013, p.19), accelerator programmes help start-up companies define and build their initial products, identify promising customer segments, and secure resources, including capital and employees. By making these necessary resources available to start-ups, it may be possible to ensure that fewer start-ups fail and more SMEs are created, thereby addressing the economic growth and unemployment challenges faced by South Africa. They are therefore worth investigating.

## **2. Purpose of this study**

If South Africa is to meet the challenge of the consistently high unemployment rate, there is a need to find a programme that looks at start-ups in their entirety and provides the resources necessary for start-ups to prosper. Big business has a role to play in absorbing the workforce and stimulating economic growth. However, for real exponential change to take place, a concerted effort is required that works and that is sustainable into the future.

This research is not meant to suggest a single strategy for the improvement of entrepreneurship in South Africa, as different businesses are started and grown in different ways and require different resources. This research, however, offers an investigation of one way of supporting start-ups to achieve success in their chosen markets.

The aim is to obtain a better understanding of how accelerator programmes, as one particular form of intervention, work to support start-ups. It is unclear whether these programmes add the required value to start-ups.

Based on the research aim, the following research questions helped guide the study:

- a) How do accelerator programmes work in South Africa?
- b) What value (in terms of resources offered) do they claim to bring to start-ups that go through their accelerator programmes?

This research study forms a first step in weeding through the media hype of these programmes and scratching beneath their surface to uncover what value there is.

### **3. Why the focus on accelerator programmes?**

Although earlier accelerators and incubators were indicated to be initiatives for enterprise development (as will be covered in the next chapter of this paper), this study focuses on one of these, which is the accelerator programme. It is important to indicate the justification of the study focus by first looking at how start-ups are defined. The book *the Lean Start-up* defines a start-up as a human institution designed to create a product or a service under conditions of extreme uncertainty (Ries, 2011, p.27). A South Africa report by Elevation Holdings (2017, p.14) defines a start-up as a high-growth, high-impact business that is scalable, normally boot-strapped and/or venture-backed and is less than 10 years old. Accelerator programmes have the potential to accelerate South African start-ups not only into national companies that solve an identified problem, but also into global companies that will compete in the global market and create economic value for South Africa (Elevation Holdings, 2017, pp.19-20).

In the past, South Africa has focused on developing and continuously supporting SMEs, which play an important role in the economy. However, the landscape is changing and the South African SME market is shrinking, from 50% of national GDP in the past to between 35 and 45% currently (Elevation Holdings, 2017, p.11).

Accelerator programmes are geared to provide support to start-ups in an uncertain environment, making it easier for these start-ups to succeed. In South Africa, accelerator programmes have been shown to enhance the growing impact of technology on every facet of life for start-ups, especially technology start-ups. These have the potential to significantly influence South Africa's economic prospects, but not much is known about this as there has been insufficient research to support or dispute this.

#### **4. What are accelerator programmes?**

According to Cohen and Hochberg (2014), the first accelerator programme, the Y Combinator, was founded in 2005 and established itself firmly in Silicon Valley in 2007. Y Combinator describes itself as an early-stage funder that provides funds and other resources to get nascent companies up and running in exchange for a financial return in the form of an equity stake in the start-up (Y Combinator, 2014).

Radojevich-Kelley and Hoffman (2012) attribute the emergence of accelerator programmes to the gap that was created in the aftermath of the dot-com bubble in 2000, when venture capitalists became reluctant to invest in technology start-ups. This left angel investors to fill the funding gap, but they did not have the capacity to carry the industry, as they typically have limited funds and are fewer in number. Traditionally, start-ups were funded in different ways:

- bootstrapping, which is using one's own funds,
- borrowing funds from family and friends,
- by angel investors, who are wealthy and sophisticated individuals who have had experience as entrepreneurs and invest in companies in return for a share in that company, and
- venture capitalists, who typically invest in later-stage start-ups with a proven track record and market acceptance (Radojevich-Kelley and Hoffman, 2012).

The funding gap created by the dot-com bubble was filled by the establishment of incubators and accelerators, which moved from focusing on research to also providing seed funding for start-ups (Radojevich-Kelley and Hoffman 2012).

The emergence of accelerators was also attributed by Hochberg (2016) to the declining cost of experimenting and the reduced capital requirements to seed a start-up software company. The additional cost of “finding seed investment, value-added mentorship and advisement, co-working or co-location with other start-up companies, capital introductions and exposure, network building, and the opportunity to pitch to multiple investors” was significantly reduced for start-ups through these accelerator programmes (Hochberg, 2016, p.32).

Accelerator programmes help start-up companies get to the next stage of their growth by providing the necessary resources over a specific, short period of time. Cohen and Hochberg (2014) characterise accelerator programmes as:

- helping start-ups define and build their initial products,
- having a limited duration,
- providing a small amount of start-up funds and working space,
- offering opportunities for the start-ups to engage with and be mentored by experienced experts and possible funders, and
- ending with a demonstration day, when the start-ups present their business that they have developed during the accelerator programme to an audience of interested funders.

Figure 1 below illustrates the typical characteristics of an accelerator programme.



**Figure 1: Typical accelerator programme**

Source: Njihia (2014)

Accelerator programmes, in exchange for the provided services and funds, require their start-ups to give up between 5% and 10% of their equity to the accelerator programme. Other start-ups rely on corporates and venture capitalists to provide funding for their operations. According to Radojevich-Kelley and Hoffman (2012), accelerator companies take a 5% to 6% equity stake of their participating boot-camp venture.

The Global Accelerator Report (Gust, 2016) highlights that 67.2% of accelerator programmes generate their revenue through corporate funding. The majority of accelerators (65.5%) around the world claim to be for-profit ventures and are funded with private capital from investors aiming to profit over the long term. The accumulation of equity in these various start-ups is how they accomplish this, as well as by providing business-support services and “acceleration-as-a-service” to large corporations (Gust, 2016).

According to Hallen, Bingham and Cohen (2014, p.1), accelerators aim to accelerate start-ups by providing them with “formal education and mentorship connections during intensive, temporally-compressed programmes – usually lasting three months”.

Common to the above definitions of an accelerator programme, and the one that will be taken forward in this paper, is that they have a limited duration, expose incumbent start-ups to mentorship and advice, and provide exposure to prospective investors.

## **5. Accelerator programmes - a global perspective**

According to the Gust (2016) Global Accelerator Report, over \$200 million was invested worldwide through 579 accelerator programmes benefiting 11 305 start-ups in 2016. Three thousand two hundred and sixty-nine (3 269) of these start-ups were in North America, 3 701 in Europe, 1 795 in South America, 1 368 in Asia and 1 172 in the Middle East and Africa. Half of the investments (\$107 million) were made in North America and \$7.6 million in the Middle East and Africa. The report states that 65% of the accelerator programmes studied were for-profit organisations that extended their start-up seed funding (on average \$25 000) in exchange for a share of the start-up company of between 5% and 10%. The accelerator organisations would then generate profit by selling their equity to another shareholder once the start-up is up and running (Gust, 2017). The report, however, states that more accelerator programmes are developing a different funding model, which includes partnerships with corporations, hosting events, charging for mentorship and subletting offices, with 52% of accelerators partially funded by corporations (Gust, 2017).

In a report that surveyed 164 organisations across the globe about accelerator programmes, the Global Accelerator Survey (Global Accelerator Learning Initiative, 2016) found that 59% of the accelerators had the aim of helping start-up and early-stage companies gain traction in the market, and over 40% aimed to drive economic growth and job creation. According to the report, 62% of the accelerator programmes ran for between three and six months, 25% for one to three months and 13% ran for more than six months. The majority of the programmes ran face to face (62%), whilst 35% were a combination of in-person and remote, and only 2% ran remote programmes where all interaction and activities were web-based or virtual. The study also found, like the Gust research, that corporates are the main source of funding for accelerators (just under 50%), with fewer than 10% relying on equity returns or fees charged to investors. The most services provided by the accelerators were found to be networking connections and mentoring, with investor connections mostly facilitated through pitch events, during which graduating start-

ups present their solutions to a group of potential investors, and one-on-one matchmaking events, during which individual start-ups are matched with individual potential investors. The average amount invested in start-ups is \$250 000, which is provided through acquiring equity in the start-up (over 50% of the investors), but others provide grants, debt and other forms of funding. Twenty-one percent of the accelerators focus on information and communication technology, but the major focus area (26%) is healthcare and life sciences (Global Accelerator Learning Initiative, 2017).

## **6. Accelerators in South Africa**

The South African start-up accelerator landscape is growing, but not much research is available that has tracked and quantified this landscape. Organisations such as SiModisa, Silicon Cape and SME South Africa review the entrepreneurship landscape as a whole and cover accelerators as part of the types of resources available to start-ups. This includes funding from venture capitalists, private equity, angel investors, incubators and accelerators.

A few websites provide a list of reputable accelerators in South Africa. The Silicon Cape initiative, a community made up of stakeholders in the entrepreneur space in South Africa, provides a list of accelerators in South Africa, and the same applies for the news website TechReport and Ventureburn. Little insight, however, is available on the entire accelerator landscape, the trends and the impact it is having on entrepreneurship in South Africa.

According to a study conducted by GSMA (2018), a representative body of mobile operators, 47% of the growth in technology hubs in Africa was due to the growth of incubators and accelerators. South Africa has the largest concentration of these technology hubs (59), and Cape Town has 26 as defined by the GSMA, with physical spaces designed to foster and support technology start-ups (GSMA, 2018).

This research study is an initial attempt to understand the accelerator landscape in South Africa by investigating five accelerator programmes, how they came about, the resources they provide to start-ups and the perceived impact of these accelerator programmes. This was done by analysing the South African accelerator programmes using Resource-based Theory and the

entrepreneurship ecosystem, through which the phenomenon of the burgeoning accelerator industry can be better understood. The intended impact of the accelerator industry on the sustained success of start-up technology companies could also be determined. The use of Resource-based Theory provides an appropriate lens for this study.

## **7. Conclusion**

In this chapter, the scope of South Africa's economic context was briefly introduced, with some realities and challenges that the country faces. The contributions of enterprise development initiatives such as accelerator programmes are receiving increased attention. This is not only limited to South Africa, but is also happening globally, and the successes of these programmes in providing required resources is worth noting.

An investigation of the South African context hopes to shed some light on whether the structure of these programmes is well suited to provide South African start-ups with the support required to achieve a sustained competitive advantage in their chosen markets.

Diverse definitions of accelerator programmes were highlighted; however, the limited duration for which start-ups are exposed to mentors, advisors and prospective investors is acknowledged as a common thread amongst the various definitions.

In the next chapter, the focus is on the literature review, and the unpacking of seminal and later works of Resource-based Theory in relation to enterprise development. There also is a focus on previous studies conducted on the theory and its application to entrepreneurship, which concludes with some criticisms of the theory.

# **Chapter 2 - Literature review**

## **1. Introduction**

In this section, the researcher examines what the literature says about Resource-based Theory to highlight core issues and the researcher's understanding of the theory, its relevance for this study, how it relates to entrepreneurship, its application to accelerator programmes and previous studies conducted on accelerator programmes and their relevance.

## **2. Theoretical perspective**

One of the main aims of accelerators is to assist start-ups in scaling their businesses through finding the financial resources and markets that will allow them to grow their company. According to Grant (1991), resources are the inputs into the production process and are the basis for the profitability of a company. Grant proposes that the resources and capabilities of a company give the company its competitive advantage. He defines capabilities as a set of resources working together, as complex patterns of people working with people and people working with other resources (Grant, 1991, p.122). Resource-based Theory offers an approach to analysing accelerator programmes, and using Grant's (1991) perspective on resources and capabilities for competitive advantage, it is essential to first look at the theoretical frameworks that guide this chapter.

## **3. Resource-based Theory**

In his seminal work, 'Firm resources and sustained competitive advantage', Barney (1991) defines firm resources as the physical capital (technology, location, equipment and raw material), human capital (training, experience, judgement, intelligence, relationships and insight) and organisational capital (structure, planning, controlling, coordination of systems, and internal relationships) that a firm uses to implement its strategies to achieve a competitive advantage in the market.

Barney (1991) defines competitive advantage as value-creating strategies that are not being used by other competitors in the market. The proper use of a company's resources should allow the

company to achieve a sustained competitive advantage, which is achieved when a company continues to have a competitive advantage even after other companies have attempted to duplicate the competitive advantage.

According to Resource-based theory, resources must be heterogeneous and immobile in order for a company to attain a sustained competitive advantage (Barney, 1991). Resources are heterogeneous in an industry when different companies possess different sets of resources that provide them with their competitive advantage. They are immobile when they are unique to the way that the company is organised, so that they are not transferable between companies. By ensuring that these tangible and non-tangible resources are valuable, rare, imperfectly imitable and non-substitutable, companies can gain a sustained competitive advantage over prospective competitors (Barney, 1991). Hitt, Xu and Carnes (2015) further state that the availability of unique and inimitable resources, as highlighted by resource-based theory, provide an organisation with a competitive advantage. They propose that firms that utilise their resources in a manner that is effective and efficient, both internally and externally, will outperform their competitors in the market. These challenges constitute the internal and external resources addressed by resource-based theory.

Resources are seen as valuable when they can enable companies to effect strategies that improve their efficiency and effectiveness, and make it possible for them to exploit opportunities and neutralise threats in the external environment. Resources are rare when they are few or no other organisations have the same resource. When resources have a unique historical condition, are casually ambiguous and socially complex, then they are imperfectly imitable and other companies are not able to completely duplicate these resources within their organisations. Resources are non-substitutable when no strategically similar substitutes exist. Possessing the above attributes, resources provide companies with a competitive advantage (Barney, 1991).

Grant (1991) contrasted industrial markets and financial markets when he identified the four characteristics of resources and capabilities that give a company its competitive advantage. These are durability, transferability, transparency and replicability. He proposes that financial markets are highly competitive and that sustained competitive advantage cannot be sustained for

a long period, as there is information symmetry which corrects the market as the information becomes available to the rest of the market. The high level of regulation of companies operating in these markets also contributes to not one company maintaining a competitive advantage, and the resources required in this industry are finances and information. In contrast, companies operating in the industrial markets have the potential to gain a competitive advantage through the ability to deploy resources and capabilities that are highly specialised, immobile and long-lasting (Grant, 1991, p.24).

With durability, transferability, transparency and replicability as characteristics of the resources and capabilities necessary for long-term sustainable competitive advantage, according to Grant (1991), it is essential to elaborate on what these mean within the company. The durability of a company's resources and capabilities tends to be eroded over time, and companies need to maintain their capabilities even when their resources change in order to maintain their competitive advantage. This can be achieved by maintaining and renewing these capabilities through the company's culture and the necessary socialisation of new employees. A lack of transparency in relation to the availability of information on how the company is able to maintain a competitive advantage and how the company implements its strategy, given the combination of resources available, is another characteristic that allows companies to maintain their competitive advantage. Transferability is the ability of rival companies to transfer their resources; this, however, is often difficult, as resources and capabilities may be unique to a particular company because of various factors such as location, information asymmetry, and a complex combination of resources and capabilities. The ability to duplicate capabilities can be difficult due to the combination of these factors (Grant, 1991).

The accelerator industry is a new industry and focuses on small, emerging companies that have the potential to become national or global players. The traditional model of deployment of resources and capabilities, as espoused by Grant (1991), therefore has limited application in this context. Bretherton and Chaston (2004) applied the resource-based approach to small and medium-sized enterprises and found that, where these enterprises did not have access to all the resources and capabilities required to gain a competitive advantage to produce superior returns, strategic alliances could be formed to make up for lacking these resources and capabilities.

However, these enterprises need to own at least 50% of their resources for the enterprise to be successful. This finding is relevant for accelerator programmes and their start-ups.

#### **4. Resource-based view and entrepreneurship**

Resource-based theory is applied to the management of resources for strategic management in large organisations, but also increasingly to entrepreneurship, to identify and explain how nascent companies can outperform others (Alvarez and Busenitz, 2001). Ireland, Hitt and Sirmon (2003) define entrepreneurship as wealth creation through recognising and taking advantage of opportunities in the environment by developing new processes, new products or new markets. Strategic entrepreneurship is developed when entrepreneurs identify opportunities in the external environment and exploit these opportunities by gaining and maintaining a competitive advantage through the appropriate deployment of their valuable, rare, imperfectly imitable and non-substitutable resources (Ireland, et al., 2003, pp.965-966).

Ireland, Sirmon and Hitt, (2003) propose that companies manage their resources strategically, as per resources-based theory. When structured strategically in order to identify and take advantage of opportunities in the external environment, these resources, in turn, allow companies to create wealth (Ireland, et al., 2003, p.973)

According to Ireland, et al. (2003), there are three critical resources that are required for strategic entrepreneurship, which are financial, human and social resources. Firstly, they refer to financial capital, which comprises the monetary resources required by entrepreneurs to develop and implement strategies. These resources can be attained from venture capitalists and family members. Secondly, they indicate human resources, as the expertise, knowledge and skills of the company. This can be explicit knowledge, which can easily be transferred from one person to another, or it can be tacit knowledge, which relates to the implicit ability of an individual to perform a task. This is largely acquired through practice and is difficult to transfer. Finally, social capital is defined as the value created through relationships fostered between internal and external stakeholders (Ireland, et al., 2003).

The ability of companies to structure (acquiring, accumulating and divesting) and bundle resources (creating rare and valuable capabilities), and then leverage these capabilities (achieved through experienced management) to take advantage of the opportunities present in the external environment can position the company to have a competitive advantage and create wealth for its stakeholders (Ireland, et al., 2003, p.977). Isenberg (2014), however, argues that fostering entrepreneurship requires the nurturing of an entrepreneurship ecosystem that is made up of leadership and government policy, financial capital, culture (including success stories and societal norms), support services (including infrastructure and other services), human capital, and markets (including customers and networks).

Alvarez and Busenitz (2001) describe entrepreneurship as the identifying and taking advantage of opportunities, which ultimately create benefits for the entrepreneur through the exploitation of their value, immutability and rarity, and the ability to organise in order to be able to take advantage of the opportunity. In their attempt to extend the application of the resource-based theory to entrepreneurship, Alvarez and Busenitz (2001) include the cognitive ability of entrepreneurs as an additional human resource that enhances a sustained competitive advantage and creates wealth for the company. Entrepreneurial cognition is based on finding new ways of solving problems using heuristics or unconventional methods. This is differentiated from managerial cognition, which found in traditional organisations and relies on more classical problem-solving skills that are more systematic ways of solving problems (Alvarez and Busenitz, 2001). These authors further propose that entrepreneurial cognition allows entrepreneurs to see opportunities that traditional managers are not able to, making this ability a heterogeneous resource that enables entrepreneurs to arrange other resources to further explore the opportunity (Alvarez and Busenitz, 2001). Through entrepreneurial cognition, entrepreneurs rapidly develop solutions to challenges by taking on the opportunity identified in the environment.

Peteraf (1993) proposes that ex-post limits to competition (forces that limit competition once a competitive advantage is attained) need to be in place in order for a company to attain a sustained competitive advantage. She notes imperfect imitability and imperfect substitutable as the basis for this limitation (Peteraf, 1993, p.182). However, Alvarez and Busenitz (2001) go further and note that cognitive differences, strategic complementarity, causal ambiguity,

uncertainty, and information asymmetries contribute to these forces and allow entrepreneurs to sustain their competitive advantage.

In terms of cognitive differences, Alvarez and Busenitz (2001) refer to Westhead and Wright (1998) and Rosa and Scott (1999), who found that serial entrepreneurs tend to produce high-performing companies because their way of thinking and their experience with previous companies they created provide them with a competitive advantage over others. In addition, the way that entrepreneurs think allows them to see opportunities and come up with innovations and inventions that other, more logically minded people do not.

Strategic complementarity is described as when a lead entrepreneur creates a new invention, and other entrepreneurs enter the ecosystem and start building solutions that complement the lead entrepreneur's solution (Alvarez and Busenitz, 2001, p.765). Alvarez and Busenitz (2001, p.765) refer to Schumpeter, who suggests that “new combinations of resources are new ways of competing and that these new ways of competing do not, as a rule, come from existing firms but rather from new firms that develop alongside established firms”, and this is where strategic alignment comes in.

Thus, the vagueness of the things that bring about efficiency in a business may be different to how efficiency is created in the next business. This is known as causal ambiguity (Alvarez and Busenitz, 2001, p.766).

## **5. Resource-based theory and accelerator programmes**

Radojevich-Kelley and Hoffman (2012) applied resource-based theory to the services that accelerators provide. In their paper, they measure accelerators' roles according to the kinds of resources they provide to start-ups and the success of these start-ups following the acceleration process. In their study, they wanted to know if the start-ups are successful as a result of the resources provided by the accelerators. They used the study to determine whether the process or structural components used and the role that the external environment plays in a firm's success is underemphasised by the resource-based view. They propose that the biggest challenges that start-ups face and that accelerator programmes address are funding, understanding the target market,

marketing expertise, reaching customers, and lacking experience in their proposed business (Radojevich-Kelley and Hoffman, 2012, p.64)

They further found that accelerators were largely created by successful entrepreneurs who felt the need to give back to start-up communities by offering the kind of support that they were not afforded when they were starting out. It should be highlighted that this study focused on financial resources. These were constrained following the financial crisis in 2008. Thus researchers concede that further investigation of the network process and how accelerators work is needed (Radojevich-Kelley and Hoffman, 2012).

According to Brown and Mawson (2016), the resource-based view is not the ideal lens through which to determine the best way to support companies to achieve high growth, because of its focus on resources. They propose that the growth of companies relies less on the accumulation of resources and more on the dynamic abilities of the company's capabilities (Brown and Mawson, 2016, p.820). This, however, is overcome by the fact that the resource-based view does not only focus on tangible resources, but also on tacit knowledge as a resource and, as discussed above, an entrepreneurial cognition forms part of the valuable resources required to enable the identification and exploitation of resources. Brown and Mawson (2016) looked at the targeted support that high-growth companies receive from accelerator-type institutions and highlighted the following shortcomings of accelerator programmes:

- The theoretical assumptions (such as resource-based theory) that underpin the support of accelerator programmes are flawed and should rather be built around more relevant theories on entrepreneurship, such as dynamic capability theory.
- The accelerator programmes are skewed to working with only certain sectors, and high-growth firms that are not in that sector are overlooked and do not receive the required assistance.
- Unintended consequences emerge, such as the change in the entrepreneurial behaviour of the company as a result of intense levels of support given by the accelerator programme. The authors also note that accelerated companies tend to underperform non-accelerated companies, because those companies that grew over time had the opportunity to adjust

and put systems in place to deal with the challenges that come with growth. (Brown and Mawson, 2016, p.828).

## **6. Criticism of Resource-based Theory**

Kraaijenbrink, Spender and Groen (2010) identified seven limitations of resource-based theory through the review of other pieces of research. These limitations are:

- a) The resource-based view has no managerial implications - although the theory lists the types of resources required to attain and maintain competitive advantage, it does not address how these resources can be acquired (Kraaijenbrink, Spender and Groen, 2010, p.6). In the context of accelerator programmes, identifying the necessary resources required to attain a competitive advantage is a first step in determining their value and is therefore appropriate for the purpose of this research paper.
- b) The resource-based view implies infinite regress – companies can always be overtaken by other companies that have developed their capabilities better than the previous company (Kraaijenbrink, Spender and Groen, 2010, p.6). This paper agrees with Kraaijenbrink, Spender and Groen (2010, pp.7-8), who say that rather than focusing on higher- or lower-order capabilities, resource-based theory looks at how the various capabilities interact with each other to give a company its competitive advantage.
- c) The resource-based view's applicability is too limited – the theory can only be applied to those firms that already have valuable, rare, imitable and non-transferable resources (Kraaijenbrink, Spender and Groen, 2010, p.8). In the context of studying accelerator programmes that focus on nascent start-ups in the process of acquiring their competitive advantage, the application of resource-based theory is appropriate.
- d) Sustained competitive advantage is not achievable – companies operate in an ever-changing environment in which new resources and capabilities come into play, and sustained competitive advantage cannot always be maintained (Kraaijenbrink, Spender and Groen, 2010, pp.10-11). The external environment in which today's start-ups operate is a dynamic

one that experiences rapid technological change. Capabilities such as dynamism come into play to respond to the environment and provide start-ups with a competitive advantage over those companies that are more static in their capabilities. The theory, therefore, remains relevant for the purpose of this study.

- e) The value of a resource is too indeterminate to provide a useful theory – the value of a resource and the sustained competitive advantage it generates are defined in identical terms and cannot be tested and determined independently from one another. Kraaijenbrink, Spender and Groen (2010, pp.15-17) propose that looking at the resources at different stages of the company could assist in decoupling the definition of valuable, rare, imperfectly imitable and non-substitutable from sustained competitive advantage and is one way of addressing this criticism, which can be applied for the purposes of this investigation.
- f) The resource-based view is not a theory that is about the firm – the theory does not attempt to add to the body of work around why firms exist, why their boundaries and internal organisation are as they are, and why they are better at rent-creation than markets; rather, specific references to incentives, asset ownership and opportunism are required. Kraaijenbrink, Spender and Groen (2010, pp.11-12) confirm that resource-based theory is not meant to be a theory of the firm, but rather to complement these theories.
- g) The definition of a resource is not workable – the definition does not differentiate between resources that are inputs to the firm and the capabilities that enable the firm to select, deploy and organise these inputs. The theory does not address the different ways in which resources contribute to the achievement of sustained competitive advantage. Kraaijenbrink, Spender and Groen (2010, pp.18-19) propose that resource-based theory can address this criticism by further refining the different types of resources beyond physical, human and organisation, and into whether these resources are static, dynamic; tangible, intangible; financial, human, technological; deployed, in reserve; perishable, non-perishable; and so on – and between types of resource ownership.

h) Valuable, rare, imitable, non-transferable resources are not necessary and sufficient to achieve sustained competitive advantage – it is not the value of an individual resource that matters, but rather the synergistic combination or bundle of resources created by the company that matters. The theory does not sufficiently recognise the role of individual judgements or mental models of entrepreneurs, and managers' resources and capabilities should be conceived as capacities that enable a firm to do what it does (Kraaijenbrink, Spender and Groen, 2010, pp.12-14). This criticism does not have a direct impact on our approach in this investigation, as we recognise that having a bundle of resources does not necessarily provide competitive advantage, but it is how these resources are delivered and deployed by start-ups that will ensure their survival and even their competitive advantage into the future.

The above limitations have been borne in mind during our analysis of the South African accelerator programme, but it is important to note that the theory offers but one way of analysing accelerator programmes and the value they claim to provide to start-ups. The next section reviews how other researchers have approached this analysis.

## **7. Previous studies on accelerator programmes**

Given the proliferation of accelerator programmes globally, there is an increasing number of studies on accelerator programmes, as the field is growing rapidly.

Radojevich-Kelley and Hoffman (2012) conducted an exploratory case study on accelerator programmes, processes and early results. The study shed some light on the process of selection, the challenges that accelerator programmes seek to address, and what challenges the accelerator companies themselves face. They note that accelerators select companies according to their ability to make a difference in that start-up, strong lead founders, a willingness to adapt their business concepts, and a business concept that solves a real-world problem in a creative way. The biggest challenges that start-ups face and that accelerators can assist with include: funding, understanding their target market, marketing expertise, reaching customers, and the lack of experience in the start-up's proposed business. The greatest challenge faced by accelerator companies is finding great companies with great ideas (Radojevich-Kelley and Hoffman, 2012).

Cohen and Hochberg (2014) aimed to provide a definition of what an accelerator programme is by providing a set of characteristics that distinguish it from other programmes, as well as to map out what is currently known and unknown about these programmes, in order to help direct future research. Their study contributes by putting definitive parameters in place for identifying accelerator programmes, as illustrated in the figure below.

<b>Summary of the Differences between Incubators, Investors, and Accelerators</b>			
	<b>Accelerators</b>	<b>Incubators</b>	<b>Angel Investors</b>
<b>Duration</b>	3 months	1-5 yrs	Ongoing
<b>Cohorts</b>	Yes	No	No
<b>Business model</b>	Investment; non-profit	Rent; non-profit	Investment
<b>Selection frequency</b>	Competitive, cyclical	Non competitive	Competitive, ongoing
<b>Venture stage</b>	Early	Early, or late	Early
<b>Education offered</b>	Seminars	Ad hoc, hr/legal	None
<b>Venture location</b>	Usually on-site	On-site	Off-site
<b>Mentorship</b>	Intense, by self and others	Minimal, tactical	As needed, by investor

**Figure 2: Summary of differences between incubators, investors and accelerators**

Source: Cohen and Hochberg (2014, p.9)

Pauwels, et al. (2016) studied the accelerator programmes using the design theory lens. Design theory separates an organisation's activities into two sets of design parameters: design elements that are building blocks of the activity system, and design themes, which are the commonalities that connect these elements into a model (Pauwels, et al. 2016). The researchers identified five design elements that make up the building blocks of an accelerator:

1. Programme package, which can include mentoring, training programme, counselling, Demo/Investor Day, location services, and investment opportunity
2. Strategic focus, which can be an industry or geographic focus
3. Selection process, which can be online open call, the use of externals for screening, or the team as the primary criterion for selection
4. Funding structure, which could be investor, corporate, public or alternative revenues
5. Alumni relations, where there can be either an alumni network that exists or post-programme support (Pauwels, et al., 2016)

In terms of design themes, the accelerators differed according to their approach to each of the design elements. Three design themes were identified by Pauwels, et al. (2016) according to the approach of the accelerator:

- The ecosystem builder, in which the accelerator is used as a matchmaking device to connect customers with promising start-ups, and in this way nurture the development of an ecosystem around the company.
- The deal-flow maker, which aims to bridge the equity gap between early-stage projects and investable businesses.
- The welfare stimulator, which stimulates start-up activity and fosters economic growth, either within a specific region or within a specific technological domain.

Design theory offers a useful approach to analysing accelerator programmes and how they are structured. Design theory is a useful way of analysing accelerator programmes, because it breaks down the business model of an organisation (in this case, the accelerator programme) into its building blocks through identifying the set of activities that create and deliver value to start-ups that go through the programme (Pauwels, et al., 2016, p.15). This breakdown of the business model allows for each theme and element to be analysed individually and to be differentiated from similar business models, such as incubators. The way in which the analysis takes place would be similar to an analysis via a resource theory lens; however, the theory does not allow for a conclusion to be made about how the design elements of the accelerator programme can be beneficial in setting up start-ups that go through the accelerator programme for success. The theory, therefore, is limited in describing the way in which value is created for the start-ups that enter these accelerator programmes.

Closer to home, Ganamotse, et al. (2017) embarked on a multi-country study to determine how three business accelerators came into existence in three different developing or semi-developed countries, namely Botswana, Namibia and Uganda, and why the same could not happen in Mozambique and Zambia. The paper provides a view of how new ventures are created and looks at entrepreneurship through the theory of emergence. Using the theory of emergence, which is defined as a process that generates an outcome that behaves differently from the sum of its parts,

the researchers offer a view of how accelerator programmes emerge in Africa countries. They propose a process of intentionality, resources, boundary and exchange (Ganamotse, et al., 2017). Although the study focused on accelerators linked to academic institutions and excluded privately funded accelerator programmes, it does provide key learnings for South African university-based accelerator programmes, including:

- Intentions to start an organisation are dependent on the exchange of information between different intentional stakeholders in the start-up environment.
- More relevant stakeholders will have a larger impact on the organising effort.
- Financial resource constraints experienced early in the emerging process have a negative impact on the speed of organisation formation and formalisation.
- More boundary-spanning activities lead to more distinct boundaries of the emerging organisation.
- More exchange of intentions, resources and boundary-spanning activities will influence the organising process.
- The emerging properties are dependent on key stakeholders, who act as champions for the emerging organisation, and if they are exchanged during the process, properties will also change.
- The outcome of the emerging business-accelerator process is dependent on access to the target group and the size of the target group.
- The contribution of the accelerator includes the duality of intentions, and exchange between key stakeholders and the resource provided.
- Intentionality needs to be reinforced by the stakeholders around the focal organisation.
- There is a need to provide resources for the projects for a longer period. The initial funding period for the Global Business Labs projects, particularly in Namibia and Botswana, was too short.
- The funding period for the cases under consideration ended before the projects could attain the planned sustainability.
- The cases also demonstrate that the model can only work efficiently when the labs are integrated within the universities and the community at an earlier stage, and are well resourced.

Due diligence processes should continue even after the new ventures are accepted for acceleration (Ganamotse, et al., 2017).

Another Africa-based investigation reviewed technology hubs in Africa. De Beer, et al. (2017) note that technology hubs have grown significantly in Africa and have the potential to address the socio-economic challenges faced by the continent. They attempted to offer a framework for systematically describing and critically assessing the emergence of high-technology hubs throughout Africa, of which accelerator programmes form part (De Beer, et al., 2017). The study recognises that government support and policies can help to build a country as a technology hub and can assist in the sustainability, scalability, value and impact of local cluster hubs and company-initiated technology hubs. They recognise that there often may be a conflict in information and communication technology (ICT)-related laws and policies by the country, which can have a negative effect on the scalability and/or sustainability of both company hubs (viewed independently from the regional ecosystem) and cluster hubs (small geographical regions containing a high density of hubs). This has manifested itself in the South African market, where the spectrum of rollout may be inhibiting the emergence of new start-ups and entrants in the ICT environment (De Beer, et al., 2017).

After reviewing 31 accelerators in London, Berlin and Paris, Clarysse and Yusubova (2014) point to a few elements that make for a successful business accelerator. The researchers found that the selection process and criteria, business support services, and networks form the basis of a successful accelerator programme. The selection process needs to be well structured and to focus on the start-up team and the diversity of the team. In terms of business support services offered, the researchers found that the most valuable service provided by the accelerator programme is mentorship of the start-ups by delivering advice and feedback on product development. Network opportunities provided by the accelerator programme, especially in terms of accessing customers and financing, make for a successful programme (Clarysse and Yusubova, 2014). The research goes beyond highlighting the important factors, such as providing office space and infrastructure, and puts more emphasis on identifying factors that can assist the accelerator programme (in South Africa) to deliver the kind of value that start-ups are looking for.

## **8. Conclusion**

Resource-based theory provides a useful lens through which to analyse accelerator programmes. The relevancy of previous studies conducted on accelerator programmes and entrepreneurship assisted in better understanding the application of resource-based theory and how it influences entrepreneurship. This will help inform the analysis of accelerator programmes in the South African context. It is important to note, however, that the focus of this research is on the feedback from accelerator programmes, and not their start-ups. This provides a one-sided view of how success is defined.

From this section, which looked at previous research done on accelerator programmes, the next section takes into consideration and describes the methodology used in undertaking an investigation of accelerator programmes in South Africa specifically.

# **Chapter 3 – Research design and methods**

## **1. Introduction**

In this section, the researcher outlines the approach taken in the investigation of accelerator programmes. This study was limited to South Africa. An exploratory case study and a qualitative research design were undertaken to uncover and explain how the selected accelerator programmes work and what they hope to achieve.

## **2. Research design**

An exploratory case study method was selected to understand the phenomenon of accelerator programmes in South Africa. The use of a case study method, according to Baskarada (2014), involves focusing on a single concept with the aim of gaining a deeper understanding of that concept in a wider context. Accelerator programmes have been adopted widely in South Africa, and by investigating a few through a case study method, this research can assist in understanding the broader landscape of these accelerator programmes, how they work and the services and resources they provide to the start-up companies that go through the programmes (Baskarada, 2014).

According to Yin (2009), the reason for using the multiple case study method is that similar results in the selected cases can be predicted, and therefore each case is selected carefully and not through a sampling method, of which the purpose is more to determine the prevalence or frequency of a particular phenomenon and apply that to the rest of the population (Yin, 2009, p.47). The use of a multiple case study method is therefore appropriate for this investigation, as the purpose is not to determine prevalence or frequency, but to understand the broader landscape of accelerator programmes in South Africa.

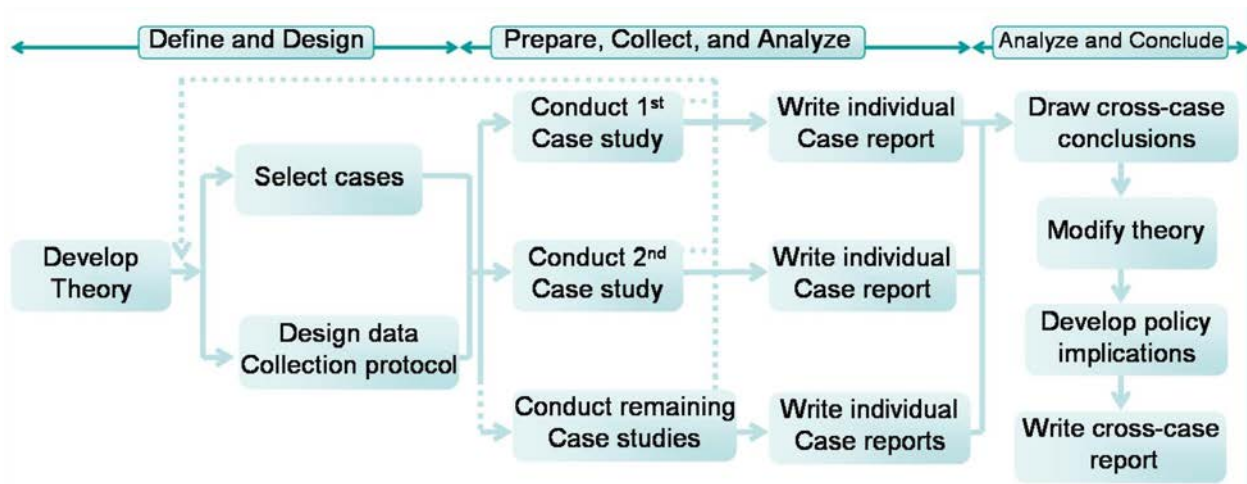
This multiple case study method is also an exploratory one. According to Baskarad (2014, p.5), “this is also a descriptive case study but is aimed at generating hypotheses for later investigation”. This approach allows for the exploration and description of accelerator

programmes in South Africa to attain a better understanding of this phenomenon in this geographical context. The use of a descriptive case study is appropriate because it aims to describe an intervention or phenomenon (in this case accelerator programmes) and the real-life context in which it occurs (Baxter and Jack, 2008).

For the purpose of this study, the researcher used a qualitative approach to explore key phenomena linked to accelerator programmes in South Africa. As an exploratory multiple case study, it therefore is appropriate to investigate how accelerator programmes work in South Africa using resource-based theory.

In embarking on the multiple case study, the researcher followed the process outlined by Yin (2009), which is illustrated in Figure 3 below and starts and ends with theory development. The key steps are as follows:

- a) Theory development – theory development was done looking at how accelerator programmes work in other countries and putting together a basic structure of how an accelerator programme would work in South Africa.
- b) Case selection – A process of reviewing accelerator programmes operating in South Africa and a selection was done of these, which is expanded upon in the next section.
- c) Data collection protocol – an interview guideline was constructed to act as a data collection protocol and covered the information that was required for the research.
- d) Case study – the selected accelerator programmes were contacted and information was gathered through interviews and document review.



**Figure 3: Multiple Case Study Design**

Source: Cosmos Corporation as cited by Yin (2009).

A summary of the interviews and transcripts was drafted and was augmented with additional information gathered from publicly available documents. This was done for each of the accelerators.

The analysis of the cases was undertaken and takes the form of the findings and conclusion, covered in Chapter 4 and 5, to follow.

### 3. Research questions and research objectives

Aim: To understand how accelerator programmes work in South Africa.

Research question 1: How do accelerator programmes work in South Africa?

Research question 2: What value (in terms of resources offered) do accelerator programmes claim to bring to start-ups that go through their accelerator programmes?

This research paper forms a first step in weeding through the media hype of these programmes and scratching beneath their surface to uncover what value there is.

## **4. The researcher's approach**

The approach selected for this research is a constructivist paradigm, which, according to Baxter and Jack (2008), allows for the subjective creation of meaning, as well as a close relationship between the researcher and the participants, and creates space for the participant to tell his/her own story (Baxter and Jack, 2008, p.545). Each of the participants who participated in this research was given the space to relay, in their own words and through interviews conducted with journalists, how they think their accelerator programme works, thereby constructing, from their own perspective, a reality of their company, which was compared to other accelerator programmes. According to Baxter and Jack (2008), a multiple case study allows for the analysis of a phenomenon within each company and across the industry.

## **5. Selection process of population and sample size**

Silicon Cape, a technology start-up community, lists 20 accelerator programmes currently operating in South Africa (Silicon Cape, 2017). A scan of other start-up community resources, namely Ventureburn.com, Small Business Connect, F6S.com, SME South Africa and gomedici.com, was also done, and five of these technology accelerator programmes were selected for this multiple case study. Purposeful sampling was used in the selection of accelerator programmes, as it allows for the selection of information-rich cases.

The majority of the accelerator programmes were based either in the Western Cape or Gauteng. According to the Southern African Venture Capital and Private Equity Association ([SAVCA], 2017), the Western Cape accounted for 56% of all venture capital funding and Gauteng accounted for 32% in 2016. This is an indicator of where are funds available that would support accelerator programmes. The selected accelerator programmes are therefore headquartered either in Gauteng or the Western Cape.

The selected accelerator programmes were chosen based on the following:

- The programme conducts the acceleration mainly in South Africa,
- The programme has been in operation since January 2015 or earlier,
- The availability of verifiable information on the accelerator, and

- The willingness of the accelerator programme principals to participate in the research.

## **6. Data collection**

### **6.1. Semi-structured interview**

A questionnaire was constructed that would guide the semi-structured interview conducted with the selected accelerator programmes. The questions related specifically to the goal of the research, and were grouped into three sections:

- i. general demographic data about the accelerator programme;
- ii. what resources were provided to start-ups through the accelerator programme that related directly to physical, human, and organisational resources;
- iii. impact on the start-ups and any improvements made to the programme over the years.

The open-ended nature of the questionnaire allowed the interviewees to add any detail they deemed necessary in their response. Three accelerator programmes granted the researcher an interview and two declined to be interviewed due to time pressure. The interviews were transcribed from a recording device and notes were made during the interviews.

### **6.2. Review of documents**

Various sources of information available publicly were reviewed for all five accelerator programmes, including media reports, organisational reports and presentations, industry body research and accelerators' websites.

## **7. Validation and analysis**

Triangulation of the data collected from the various sources was used to internally validate the information sourced from documents against information provided through the interviews. All sources of information not sourced directly from the accelerator programme came from interview reports and documents that the accelerator programmes had published publicly. The information is therefore subjective and allows the accelerator programme to create its own meaning. The scope of this study does not include the independent verification of the information provided,

beyond verification through triangulation. The method of analysis used was thematic analysis where the themes between the various cases selected were identified.

## **8. Generalisability**

In order to establish the external validity of this study, several different kinds of cases were selected. According to Baskarada (2014), the use of multiple cases, just like using multiple experiments, assists in demonstrating the accuracy of a theory and its generalisability. The results of how accelerator programmes work to resource-based theory. The five accelerators selected for this study assisted in ensuring the generalisability of accelerator programmes in South Africa to resource-based theory.

## **9. Conclusions**

The approach taken in the design and method of the research allowed the researcher to explore and learn more about the accelerator programmes from the point of view of the accelerator programmes.

# **Chapter 4 - Results and findings**

## **1. Introduction**

This chapter outlines the findings stemming from the information collected through interviews and the review of documents of accelerator programmes. This section is divided into information about the accelerator programmes, the resources that the accelerators provide, and the impact that the accelerators believe they have on their start-ups, and concludes with continuous improvements that the accelerator programmes undergo.

Five accelerator programmes were examined through the review of available documents and websites, as well as interviews with representatives of three of these start-ups. A series of questions were addressed. The accelerators chosen delivered their programmes in South Africa and had been in existence for at least three years.

## **2. Demographic Data: About the accelerators**

The accelerator programmes examined were Grindstone, Launch Lab, MLab, Spark and Start with Seven (Sw7). Three of the accelerator programmes (MLab, Spark and Sw7) are based in the Gauteng area and two are in the Western Cape.

### **2.1. Founding and founders**

The founding of the accelerator programmes varies from one to the other. Of the five accelerator programmes examined, two (MLab and Spark) are local chapters of international organisations. Spark is an Australia-based non-profit organisation founded by two individuals who had an interest in making a social impact in South Africa and other emerging markets (Spark International, 2018).

MLab (short for Mobile Application Laboratory) was initiated by infoDev, a programme that aims to support entrepreneurs in developing countries. infoDev, a member of the World Bank group, is one partner in a consortium of partners that established MLabs in South Africa, Eastern Europe, South Caucasus, Central Asia, Kenya and Senegal. It is a not-for-profit organisation with an interest in driving digital innovation in South Africa (infoDev, 2018).

LaunchLab has its beginnings as a student-driven initiative at Stellenbosch University, where a group of students energised and rallied other students to come up with innovative business ideas. The University formalised the initiative in 2013, aiming to commercialise some of the research being done at the university by students and academic staff.

Two of the accelerator programmes were founded by South African individuals and companies. Grindstone was created by Knife Capital (a growth equity investment firm) to fill a gap they identified, namely to help high-growth small and medium-sized enterprises execute their strategy, and become more sustainable and fundable (Knife Capital, 2018).

Sw7 was founded by a technology entrepreneur to grow start-up technology businesses in Africa by providing access to funding, access to markets or selling a business (GQ, 2016). Table 1 illustrates the demographic information regarding of the accelerator programmes.

**Table 1: Founding and founders**

Accelerator	Founding year	Founder	Funding	Location
Grindstone	2013	Knife Capital	Fees, Knife Capital and DTI	Cape Town
LaunchLab	2011/2013	University students	Corporate sponsor and government	Stellenbosch
MLab	2012	Local and international consortium of partners	Government	Pretoria
Spark	2011	Two foreign founders	Donor	Johannesburg
Sw7	2014	South African private citizens	Corporate social responsibility funding	Johannesburg

## 2.2. Focus area

Four of the accelerator programmes focus on technology start-ups, either through software or hardware, whilst Spark focuses on any start-up that has a social impact, regardless of whether or not it uses technology. The accelerator programmes work with start-ups at different stages of their development, from ideation to high growth. All the accelerator programmes operate mainly in Gauteng and the Western Cape. Table 2 illustrates the focus areas of the accelerator programmes.

**Table 2: Summary of focus area**

Accelerator	Focus area	Primary programme delivery areas	Start-up/Individual/Product	Intake	Duration	Stage of development
Grindstone	Post-revenue high-growth technology-enabled SMEs	Cape Town	Founders, CEO, senior manager, managing director, partner	10	1 year	Post-revenue high-growth stage
LaunchLab	Clean tech, block chain, big data, artificial intelligence, agri-tech (veggie tech), space tech, smart manufacturing and smart seeding	Stellenbosch	Start-up	30 - bootcamp 10 - programme	9 months	Ideation
MLab	Information and communications technology (ICT) start-ups that cut across industry with innovative digital solution apps, mobile solutions, unstructured supplementary service data (USSD) and wearables	Pretoria, Johannesburg, Cape Town	Product	8	4 months	Ideation
Spark	Not focusing on a particular industry, as long as your start-up has a social impact	Johannesburg	Start-up	12	12 months of mentoring	Entrepreneurs in early stages of a great idea, start-up has been

Accelerator	Focus area	Primary programme delivery areas	Start-up/Individual/Product	Intake	Duration	Stage of development
	focus					launched and has its first customer.
Sw7	Technology & high-growth businesses	Johannesburg and Cape Town	Founders	?	3 months	High-growth stage

The accelerators admit between 10 and 25 accelerators and the duration of the accelerator programme is between four months and three years. Whilst some accelerators focus on accelerating the people within the start-up (founders, CEO and managers), others look at the start-up itself and others focus on the product.

### 2.3. Process

All the accelerator programmes have a process of admitting start-ups into their accelerator programme, which begins with a call for applications using notification on their websites and media releases.

The applications are reviewed by the accelerator programmes and shortlisted. Four of the accelerator programmes invite the shortlisted start-ups to attend a workshop or a bootcamp, which has the dual purpose of giving the accelerator programme more insight into the start-ups for shortlisting and providing the start-ups with training on various subject matters relating to entrepreneurship.

The second round of shortlisting allows the accelerator programme to further determine the suitability of the start-up, and whether the start-up matches with the resources provided by the accelerator programme.

The selected start-ups enter the accelerator programme, but not all programmes culminate in a demo day. However, further opportunities (funding, further training, etc.) are provided to

selected start-ups once the programme comes to an end. All the accelerator programmes maintain a relationship with graduated start-ups once they have left the programme.

**Table 3: Acceleration process**

Step	Process	Grindstone	LaunchLab	MLab	Spark	Sw7
1.	Request for applications	✓	✓	✓	✓	✓
2.	Online application process, complete a survey or send a pitch video	✓	✓	✓	✓	✓
3.	Review of applications and shortlist (this may be via a pitching process)	✓	✓	✓	✓	✓
4.	Invite shortlisted start-ups to workshop/bootcamp	✓	✓	✓	✓	✓
5.	Invite to pitching session with judges	✗	✓		✗	?
6.	Invite further shortlisted start-ups to academic course	✓	✗	✗	✗	✗
7.	Selection of successful start-ups to go into accelerator programme	✓	✓	✓	✓	✓
8.	Pitch day to investors and corporates	?	✗	✗	✓	?
9.	Select further start-ups to enter further programme that provides more exposure/training/resources	?	✓	✓	✓	✗
10.	Maintain relationship with the start-ups	✓	✓	✓	✓	✓

## 2.4. Funding

The five accelerator programmes are funded in different ways. Two accelerator programmes (Grindstone and Sw7) require a fee from the start-ups that enter the programme. This fee is subsidised by a corporate or government partner in both cases. The other three accelerator programmes are funded through donations, organisations' corporate social investment funding,

enterprise and supplier development funding, and general corporate partnerships. LaunchLab also generates revenue through rental income from their incubator, which charges entrepreneurs in the Stellenbosch community to make use of their office space.

**Table 3: Funding model**

Accelerator	Funding model
Grindstone	Fee charged to start-ups, parent company Knife Capital, and the government
LaunchLab	Rental income from the incubator, government grants and corporate partner
MLab	Corporate partners, SA government departments and government agencies of foreign governments
Spark	Parent company in Australia raises funding through donations from various people and organisations Revenue from Sparks companies in Australia
Sw7	Fee charged to start-ups, subsidised by Microsoft BizSpark and Standard Bank, and the Founders pay a fee of R4 800 (Standard Bank BizConnect, 2015)

### **3. Resources provided by accelerators**

Firm resources required to attain sustained competitive advantage in the market are defined by Barney (1991) as physical capital (technology, location, equipment and raw material), human capital (training, experience, judgement, intelligence, relationships and insight) and organisational capital (structure, planning, controlling, coordination of systems, and internal relationships).

The accelerator programmes were requested to identify the resources they provide to their start-ups, separated into physical, human and organisational resources. The resources accelerator programmes deliver to the start-ups translate into valuable capital that the start-ups can use to gain a competitive advantage in their chosen markets.

### 3.1. Physical resources

Various physical resources are provided to the start-ups through the accelerator programme to allow them to progress their product/service to gain an advantage in the market.

Location is categorised as a physical resource for MLab and LaunchLab. These accelerator programmes have premises from which the start-ups can work. LaunchLab specifically believes their location in Stellenbosch offers an advantage for two reasons – its proximity to the university’s resources, and the entrepreneurial culture of the town, which has many of the country’s richest people living in the area.

MLab provides working space in the Innovation Hub in Pretoria, and it also has locations in Cape Town and Johannesburg. MLab provides its start-ups with equipment that allows them to develop their products; this can range from mobile devices and laptops to biometric scanning devices. The accelerator makes these resources available on a request basis, including any requirements for travel and software.

The primary physical resources that all the accelerator provide is financing – either to develop the start-up’s product or service or to enable the start-up to grow into its next level of development.

**Table 4: Physical resources**

Physical resources	Grindstone	LaunchLab	MLab	Spark	Sw7
Location	x	✓	✓	x	x
Office space with meeting rooms	x	✓	✓	x	x
Equipment	x	x	✓	x	x
Software	x	x	✓	x	x
Internet	x	✓	✓	x	x
Financing to develop product during	✓	✓	✓	✓	✓

Physical resources	Grindstone	LaunchLab	MLab	Spark	Sw7
programme					
Subsidies or bursaries	✓	✗	✗	✗	✓
Travel	✗	✗	✓	✗	✗

### 3.2. Human resources

At the centre of all the accelerator programmes' offering is mentorship by experienced entrepreneurs and corporate partners. The accelerator programmes boast about the number of mentors and the calibre of entrepreneurs they have. The mentorship is supplemented by classroom-based training, which provides more formal learning.

*Table 5: Human resources*

Human resources	Grindstone	LaunchLab	MLab	Spark	Sw7
Experienced mentors at accelerator	✓	✓	✓	✓	✓
Independent experienced mentors	✓	✓	✓	✓	✓
Ecosystem networking and relationship building	✓	✓	✓	✓	✓
Peer learning and support	✓	✓	✓	✓	✓
Psychometric test	✗	✗	✗	✗	✓
Classroom-based training	✓	✓	✓	✓	✓

### 3.3. Organisational resources

Organisational resources are defined as the structures, planning tools, controlling tools, coordination of systems and internal relationships that a firm uses to implement its strategies (Barney, 1991).

Those accelerator programmes that focus on start-ups in the ideation stage of their development do not provide organisational resources. Their focus remains on developing the product or service of the start-up. This applies to LaunchLab, MLab and Spark.

Grindstone and Sw7, which focus on later-stage start-ups, provide resources to enable the founders and managers of the start-up to better manage their organisation. This includes helping the start-ups prepare the organisation for high growth, either through being bought out by a larger company or putting systems in place to help the start-up cope with the anticipated growth.

**Table 6: Organisational resources**

Organisational resources	Grindstone	LaunchLab	MLab	Spark	Sw7
Structure	✓	✗	✗	✗	✓
Planning	✓	✗	✗	✗	✓
Controlling	✓	✗	✗	✗	✓
Systems	✓	✗	✗	✗	✓

#### **4. Impact on start-ups**

The accelerators were requested to indicate how many start-ups had been through the accelerator programme. A few of the start-ups found it difficult to come to a definite number. This was due to them wanting to show the success of their own programme by not only having an effect on the start-ups that had gone through the programme in its entirety, but also on those that had attended a portion of the programme, as well as the continuous relationship these start-ups have with the accelerator programme through an adjacent programme such as an incubator.

The accelerators were then requested to provide their own definition of success, and then apply this criterion to the various start-ups to indicate how successful their accelerator programme had been since its inception from their perspective. Success is therefore defined and reported from the point of view of the accelerator. In all cases, job creation, access to further funding and

revenue generation were some of the metrics that the accelerator programmes used to measure their success or impact.

Those accelerator programmes focusing on start-ups in the ideation stage (MLab and LaunchLab) defined success as being able to take the idea of the start-up and having proof of concept, a minimum viable product or a prototype. In addition, being able to take the product to market, test it and incorporate feedback from the market into the next iteration of the product was a measure they used for success.

MLab reported that it was in the process of building a monitoring and evaluation process, but had the following successes to report:

- Technology development – all the start-ups that entered the accelerator programme managed to develop their product or service into a minimum viable product, a prototype or a proof of concept.
- Leveraging finance – 35% to 40% of the start-ups that had gone through the programme had secured between R100k to R9 million from funders to take their product or service further.
- Jobs created – many start-ups had increased the number of people they employed following the acceleration process, with some having increased from employing one or two people to 30 employees.
- Access to foreign markets – a few start-ups were able to enter foreign markets, such as in France.
- Increase in customers – some start-ups were able to increase the number of users and downloads of applications developed – one start-up had achieved 70 000 users.

LaunchLab reported that, in their context, success was relative, and that a myriad of metrics were used to measure this success. In addition to the previously mentioned proof of concept and feedback from the market, Launched Lab listed the following as measures of success:

- Caught the attention of corporate clients in terms of partnerships to provide a service to the corporate client
- Number of jobs created

- Products receiving international exposure, with new clients or foreign direct investment
- Acquisition by a bigger venture
- Offer for the product, which has just one or two customers
- Investment in the company by investors in return for equity

LaunchLab claimed to have achieved a 83% success rate according to the above measures, with 83% of its start-ups having been able to achieve one or more of the above measures.

Spark, which works with start-ups that already have their first customer, define success as the increased impact of the start-up. If the start-up had moved from positively impacting 10 people in society to 100 prior to the acceleration process, this is regarded success. Spark reports that it has supported hundreds of entrepreneurs, and that 90% of these entrepreneurs have at least doubled their revenue and impact (Ventureburn, 2018).

The accelerators that focus on the high growth-phase start-ups and entrepreneurs put emphasis on financial metrics.

Grindstone provides the report below on their three accelerator programmes (Figure 4).

In Just One Year...	Grindstone 1	Grindstone 2	Grindstone 3
Increase in Revenue (R'm)	R43m	R65m	R52m
Increase in Revenue (%)	61%	64%	44%
New jobs created	43	70	22
Increase in Efficiency (Rev/employee)	22%	42%	18%
CAGR Expectation (Next 3 years)	64%	72%	60%
Increase in business fundamentals	19%	22%	24%

**Figure 4: Grindstone success metrics**

**Source: Knife Capital, 2018**

Sw7 claims to have worked with over 200 start-ups from the early to the mature stage and measure their success according to the successful execution of strategy, increased access to the

market, effective deal structuring, being able to scale the business and gaining access to funding (SlideShare, 2017).

## **5. Continuous improvement**

All the accelerator programmes have gone through changes since their inception, with the aim of improving service delivery to their start-ups. The accelerators note that, given the rate of technological change in the external environment, they have to keep up in order to stay relevant and provide the required value to their start-ups and entrepreneurs.

Change is also brought about by adding corporate partners to programmes to ensure sustainability in terms of funding and access to the market. Corporate partners may have specific needs that they require the start-ups to solve, and these changes are usually incorporated into the various programmes.

Other changes include expanding their physical presence beyond the original location, working with a larger number of start-ups, and incorporating more programmes adjacent to the accelerator programmes in order to address needs identified in previous programmes.

## **6. Conclusion**

This chapter presented collated information as collected from five accelerator programmes and allowed the information to be seen as a whole. The following chapter will discuss the findings from the information outlined in this chapter.

# **Chapter 5 - Discussion**

## **1. Introduction**

The aim of this chapter is to discuss the findings of the previous chapter by extracting common features of these accelerator programmes. The chapter begins by comparing the South African accelerator programmes with the format of other accelerator programmes discussed in the literature review in Chapter 2, which provided the blueprint for these programmes, and common features of the South African programmes are then outlined. The chapter focuses on how resource-based theory is applied to the accelerator programmes in their provision of resources to start-ups, and concludes with the common impacts that these accelerators have on their cohort of start-ups. Because this research aimed to investigate accelerator programmes in South Africa using resource-based theory, the findings are discussed in this chapter and supported by details from the literature.

### **1.1. Drivers of accelerator programmes**

In South Africa, the growth of accelerator programmes seems to be driven by the recognition of a funding gap, as well as a knowledge gap, in the start-up community that, if addressed, can help make these start-ups more sustainable and successful. South Africa has one of the highest SMME failure rates in the world, and interventions that could help ensure start-up success are required. However, Radojevich-Kelley and Hoffman (2012) attributed the growth of accelerator programmes in North America to the lack of funding that was available for start-ups following the dot-com bubble, when investors adopted a cautious approach to funding technology start-ups which are considered a high-risk class of investment (Radojevich-Kelley and Hoffman, 2012).

The success of accelerator programmes such as the Y Combinator provides a blueprint that South Africa can adopt and adapt for its context, according to which start-ups can be supported and set up not only for local, but also international success. Accelerators believe that adopting such a programme will lead to job creation, revenue growth and long-term sustainability for the start-up. How successfully these accelerator programmes are in meeting the challenges of the

knowledge and funding gap should inform increased support from public and private sector organisations for these accelerator programmes.

There are common elements that appear in South African accelerator programmes that are at the centre of how these programmes are structured and work. Depending on their focus areas in relation to the stage at which the accelerator intervenes (idea vs. high growth), additional resources are provided by the accelerator programme to meet the needs of the start-ups, given their stage of development.

## **2. Comparing South African accelerators to others**

In Chapter 2 of this paper, accelerator programmes are characterised by Cohen and Hochberg (2014) as:

- helping start-ups define and build their initial products (e.g. ideation, MVP)
- having a limited duration (indicate the time frame – min/max),
- providing a small number of start-ups with funds and working space (services offered),
- offering opportunities for the start-ups to engage with and be mentored by experienced experts and possible funders,
- the programme ends with a demonstration day during which the start-ups present their business that they have developed during the accelerator programme to an audience of interested funders.

Yusubova and Clarysse (2016) found that the success factors of business accelerators are the selection process and criteria, business support services (which include education, mentorship, coaching, workshops, weekly evaluation, financial and legal support, and tangible services such as office space), and networks.

All the accelerators investigated possess most of the characteristics of accelerator programmes. A common characteristic of other international accelerator programmes is that accelerator programmes, in return for providing resources to the start-up, require a percentage of equity from

the start-up. This component is not common in the South African accelerators. An argument may be made that taking on an equity stake in the start-up may provide more encouragement for the accelerator to ensure the success of the start-up, as the better the start-up does, the better the accelerator does. Having “skin in the game” aligns the economic interests of the start-up with the accelerator as a shareholder in the company (Cremers, et al., 2009).

In South Africa, accelerators have chosen to operate in the economic hubs of the country, namely Cape Town, Stellenbosch, Pretoria and Johannesburg, which is a similar trend to the location of their North American counterparts. There tends to be more access to potential investors and partner headquarters, and a greater concentration of entrepreneurs, in these hubs. It is also prudent because of the infrastructure available in large cities, which may not be as abundant in other areas of the country.

### **3. Features of SA accelerator programmes**

#### **3.1. Competitive process**

Accelerator programmes are competitive in their nature. Start-ups with the most promising ideas, products, services and growth potential, as judged by the accelerator, are carefully selected and, in many programmes, compete against each other for a position in the programme. This competitiveness results in those start-ups that are most likely to succeed being selected for the accelerator programme.

#### **3.2. Partnerships**

Accelerators in South Africa partner with government, government agencies and private sector companies to help deliver their programmes. The partnerships with government and government agencies assist to fulfil their mandate. For example, The DTI’s mission to broaden participation in the economy to strengthen economic development is addressed by the aim of accelerator programmes to ensure the success of start-ups that otherwise would not succeed (DTI, 2018). The Technology Innovation Agency (2018) is responsible for bridging the gap between research and development, and its support of accelerator programmes helps ensure that academics can have resources available to commercialise their research.

In addition, the emergence of accelerator programmes has been found by Fehder and Hochberg (2018) to stimulate entrepreneurial activity in the ecosystem of the region in which it operates. This increase in venture capital activity not only benefits the start-ups in the accelerator programme, but also those outside of it (Fehder and Hochberg, 2018, p.30). Although this effect needs to be empirically studied in South Africa, it may provide further impetus for government and government agencies to support accelerator programmes in order to stimulate the much-needed growth of small and medium-sized enterprises in various regions of the country.

Partnership with private sector companies provides access to funding, markets and mentorship. Private sector companies are under pressure to innovate internally in order to mitigate the risk of being disrupted. Companies such as Standard Bank and Nedbank are looking towards programmes such as accelerator programmes for their next innovative products and services.

According to a report by EY and Cisco (2016), 74% of CEOs in the private sector felt that their profit margin was increasingly coming under threat, largely as a result of increasing consumer demands and rapid technological change. The report goes on to say that collaboration between start-ups and big organisations can have a mutually beneficial result. Start-ups can develop products, services and new business models much faster than large corporations, but large corporations have access to the market and the scale that can ensure a more successful launch of these products and services.

Nicolaas Kruger, former CEO of financial services company MMI, says

In the current and future environment where rapid change has become the norm, disruptive innovation has become important to create a sustainable future for not only MMI Holdings, but also for the wider insurance-based financial services sector. It is with a bigger disruptive innovation journey in mind that we have thrown our weight behind the Insurance Startup bootcamp (MMI Holdings, 2015).

Partnerships with private sector companies are also supported by the BBBEE empowerment legislation, which has a specific target of 1% net profit after tax to be spent on enterprise

development contributions and sector-specific programmes by the measured entity (DTI, 2016). By channelling these funds into accelerator programmes that meet the requirements of the Department of Trade and Industry, private sector companies can earn empowerment points towards their Broad-based Black Economic Empowerment scorecard.

Partnerships are therefore an important component of accelerator programmes, as they connect start-ups with large businesses, a relationship that can be of benefit to both. However, it is important that large organisations do not see these partnerships simply as an exercise of ticking a box, and that there is strategic alignment with the rest of the business, as well as leadership buy-in. Often, the products and services developed by start-ups require implementation or plugin into the larger organisation in order for them to be successful. The resistance to adoption from within the organisation can be addressed if there is clear leadership and employees within the organisation recognise the strategic intent.

### **3.3. Mentorship**

Mentorship lies at the centre of an accelerator programme. Strong emphasis is placed upon the entrepreneurial experience of the individuals who manage the accelerator programme, as well as the independent mentors. The accelerator programmes are driven by entrepreneurs who have experience with starting new businesses.

According to Kohler (2016), mentorship provides an opportunity for start-ups to build their network and gather insight. A diverse set of mentors – from corporate partners and entrepreneurs to subject matter experts – is essential to gather wide feedback from different perspectives (Kohler, 2016, p.8).

Yusubova and Clarysse (2016, p.8) confirm previous studies that found that the most valuable characteristic of accelerator programmes is their mentorship, and cite this as one of the main reasons why start-ups participate in accelerator programmes – because they provide valuable advice and feedback based on the mentor's experience on a voluntary basis.

Getting the right group of mentors is therefore critical. TechStars, one of the top technology accelerator programmes in the US according to Forbes, *Entrepreneur Magazine* and other titles, has developed a mentor manifesto that provides a guide to its values and characteristics of the mentorship it provides. Some of the guidelines offered by the manifesto are that mentors should be able to separate fact from opinion, be able to provide specific, actionable advice, to be challenging and robust, but never to be destructive. It is also important to note that Techstars provides mentorship training and encourages its mentors to attend events with the start-ups to determine where they can add the most value during the programme (Techstars, 2017).

In addition to having the right values and characteristics, the process of matching mentors to start-ups is also important. According to Yitshaki and Drori (2018), the match needs to be made according to where in the stage of development the start-up is when it enters the acceleration process (Yitshaki and Drori. 2018). Different mentors have different sets of skills, and different start-ups have different needs. Accelerator programmes in South Africa therefore should consider a process that not only matches the needs of the start-up with the skills of the mentor, but also consider personal fit.

### **3.4. Structured learning**

South African accelerators offer structured learning through workshops and courses during the period of acceleration. Grindstone has partnered with the University of Cape Town Graduate School of Business to deliver an investment-readiness training course, called Find-Make-Grow-Realise. This is a two-day classroom-style course that is open to entrepreneurs to assist them with the skills required to attract investment in their start-ups (Silicon Cape, 2014). Grindstone offers six one-day workshops for their start-ups – on culture and strategy, sales and marketing, market positioning and messaging, intellectual property (IP), product and technical, finance, valuation and exit, and legal compliance and human resources (HR) (Knife Capital, 2018).

This structured learning provides an opportunity for the start-ups to learn and master business fundamentals in a classroom-style setting, which they can then apply immediately to their start-ups during the accelerator programme and beyond.

According to Cohen (2013), start-ups need to know what they do not know before starting to get feedback from their mentors. The role that the initial workshops and courses play therefore is an important one that exposes where there is missing information in the entrepreneur's education. Structured learning provides the basic technical understanding of concepts and helps start-ups to better assimilate later learnings from mentors and peer learning.

Hallen, et al. (2014) confirm that start-ups benefit from this structured learning because some founders of start-ups do not have expertise that goes beyond their own field of work, therefore workshops and courses help them to better understand their interconnectedness with other fields of work. They propose that structured learning also provides detailed case studies from which start-ups can learn, and helps them navigate their own competitive environment a lot better (Hallen. et al., 2014).

The structured learning environment therefore provides some legitimacy for the accelerator programme, where start-ups can make the link between the academic foundations of concepts and the practical application of these, along with the assimilation of feedback offered by the various mentors in the programme.

### **3.5. Monitoring and evaluation**

Tracking the success and learnings of accelerator programmes is key to attracting start-ups and corporate partners to the accelerator programmes. The accelerators, however, did not freely share information on their successes.

## **4. Resources and competitive advantage**

The accelerator programmes investigated all aimed to create successful start-ups by providing them with the required resources to enable this success.

### **4.1. Human resources**

The biggest focus for the accelerator programmes in terms of resources is human resources, of which a key element is mentorship. As discussed under mentorship, the matching of a start-up to an appropriate mentor is key to the success of mentorship. But how does a start-up gain a sustained competitive advantage in its market from receiving mentorship?

It is useful to go back to the initial aim of mentorship. The sharing of knowledge aims to ensure that the start-up can benefit from insights that are made up of mistakes and learnings that the mentor has experienced in his/her own business. Receiving feedback early allows the start-up to adjust its product or service offering, a benefit that would not be available to a start-up that has not gone through the accelerator programme. The start-up can save a lot of time and be ahead of its potential customers by learning rapidly from its mentors.

Mentorship also opens up various opportunities for the start-up, given the networks that the accelerators provide.

#### **4.2. Financial resources**

Financial resources are the most common resources offered by the accelerator programmes in South Africa. A competitive advantage is created for the start-ups, which would otherwise have had to use other means of funding to support the growth of their start-ups. In most of the cases, the financing was offered on a grant basis, which means that the start-ups did not have to pay the money back.

In other cases, the funding came through the accelerator programme's networks and own resources, such as in the case of Grindstone through Knife Capital. According to Winston Smith et al. (2013), start-ups that are backed by an accelerator programme receive their first round of follow-up financing significantly sooner than start-ups that did not participate in accelerator programmes (Winston Smith, et al., 2013).

In a 2017 Ventureburn survey of over 260 start-up founders in South Africa, 52% of the founders identified access to funding as the biggest challenge they faced as a start-up. In addition, 63% of

the founders reported having used self-funding or donations from friends and family and loans for the first round of funding their business. For those start-ups that do not have access to these sources of funding, programmes such as MLab provide a much-needed lifeline for them to realise their business idea.

Other notable physical resources include the communication and office infrastructure provided by accelerators such as LaunchLab and MLab. The start-ups and entrepreneurs with whom these accelerator programmes work are starting out and have not yet formalised their businesses by having their own office space and other services that businesses require to work. The availability of co-working space has an additional benefit of housing other start-ups, which creates a supportive environment in which these start-ups can cooperate and collaborate with each other. According to Levinsohn (2015), the value that peers derive from being in the same accelerator programme means that new entrepreneurs learn to be more confident by interacting with their peers, and more experienced entrepreneurs became more resilient and strive for excellence because they are inspired and challenged by their peers (Levinsohn, 2015, p.229).

### **4.3. Organisational resources**

Organisational resources were the most difficult to identify for the South Africa accelerator programmes, specifically for those start-ups in the ideation stage that have not yet formed their own organisations.

The accelerators that focused on later-stage start-ups included an element of organisational resources in their programmes. Access is provided to legal, accounting and financial services to assist start-ups to put systems and processes in place that will assist them to execute their strategy.

## **5. Resource support for competitive advantage**

The resources that accelerator programmes deliver to start-up companies can be viewed as valuable, because they enable these companies to create and execute strategies that improve their efficiency and effectiveness. They also assist start-ups to identify and exploit opportunities, and to neutralise threats in the external environment through the training and mentorship provided by the accelerator programme.

The resources can also be considered to be rare, as each of the accelerator programme differentiates itself through the uniqueness of its offering – whether its location is in an entrepreneurial community, the experience of its mentors, or the access to funding it opens up. Resources are rare when they are few or no other organisations have the same resources.

The combination of knowledge transfer that takes place between mentors and founders cannot be replicated, as each mentor and start-up is different. When resources have a unique historical condition, are casually ambiguous and socially complex, they are imperfectly imitable (Barney, 1991).

Other companies are not able to completely duplicate these resources within their organisations. Resources are non-substitutable when there are no strategically similar substitutes. If companies possess the above attributes, the resources provide them with a competitive advantage (Barney, 1991).

## **6. Impact on start-ups**

The accelerator programmes measured their impact on start-ups in different ways. This is understandable, as the accelerators work with different types of start-ups. Common measures of success were listed as the number of jobs created, access to further funding, and revenue generation. However, these measures of success were not readily available for all the accelerator programmes. Grindstone publishes its set of results on the website according to several financial

indicators; however, the information is aggregated for the programme and not for the individual companies that participated in the programme.

MLab, LaunchLab and Spark provide anecdotal feedback on their results and do not publish a report on their websites, while Sw7 only reports the number of start-ups with which it works.

The opaqueness of the information available on the impact of start-ups is an area South African accelerators can improve upon. More rigorous measures and reporting need to be adopted by accelerator programmes in order to garner the support required from mentors, start-ups, and public and private institutions.

## **7. Conclusion**

The discussion has shown the commonalities and differences between the accelerator programmes and demonstrated that these differences are as a result of the focus area of the accelerator programmes, especially in terms of the stage of development of the start-ups being accelerated.

The next chapter contains the conclusions drawn from the study by revisiting the research objectives and making recommendations for future research.

# **Chapter 6 – Conclusion**

## **1. Introduction**

The aim of this chapter is to discuss the conclusions drawn from the research conducted. The conclusion revisits the objectives of the research, makes recommendations for further research and acknowledges the limitations of the research.

South Africa continues to face the challenges of low economic growth, a high unemployment rate and poverty. If these challenges are not addressed, the country will continue to experience social instability, which manifests itself in growth in the destructive service delivery protests currently being experienced.

Weak economic growth (among other reasons) has had an adverse impact on tax revenue, which in turn has an impact on the government's ability to meet its financial commitments (National Treasury, 2018).

The government has identified entrepreneurship and the growth of small and medium-sized enterprises as one of the ways to address these challenges. At a recent conference, the CEO of the Youth Employment Service (YES) Initiative (an initiative to create employment opportunities for one million youth) said that addressing the youth unemployment problem requires “creativity and disruption, and the creation of new economic spaces to literally invent jobs” (The Directors Event, 2018).

Accelerator programmes are becoming an important component of South Africa's start-up ecosystem. However, as new start-ups launch their programmes, some fall away. In other countries, accelerator programmes have been widely adopted and interest from the academic fraternity is growing to understand how they work and the impact they have on start-up companies.

In South Africa, the growth of accelerator programmes seems to be driven by the recognition of a funding as well as a knowledge gap in the start-up market that, if addressed, can catalyse sustainable and successful start-ups. The accelerator programmes believe this will lead to job creation, economic growth and long-term sustainability for the start-ups. How successfully these accelerator programmes meet the challenge of the knowledge and funding gap should inform increased support by public and private sector organisations for these accelerator programmes.

South Africa has one of the highest SMME failure rates in the world. This research is a first glimpse at how accelerator companies work and the potential they have in providing the necessary resources needed by start-ups to succeed and thereby to lessen the number of failures.

The contribution of this research is that it attempts to uncover how the phenomenon of accelerator programmes works in South Africa, where there has not yet been published work to shine a light on this phenomenon.

## **2. Research objectives and implications of the findings**

The aim of the study was to obtain a better understanding of how accelerator programmes work in South Africa and what value (in terms of resources offered) they claim to bring to the table for start-ups that go through their accelerator programme.

The research determined that accelerator programmes have similar structures in the way they work. Their processes of calling for applications, selecting successful start-ups and their format are similar. The focus of the accelerator programmes differed, and this determined the way in which the accelerator programmes measured their success.

The objectives of the research were therefore met, and the implications of the findings are widespread and are discussed further under recommendations and future research.

## **3. Recommendations**

This research represents one part of what should be a two-part investigation, the second being determining the success of start-ups following their graduation from accelerator programmes.

This first part of the investigation, however, can conclude that accelerator programmes have a role to play in assisting South African start-ups to become more sustainable into the future by offering the necessary funding and mentorship.

### **3.1. Policy**

Partnerships with private sector companies are also supported by the BBBEE empowerment legislation, which has a specific target of 1% of the net profit after tax to be spent on enterprise development contributions and sector-specific programmes of the measured entity (DTI, 2016). By making specific provision for accelerator programmes to receive BBBEE points, more private sector companies would participate and provide the necessary funding for these programmes.

### **3.2. Funding**

Support for SMEs has included funding from government institutions such as SEDA, IDC and others. More funds should be channelled specifically to accelerator programmes that have the proven track record of accelerating start-ups to success.

### **3.3. Accelerator programme association**

A non-governmental and non-profit acceleration association should be created to which accelerator programmes can belong on a voluntary basis. The aim of this association would be to set minimum standards for accreditation, build a database of accredited accelerator programmes, conduct research on best practices for accelerator programmes, and publish research on the impact of accelerator programmes on an annual basis to track their success.

## **4. Further research**

This paper opens up many avenues for further research on accelerator programmes in South Africa. This is an exciting field of study and should be pursued. Future research should approach the topic from a more quantitative approach, expanding the number of accelerators investigated. This will provide a typology of accelerator programmes in South Africa.

The next logical step following this paper is to determine how start-ups that have graduated from an accelerator programme experienced the process and what value they derived from it. A further

study can be conducted to compare start-ups that have gone through an acceleration process with those that have not, to determine whether going through such a programme produces more sustainable start-ups with a competitive advantage over those that have not.

A further issue for research is to determine the impact of accelerators that require a fee to enter against those that do not. In addition, some accelerator programmes require that the start-ups give up a portion of their equity to the accelerator programme or its partners. It would be worthwhile investigating whether this creates a better model for success.

There is also an opportunity for a reliable database to be created of accelerator programmes, or even for an organisation such as the Global Accelerator Network, which lists accelerators from around the world on their database, to assist start-ups to connect with the right accelerator programme. Only two accelerator programmes from Africa are listed on this database, and they are not from South Africa.

## **5. Limitations**

This research interviewed representatives from three accelerator programmes, and the other two accelerator programmes' information was gleaned from media reports and their own websites, which provided sufficient information for analysis. The information collected therefore is not comprehensive and may have omitted aspects about the acceleration process due to this lack of information.

The information gathered from interviews with accelerator programme representatives was compared to the information publicly available. In most cases, what the interview revealed could not be verified through documentation, as little information is published about the programme.

Success is defined and measured from the accelerator's point of view; although this is a one-sided measure of success and self-reported, it was important to take it into consideration so that there at least was a basis of measurement for the purposes of this study. This can be improved upon in future studies that take the experience of the start-up into consideration, along with independent measures.

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# Appendices

## **List of companies investigated**

### LaunchLab

LaunchLab is an incubator and accelerator based at Stellenbosch University in the Western Cape. LaunchLab uses coaching and mentorship programmes to help entrepreneurs build successful businesses through partnerships with private organisations and entrepreneurs.

<https://launchlab.co.za/about/>

### Spark

Spark International is a global accelerator programme founded in 2011. It merged with YGAP, which is the fundraising and movement building arm of the organisation, headquartered in Australia.

<http://www.sparkinternational.org/#are-you-the-founder>

### MLab

MLab is the Mobile Applications Laboratory, which supports young innovators, founders, next generation coders and digital creatives to unlock the mobile apps economy in South Africa.

<https://www.mlab.co.za/about-us/>

### Not interviewed

#### Grindstone Accelerator

The Grindstone Accelerator is a structured entrepreneurship development programme that assists high-growth innovation-driven companies to become sustainable and fundable.

<https://www.knifecap.com/grindstone>

### Sw7

Start with 7 (Sw7) is a technology accelerator programme that focuses on companies with up to R50 million in annual turnover and assists them with strategy execution, access to market, deal structuring, scaling and funding.

<https://www.sw7.co/about/>

## Interview guide

# An exploratory case study of technology accelerator programmes in RSA through Resource-based Theory

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## *Research interview guide*

### 1. About the accelerator

- 1.1. How did the accelerator come about?
- 1.2. How long has the accelerator been in existence?
- 1.3. What is the accelerator's focus?
- 1.4. How many start-ups are admitted into the accelerator programme per year?
- 1.5. What are the selection criteria for admittance?
- 1.6. What is the process of the accelerator programme?
- 1.7. How is the accelerator programme funded?

### 2. Resources provided by accelerators

Firm resources can be divided into

- physical capital (technology, location, equipment and raw material),
- human capital (training, experience, judgement, intelligence, relationships and insight), and
- organisational capital (structure, planning, controlling, coordination of systems, and internal relationships)

that a firm uses to implement its strategies to achieve competitive advantage in the market.

By ensuring that these resources are:

- valuable (are able to exploit opportunities and neutralise threats in the environment),
- rare (few or no other organisations have the same resource),

- imperfectly imitable (these resources have a unique historical condition, are casually ambiguous, and socially complex), and
  - with no strategically similar substitutes that exist,
- firms can gain a sustained competitive advantage over prospective competitors (Barney, 1991).

## 2.1. Physical resources

- 2.1.1. What physical resources do you provide to resident start-ups?
- 2.1.2. How are these resources valuable?
- 2.1.3. How are these resources rare?
- 2.1.4. How are these resources imperfectly imitable?
- 2.1.5. How do you ensure that these resources are not easily substitutable?

## 2.2. Human capital

- 2.2.1. What human capital resources do you provide to resident start-ups?
- 2.2.2. How are these resources valuable?
- 2.2.3. How are these resources rare?
- 2.2.4. How are these resources imperfectly imitable?
- 2.2.5. How do you ensure that these resources are not easily substitutable?

## 2.3. Organisational capital

- 2.3.1. What organisational resources do you provide to resident start-ups?
- 2.3.2. How are these resources valuable?
- 2.3.3. How are these resources rare?
- 2.3.4. How are these resources imperfectly imitable?
- 2.3.5. How do you ensure that these resources are not easily substitutable?

## 3. Impact on start-ups

- 3.1. How many start-ups have been through the accelerator programme since its inception?
- 3.2. How do you define the success of the start-ups as a result of having gone through the programme?

3.3. How many of the start-ups have achieved this success?

#### **4. Continuous improvement**

4.1. Has the programme gone through any changes since its inception?

4.2. What are these changes and how did they come about?

4.3. Do you foresee further changes to the programme?