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Assessing the entrepreneurial ecosystem readiness to support high-growth digital startups in South Africa

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Assessing the entrepreneurial ecosystem readiness to support high-growth digital startups in South Africa.

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A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in the field of Digital Business.

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ABSTRACT

There has been a prevalence of studies that suggest that high-growth startups are an important determinant of national economic growth. Furthermore, with both the transition into the digital economy and the emergence of digital technologies, entrepreneurs and new ventures are increasing at an exponential rate globally. This has led to a rise in 'entrepreneurial ecosystem' studies that aim to understand how to establish environments that can best assist these new ventures.

The focus of this qualitative study was to explore and assess how the entrepreneurial ecosystem supports venture growth for high-growth digital startups in South Africa. In contrast to popularised local studies that focus on the material manifestation of the ecosystem, this study honed into the narratives of twelve founders within the framework of a dynamic capabilities model in order to explore how they identified, captured, and redeployed resources and opportunities as well as the role that location played in supporting their venture growth. The data was collected through semi-structured interviews and analysed using an exploratory approach. The contributions underline the dynamic relationship that digital startup founders have with other ecosystem actors. The first key finding revealed that the South African entrepreneurial ecosystem is primarily led by entrepreneurs who had developed advanced sensing capabilities, i.e., the ability to recognise opportunities within the entrepreneurial ecosystem. The second key finding revealed that all of the interviewed founders took on significant personal and financial risk when starting their businesses.

South African stakeholders show increasing concerns about the high-failure rate of startups. It was concluded that there needs to be two differentiated strategies to support high-growth entrepreneurship; one that supports experienced entrepreneurs, and one that is focused on nurturing younger inexperienced entrepreneurs. Linked to this, risk appetite should be viewed as an independent determinant for ecosystem growth; it is the missing glue required to promote innovative entrepreneurship. Lastly, recommendations were made for both ecosystem stakeholders and technology-based entrepreneurs looking to scale in the South African entrepreneurial ecosystem.

KEY WORDS

Entrepreneurial ecosystems, high-growth startups, digital technologies, digital economy, innovation

DECLARATION

I, Sabica Pardesi, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in the field of Digital Business at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.



Sabica Pardesi

Signed in the United Kingdom

On the 20th day of April 2021

DEDICATION

To the Giants in my life.

My late grandfather, Mr Haji Bilal (Iqbal) Pardesi, my hero, role model to strive for and *be* the best in life, in everything I am, do and how I relate to others. His charming and selfless nature inspires me to become the person he was when I grow up.

My grandmother, Mrs Jamila Iqbal, and great grandmother Mrs Zubaida Abdullah, both of whose dream was to have girls climb new academic heights in the family. You always stood by us proud and with unwavering faith. No amount of gratitude can sum up the positive impact you have had in our lives.

My mother, Ms Maryam Pardesi, thank you for your unwavering support, always believing in me and teaching me to never give up. This is a result of your sacrifices, patience, love, and confidence in me. The dreamer in me, owes it all to you.

My husband, Irfan Habib, for your kind emotional support, staying up long nights in solidarity, listening to me vent for hours on end, all year round and being my greatest fan.

To the entire Pardesi Family in South Africa and in Pakistan, for paving the way for me to fulfil my goals. I am incredibly blessed to have your ever-present encouragement, love and understanding throughout this process.

Lastly, I would like to dedicate this research to my brother, Omar Pardesi, and my future self for all the struggles we have had in our so-called “startups” during our academic years at Wits University. Hopefully after this dissertation, we will be a step closer to realising our big impossible dreams.

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- To the participants for generously sharing their knowledge and experiences and co-writing this study with me, I am grateful. Your thoughtful and candid participation resulted in a meaningful contribution to both theory and practice. I have immense respect and admiration for your hard work and the impact created by your ventures. I aspire to do the same for South Africa as well as my beloved home country Pakistan (one day).
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You really are who you are because of your ecosystem, the people you surround yourself with.

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LIST OF ACRONYMS

ANDE: Aspen Network of Development Entrepreneurs

BEE: Black Economic Empowerment

ICT: Information Communication Technologies

EE: Entrepreneurial Ecosystems

EC: European Commission

GDP: Gross Domestic product (GDP)

GEDI: Global Entrepreneurship and Development Institute

GEM: Global Entrepreneurship Monitor

GSMA: Global System for Mobile Communications

HGDS: High Growth Digital Startups

MVP: Minimum Viable Products

OECD Organisation for Economic Co-operation and Development

SME: Small Medium-sized Enterprise

WEF: World Economic Forum

4IR or 4.0: Fourth Industrial Revolution

CHAPTER 1. INTRODUCTION

Entrepreneurship is understood as an important driver for economic development, job creation and poverty alleviation (Herrington & Coduras, 2019). In the last decade, the concept of entrepreneurial ecosystem approaches has emerged as one of the most popular economic development policies for governments to address the widening geographical disparities in economic development and stagnation. Entrepreneurs and new venture startups are increasing at an exponential rate across the globe (Audretsch et al., 2019). These ventures are often characterised by innovation, novel business models and the use of digital mobile technologies such as mobile smartphones, mobile and cloud computing, social media, 3D printing, data analytics, platform businesses, artificial Intelligence (AI), machine learning, and Internet of Things (IoT) (Nambisan, 2017; Sussan & Acs, 2017). With increased internet penetration, digital technologies have become more pervasive in our daily lives, disrupting incumbent business, and revolutionizing industries from supply chains, to manufacturing, and delivery of products and services as well as their consumption (Thomas et al., 2020).

To manage and best assist these new ventures, research in the field of "entrepreneurial ecosystems" has exploded in attempts to describe, explain, and understand how economic agents interact in their environment and create shared value (Acs et al., 2017). Entrepreneurial Ecosystems (EE) can be defined as a set of interdependent actors (such as entrepreneurs, advisors, workers and mentors) and factors (cultural outlooks, policies, R&D systems, and networks) coordinated in such a way that they enable productive entrepreneurship or the creation and survival of high-growth ventures within a territory, (Stam, 2015).

In recent years, Africa has been receiving increased attention due to the persistently high rates of unemployment and rising levels of inequality. Moreover, many scholars have been recognizing Africa as an emerging economic powerhouse with a collective acknowledgment of entrepreneurial mindsets throughout the continent (Herrington & Coduras, 2019). In the context of South Africa, many reports including the Global Entrepreneurship Monitor South Africa (GEM SA) 2019/2020 report indicated that the state of entrepreneurship remains a grave cause of concern for the country. SA small

medium-sized enterprises (SMEs) are considered to be the backbone of the economy but more than 80% of SMEs fail in their first year (OECD Scoreboard, 2020). Established research indicates that not all forms of entrepreneurship are important for economic growth and the focus should rather be on high-growth firms instead of new and often very small firms (Stam et al., 2007; 2015). These are seen as a key drivers for both job creation and significant knowledge spillover effects in both developed and developing economies (Stam, 2015).

High-growth firms refer to “small businesses that become middle-sized and ultimately large businesses, over a comparatively short period of time, that are central to economic prosperity” (Storey & Greene, 2010, p.208). They are neither exclusively young businesses nor predominantly in high tech sectors, but they expand consistently in terms of turnover and or employment. However, this study explores young startups (under ten years old) particularly in the tech sector that are scaling, often bootstrapped, and or venture backed.

The use of digital technologies has introduced new types of business models, products and services, and customer experiences (Boulton, 2018; Nambisan et al., 2019). In comparison to traditional and physical business expansion, digital business models allow small startups to scale up in markets through the networks effect and digital adoption even before they have a physical presence in the market. Therefore, they transcend beyond local borders, create more jobs, and ultimately become more profitable, quickly. They also tend to exhibit high levels of productivity, innovation, internationalization, and investments in human capital (Thomas et al., 2020). Consequently, “the ability of a country to nurture the growth of such businesses is probably the most important element in enterprise development” (Storey & Greene, 2010, p.208; Thomas et al., 2020). To promote high-growth businesses global policy makers and governments strive to establish entrepreneurial ecosystems that are conducive to increasing the success of new ventures and their subsequent high- growth.

Thus, this study aims to unpack the role of the South African entrepreneurial ecosystem and assess its readiness in terms of enabling and supporting HGDS that were established between 2011 to 2020 and have achieved significant growth. Twelve South African HGDS founders were interviewed in relation to their successful transition from a

startup into a high-growth startup within the South African context. They were investigated for the quality of their interaction with prominent actors within the EE and how it influenced their activities, thereby identifying causal relationships. The focus was on how entrepreneurs identified, captured reconfigured resources and opportunities for their venture growth.

Chapter 1 discusses the research problem and objectives in more detail. Thereafter Chapter 2 provides a review of the literature to draw on key concepts such as the impact of digital technologies, HGDS and the role of the SA entrepreneurial ecosystem in the success of high-growth startups. Chapters 3, 4 and 5 will expand on the methodology employed and showcase the findings and analysis. Finally, chapter 6 will delve into recommendations that may potentially build on previous research on how the South African entrepreneurial ecosystem can be modified to better address the needs of tech entrepreneurs who are looking to scale up in South Africa.

1.1 Purpose of the study

The purpose of this qualitative study was to explore and assess how the entrepreneurial ecosystem enabled growth for founders of high-growth digital startups in South Africa.

1.2 Context of the study

This study was conducted in South Africa with a focus on current concerns regarding the entrepreneurial ecosystem. There is a flourishing stream of empirical, academic, policy and statistical research around the subject but this study is more focused on assessing ecosystem readiness from the perspective of high-growth founders or entrepreneurs, in an era of Covid-19 global pandemic.

One of the most relevant and contextually appropriate studies about entrepreneurial ecosystem includes reports by the Global Entrepreneurship Monitor (GEM), They have conducted the most informative and authoritative longitudinal studies on entrepreneurship and ecosystem conditions across 114 countries. In the GEM Monitor 2019, SA report, the country's entrepreneurial ecosystem was rated as one of the most challenging in the sample and one that has exhibited little sign of improvement in the

past few years (Bowmaker-Falconer & Herrington, 2019). Five contextual factors that bear relevance to this study include economy, high unemployment rates, the state of entrepreneurship, level of education, the Fourth Industrial Revolution (4IR) and the digital economy.

Economically, SA is underdeveloped, yet there is great potential and access to abundant natural and other resources. SA is not only one of the most industrialised economies on the African continent but a significant leader in many sectors. However, the country has seen a consistent decline in real gross domestic product (GDP) per capita since 2011.. Furthermore, the second quarter of 2020, saw a severe decline of -16% (April, May, and June) as the country operated under a widespread lockdown in response to Covid-19.

SA is one of the countries where unemployment and youth unemployment, in particular, remains persistently high. The unemployment rate expanded to 42.6% with over 11.1 million people unemployed according to the Q4 stats (Ismail-Saville et al., 2021). The long-term adverse effects of the pandemic are yet to be fully experienced by the country. Increase in unemployment, also suggests that employable people without incomes feed socio-economic challenges such as poverty and inequality – two other grave challenges that the country suffers from.

The state of entrepreneurship is one of the more important contextual factors to understand entrepreneurship. Across the Organisation for Economic Co-operation and Development (OECD), which comprises of 36 countries from North and South America to Europe and Asia-Pacific, SMEs account for 99% of all businesses and between 50% and 60% of value add. In contrast, SA SMEs contribute only 28% of formal jobs in the economy despite accounting for 98.5% of the number of formal firms (Vuba, 2019). It must also be noted that 56% of jobs come from 1000 employers which consist of the government and large corporations (Vuba, 2019). To add, the Doing Business, 2020 Report, demonstrates that it takes a South African entrepreneur around 40 days to register and start a business, higher than most countries in Sub-Saharan Africa. To put this in perspective, it takes Rwanda 4 days, Ghana 13 days, and Mauritius 4.5 days (Doing Business, 2020).

GEM SA Report (2019/2020) further emphasised that the established business rate is 3.5% while the business exit rate decreased from 6.0% in 2017 to 4.9% in 2019,

confirming that more businesses are closed, sold, or discontinued (Bowmaker-Falconer & Herrington, 2019). Furthermore, more than 80% of businesses fail in the first year while only about half survive the next five years (*OECD Scoreboard*, 2020). In addition to this, only 11.9% of respondents have entrepreneurial intentions, meaning one in every eight South Africans can be considered a latent entrepreneur who intends to start a business in the next three years. This is in stark contrast to African counterparts who boast 40% (Bowmaker-Falconer & Herrington, 2019).

GEM SA report (2019/2020) highlighted that failure of the education system has also led to economic stagnation, with focus on quantity as opposed to quality. Entrepreneurial education is not yet prioritized in the education system which is detrimental to the success of the country if South Africans are to benefit from the opportunities brought forward by 4IR and the digital economy (Bowmaker-Falconer & Herrington, 2019).

The digital economy is growing rapidly, especially in developing countries that have the potential to leapfrog on the back of globalisation and international tech transfer. Digital technologies can shift economies as transactions and new business models have the potential to solve problems at relatively low-cost and with speed. Digital transformation of markets can provide significant growth opportunities with new forms of exponentially reaching customers, greater connectivity between participants in different ecosystems thus driving a more inclusive and prosperous society (Bowmaker-Falconer & Herrington, 2019). According to the World Bank Group, the digital economy contributes significantly to the GDP in developed countries but developing nations are still catching up. In South Africa, there are 36.54 million internet users as of January 2020 and 62% internet penetration (Kemp, 2020). This excludes increased penetration and adoption figures post the Covid-19 global pandemic in 2020. This remarkable growth in connectivity has radically changed the way we play, communicate, work, and live in the last decade. Even with access to digital opportunities, South African's ability to make full use of these is limited by affordability, access, and education.

Considering these factors, the state of entrepreneurship remains a cause of grave concern with efforts from both public and private stakeholders to research, support and enable local entrepreneurs. In July 2019, the Department of Small Business Development announced measures such as making financial accessibility, introducing the Small Business Innovation Fund as well as launching incubation organisations and

university wide programs (Bowmaker-Falconer & Herrington, 2019). The GEDI report (2017) identified several structural factors that hinder growth in SA. These included the aftereffects of the recession, bureaucracy and red tape, economy dominated by large firms, dual economy with an existent economic divide between large proportions of the population, inadequate infrastructure, and the struggle against historical inequality.

The majority of ecosystem researchers have highlighted challenges such as skill shortage, misalignment of ideas, funding needs, over-regulation, and bureaucracy. However, the need for greater investment in skills, financing, innovation, and technology to boost wages and productivity is recognized (Bowmaker-Falconer & Herrington, 2019).

The reality is that only 15% of startups go the distance. In relation to other African countries, SA exceeds in many instances such as infrastructure, financial capabilities and an array of resources that are available, but the outcomes of entrepreneurship do not keep pace with the inputs (Allan Gray Orbis Foundation, 2019). Today with digital technologies, startups can harness millions of customers and achieve growth faster thus contributing significantly to employment and the GDP. Although it is a time of great opportunities, it comes with uncertainty and an array of challenges that are unique to each context (Thomas et al., 2020).

1.3 Research problem

The focus of this study was to understand the dynamics of the entrepreneurial ecosystem in which South African tech entrepreneurs operate. According to the Allan Gray Orbis Foundation, “never in SA, has there been such a crying need for entrepreneurs who not only succeed but who have the ability to positively impact…at the same time, it’s clear that these people are not receiving the support that would allow this to become a reality” (2019). Despite the concerns, the national ecosystem snapshot by ANDE (2017) indicated vast support available for entrepreneurs in the country. The major concerns as echoed by the Allan Gray Orbis Foundation (2019) are that even with the wealth of infrastructure and information, there is a gap in entrepreneurial support that does not meet the “end to end” needs of entrepreneurs.

Startup Genome’s measure (2017) revealed that the total tech and innovation ecosystem only contributes an estimated 1,5% to national GDP and close to 10 000 jobs with under

1000 startup founders having cashed out or exited (Levin, 2017). Metrics are required to measure how entrepreneurial activity is prioritised and what mechanisms are providing sustainable support. Due to the declining economic conditions, SA needs to encourage high-growth startups in the long-term. However, there remains a question whether the SA entrepreneurial ecosystem is conducive and prepared to harbour high-growth startups that require digital settings and environments to thrive and scale-up.

This study attempted to ascertain how conducive the business environment was for fast growing startups in terms of inputs such as financial resources, support capabilities, employable talent, networks, mentorship, and digital infrastructure while also assessing how these founders experienced support delivery from the various local private and public actors such as the government, formal institutions, corporates, as well as the end users or customers in the SA market. Much of the existing research in the field considers the physical production and material manifestation of entrepreneurial ecosystems instead of through cognitive and cultural processes such as individual narratives.

Thus, this research focuses on the way in which entrepreneurs interpret, analyse, and communicate ecosystem activities that have supported their subsequent growth in the SA EE. Their assessment was evaluated in terms of their dynamic capabilities to sense, capture, and reconfigure opportunities and how 'ready' the ecosystem was in making those available for growth. Their experience not only allowed for a deeper understanding of the social construction of the ecosystem but pinpointed the opportunities and challenges in the South African context.

1.4 Research Questions

Given the purpose of the study, the following research questions were formulated.

1. What characterises successful transitioning from a basic startup to high-growth startup within the South African context?

2. How did the location shape HGDS founders' capabilities in South Africa?

1.5 Significance of the study

Research indicates that high-growth businesses can lead to significant economic benefits. HGDSs are businesses that achieve scale through increasing turnover, employment and obtaining overall business growth, thus impacting the economy through contribution in employment and profits, (Blank, 2013). For a startup to achieve this transition, first, they are often led by ambitious entrepreneurs who are growth-oriented and driven by innovation, and second, they require a healthy environment, known as entrepreneurial ecosystems, that support their growth.

In the last decade, only 15% of startups have eventually turned into HGDSs or contributed to employment (Allan Gray Orbis Foundation, 2019). Empirical global and local studies highlighted challenges inherent within the entrepreneurial landscape. This study contributed knowledge by adding practical insights to existing ecosystem literature in South Africa. The majority of the ecosystem studies have produced extensive information on the high-level strengths and weaknesses of the entire ecosystem and hence this study offers an additional yet focused perspective on HGDSs. It not only allowed for a better understanding of the opportunities and challenges faced by high-growth entrepreneurs but also reiterated existing issues that have yet to be addressed by policy-makers and the leadership of the country.

Furthermore, the findings may benefit up and coming digital startups to curate a pathway for themselves that is adopted from the experiences of successful and unsuccessful high-growth startups within their context.

Lastly this study may also offer insights relevant to how startups responded to the global Covid-19 pandemic. The forced global hiatus posed increased uncertainty, and adversely affected whole sectors of the international economy, which led to overwhelming healthcare systems and decimation of small businesses. HGDSs shed light on how this difficult time presented them with opportunities or challenges as both industries and markets turned to forced digital transformation and technology adoption.

1.6 Delimitations of the study

Delimitations can be referred to the measure of controls placed on the study to narrow it down (Simon, 2011). The following delimitations have been identified:

- A sample of twelve South African high-growth digital startup entrepreneurs were interviewed based on convenience sampling. Their startup was recognized as high-growth due to expansion within South Africa and abroad.
- Only qualitative methods were applied. This method will provide a high-level exploratory understanding of the proposed concepts.
- Digital infrastructure, digital divide, digital literacy as measurements are concepts that contribute to the study but are aspects that are beyond the scope of this study.
- Policy development and its effects on entrepreneurship or the technicalities of a digital ecosystem are also beyond the scope of this study.

1.7 Definition of terms

Definitions relevant to this study are listed below. However, these terms may have varying definitions in different contexts.

- **Digital Technologies:** Digital technologies entail the use of connected devices that enable the access to cyberspace and involve the use of ICT technologies.
- **Digital economy:** An economy that focuses on digital and computing technologies.
- **Entrepreneurial Ecosystem:** "a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship"(Stam, 2015, p.1765).
- **Entrepreneurial activity,** as an *output* of the entrepreneurial ecosystem, is considered the process by which individuals create opportunities for innovation, (Isenberg, 2011). This output can manifest in many ways such as innovation startups, scaleup or growth businesses or entrepreneurial employees that contribute to new value creation (Stam, 2014).
- **Founders:** individuals who established one or more startup from conceptualization through to operation.

- **High-growth digital startup (HGDS):** is a fast-growing startup in terms of employment and or turnover that has already overcome the initial phases of startup activities and is offering a digital or technology driven product or service (Blank, 2013; Thomas et al., 2020). These are businesses entering a new segment by providing a totally new offer based on digitally driven solutions – using digital infrastructure, technology, or platforms.
- **Productive Entrepreneurship:** refers to "any entrepreneurial activity that contributes directly or indirectly to net output of the economy or to the capacity to produce additional output" (Baumol, 1993, p.30; Stam, 2018, p.7).
- **Startups:** Companies in existence for less than 10 years (Atkinson & Wu, 2017).
- **Venture Capitalist**: An investor who provides funds to startups or small businesses because they can earn a massive return on their investments if these companies are successful.

1.8 Assumptions

For this study, the following assumptions will be made:

- The participants played a significant leadership role (as a founder or executive) in the growth of their startup and had experience of substantial interactions with the ecosystem.
- The participants were honest in their reflection of perspectives and experiences in this study.
- Participants may be biased given that this study could have reputational implications on their brand.
- The participants had a clear understanding of the topic of entrepreneurship and ecosystems and were able to clearly articulate both their positive and negative experiences in their growth journey.

CHAPTER 2. LITERATURE REVIEW

Introduction

The purpose of the qualitative research is to explore and understand how entrepreneurial ecosystems can enable growth for high-growth digital startups in South Africa. This chapter defines and reviews the main concepts of the study, which include high-growth digital startups (HGDS), and entrepreneurship ecosystems in the context of South Africa.

This chapter is organised as follows: (2.1) provides a background into entrepreneurship in the digital era. Section (2.2) attempts to clarify why HGDSs are important for the purpose of regional economic development. This will then lead to section (2.3) which discusses the need for healthy entrepreneurial ecosystem approaches that can support high-growth startups in the context of SA. Lastly section (2.4) will provide a proposed theoretical model to guide and explore how entrepreneurs can attempt to assess ecosystem readiness in favour of venture growth in South Africa.

2.1 Background: entrepreneurship in the digital era

The digital era is a time characterized by technologies that are exponentially increasing the speed and breadth of knowledge consumption and turnover within the economy and society. Technology has not only become more pervasive in our daily lives but there is increased global technology-based competition that has made it crucial for economies to keep innovating to maintain competitive advantage (Thomas et al., 2020). Digital technologies are regarded as the “the biggest transformation in business that the world has seen in over a century” (Thomas et al., 2020, p. 12). The infusion of new digital technologies such as mobile devices, mobile computing, cloud computing, social media, 3D printing, and data analytics are radically changing the way people work, live, communicate, and play.

The ICT sector, in the last 15 years, has grown from 1.5% to 3% of the global economy and has played an instrumental role in digital advances. The GSMA report on mobile economy (2020) indicated that in 2019, mobile technologies and services generated $4.1 trillion of economic value added (4.7% of GDP) globally. Furthermore, this figure will

approach 4.9% in GDP by 2024 as countries benefit from increased productivity and efficiency brought about by the increased adoption of mobile services (*The Mobile Economy 2020*, 2020). With this increased digital technology diffusion, there is a new breed of business models, platforms and services that are disrupting incumbent industries ranging from finance to communication, advertising, operating systems, real estate and transportation (Stone, 2017; Sussan & Acs, 2017). There is a fundamental shift in global economies where cutting-edge innovations are pushing boundaries of global trade.

These technologies have transformed the nature of uncertainty that is associated with entrepreneurial pursuits, processes, and outcomes. According to Nambisan (2017), digital technologies have overturned two broad assumptions of traditional entrepreneurial processes and outcomes. First, there is a shift from impermeable or stable boundaries to increasingly fluid boundaries. For instance, outcomes such as a product or service can be tailored to features, scope and market reach. This makes outcomes "intentionally incomplete" (Garud, Jain, & Tuertscher, 2008; Nambisan, 2017) meaning that after they are introduced, they continue to evolve in scope, features and value of offering. Furthermore, entrepreneurial processes relate to spatial boundaries, which means there is fluidity and greater flexibility of where entrepreneurial activities are carried out (Nambisan, 2017). There is a nonlinearity into how entrepreneurial processes unfold which increases unpredictability.

Secondly, digitization has led to a shift from a "predefined or focal agent to a dynamic collection of agents with varied goals, motives and capabilities" (Nambisan, 2017). In the locus of entrepreneurial agency, there is a broader, more diverse set of continuously evolving actors that partake in business activity. For example, there is emergence of novel digital infrastructures such as crowdfunding systems that attract investments from the public which contrasts traditional forms of business financing. Another example includes digital marketplaces (ecommerce) that have transformed retail industries and convenience or social media which has disrupted traditional forms of marketing. Entrepreneurial activity is transforming in unprecedented ways leading to more collective ways of pursuing entrepreneurship (Nambisan, 2017).

Digital technologies can manifest in three distinct yet related elements – digital artifacts, digital platforms, and digital infrastructure. It is important to understand these concepts

as this study will seek to understand startups in the digital field. These startups will harbour any one form of these elements as their business value propositions.

1. **Digital artifacts** can be defined as a digital component, application or media content that forms as part of a new product, or service and offers a specific functionality or value to the end user. These artifacts are consumed through physical forms or devices ranging from smartphones, smart watches, appliances, apparel, automobiles etc. These can be stand-alone softwares or hardware components on a physical device. Examples include Oral B's connected toothbrush, Amazon Dash button or fitness applications on smart watches. They form part of a broader ecosystem of offerings that operate on a digital platform.
2. **Digital platforms** can be defined as a shared, common set of services and architecture built to host complementary offerings, which include digital artifacts (Parker, Van Alstyne, & Choudary, 2016; Tiwana, Konsynski, & Bush, 2010; Nambisan, 2017). An example of a digital platform includes Googles Android platform or Apple's iOS platforms that offer complimentary apps to run on respective smartphones.
3. **Digital infrastructure** in relation to platforms differ in a sense that they provide the tool and systems that offer communication, collaboration, and computing capabilities to support innovation and entrepreneurship. Examples include cloud computing, data analytics, online communities' marketplaces, social media, and 3D printing.

All three elements have led to the democratization of entrepreneurship allowing a greater number of diverse people in all stages of entrepreneurial activities to explore new ideas, test concepts, develop products, secure funding, and launch projects at a much faster rate compared to traditional ways of entrepreneurship. Digital artifacts, platforms and infrastructure offer a wealth of opportunities for entrepreneurs as they can continuously improve and develop complimentary products and services (Nambisan, 2017). In this age of abundance, information, tools, and support networks are also accessible to entrepreneurs via the internet. This makes it easier to start businesses and access markets quickly. For example, big data or "open data" in public transportation, health and education has enabled non-profits organisations to discover and tackle social problems which lead to opportunities. Consequently, digital technologies have broader public policy implications. These new opportunities can bring forth new forms of challenges for government or policymakers. For example, public leaders need to

implement data policies or practices that serve to regulate new forms of business activities in favour of ensuring security and safety of citizens. Ultimately increased competition and the ease of innovation has led to the evolution of industries, knowledge sharing and spillover effects which positively impact markets and living standards of society.

Today, without ICT, value propositions offered by international startups like Uber and Airbnb would not be technically feasible (Song, 2019, p. 2). These startups have become global market leaders within less than 10 years (Sussan & Acs, 2017). The rate at which digital solutions are consumed is detrimental to the success of the startup as competition has become "Schumpeterian," making it a "grow fast or die" environment (Song, 2019). This means that businesses can not only scale up quicker to dominate markets but at the same time run the risk of being displaced by competitors (Song, 2019). The network effects allow the ability for businesses to create platforms, solve a customer problem and quickly scale. Here the first mover advantage is a standard strategy which involves securing a critical mass of users necessary for survival and profitability (Song, 2019).

"Entrepreneurs and new venture startups are increasing at an exponential rate across the globe and with it scholars and practitioners are concerned with the quantity and quality of entrepreneurial activity" (Audretsch et al., 2019, p.313; Stam & van de Ven, 2019). There is increased recognition that high-growth entrepreneurship is more important for economic growth (Stam, 2015). The next section will unpack the characteristics of high-growth businesses in the digital field and highlight their importance for this study. Some examples of South African technology-based startups include Aerobotics (disrupting the agriculture industry by providing intelligent monitoring tools such as drones); FinChatBot (provides chatbots to automate customer services in the banking sector), and Giraffe (recruitment app for the underserved lower-end South African job market).

2.2 The role of high-growth startups in economic development

2.2.1 *Defining high-growth startups*

There is an emerging consensus that high-growth entrepreneurship is specifically important for economic growth. Blank (2013, p. 208) defines a startup "as a temporary

organization searching for a repeatable and scalable business model". Often it is a complex venture started by someone with a rough business idea to expand its scope and eventually evolve into a steady enterprise. The organisation is designed with complex human, material, and financial resources, and is risk intrinsic to create a new product or service under extreme conditions of uncertainty (Thomas et al, 2020). Behind the prospect of becoming a company, the business idea needs to first evolve into a business model that is "scalable" for growth.

In contrast, Blank (2013) defines a high-growth startup (HGS) as a small business that becomes middle-sized and ultimately large, over a comparatively short period of time. It can be framed as a fast-growing startup or a high-growth firm (HGF) that has already overcome the initial phases of startup activities. A study by OECD (2013) attempts to provide a measurable definition, "a high-growth firm of 10 or more employees that grows either its employees or turnover by an average of more than 20 percent per year for three consecutive years" (Audretsch, 2012, p. 2). A univocal definition of a high-growth business does not exist as the characteristics that distinguish HGS from a startup are dependent on the context in question, the sector of operation and the business model (b2c or b2b) (Brown & Mason, 2012). This is important as HGS selected for this study indicated growth either in terms of employment and or turnover over the last decade.

According to some studies, high-growth startups stand out for some parameters such as market traction (1 million users in the B2C) or annual turnover (1 to 10million dollars), annual revenue growth or increased employment headcount for three years running (Thomas et al, 2020). Their ambition is to become a "Gazelle", a startup characterised by rapid growth and expansion around $1million annually, or "Centaurus" valued at more than 100 million dollars and lastly a "unicorn" valued over 1 billion dollars. These high-growth firms are rare, especially unicorns. Recently, there is also an emergence of a new cluster of startups known as Minicorns (valued at $1 million) and Soonicorns (close to reaching the $1billion mark).

In essence HGS grow substantially and consistently over time. They have already developed a product or service, have a well-defined business model that is scalable and repeatable and are focused on market growth to take the company forward in a controlled and sustainable manner (Thomas et al, 2020). HGS are not exclusively high tech or young businesses and only a few are venture backed. South Africa has seen

several high-growth businesses over the decades including Nandos, Discovery Vitality, Yoco, Travelstart, Naspers and MTN (GEDI, 2017).

This research will focus on high-growth *digital* startups which involve businesses that make the use of digital artifacts, platforms, and infrastructures to provide products or services to the South African market.

2.2.2 ***Perspective on startups in South Africa***

First, in a wide array of entrepreneurship literature, SA startups are understood as a sub-category of small medium enterprises (SMEs). SMEs are considered crucial to development of economic growth according to the NDP 2030. Both policy efforts and white paper research have laid down South Africa's ambitions to emulate job creation through support of SMEs. Research shows that they are micro enterprises created primarily for self-employment, to ultimately fill a need and are risk averse (Isenberg, 2011). This does not mean that micro businesses do not grow but that there is little evidence of these to turning into high-growth businesses without an innovative edge.

Economic development stages vary across countries and developing countries are more necessity driven – thus the reliance on SMEs. Necessity-driven entrepreneurship is characterised by a prevalence of small businesses and informal sectors which is not detrimental to the economy but does not contribute significantly to economic growth This is because promoting small businesses lead to employment of fewer people and unproductive businesses in the long-term, (Herrington & Kew, 2015, Herrington, Kew, & Mwanga, 2016 and Herrington & Kew, 2017; Herrington & Coduras, 2019).

(GEDI, 2017) report on the South African Ecosystem conducted an analysis on the Total Entrepreneurial Activity (TEA) using data from GEM. It also stated that the least competitive countries were the ones with more self-employment. There is a high failure rate of small businesses, if SMEs that survive remain micro to small businesses, then no new jobs are created.. TEA was negatively correlated with growth and prosperity (GEDI, 2017). SA formal SMEs account for 98.5% while their contribution to the formal job market is only 28% in comparison to developed countries which is 50-60%. This shows that an increase in entrepreneurial activity does not necessarily guarantee an

increase in successful creation of startups who have a positive local impact in the medium to long-term (Thomas, et al., 2020).

Despite this growing recognition in entrepreneurship studies, the term startup has taken on many meanings. There is a near-universal confusion between the concepts of startups and SMEs (Isenberg 2011). Global policies are concerned with quantifying the number of SMEs (including startups) produced and supported rather than the number of startups that transition into high-growth businesses (Herrington & Coduras, 2019; Mamburu, 2017). The government and other economic stakeholders regard startups as SMEs and lump them together when allocating resources (Isenberg, 2011). SMEs are essentially self-employment businesses in entrepreneurship (Isenberg, 2011). Moreover, SMEs are perceived to eventually grow and outsmart large incumbents but empirically there is little evidence that suggests that a transfer from micro to macro enterprise transition happens (Isenberg, 2011). Yet many policymakers assume that supporting SMEs directly correlates to economic development (Isenberg, 2011).

Furthermore, Lafuente et al. (2018) supports this emphasizing that increasing the number of entrepreneurs may not always prove good for the economy, especially if hi-tech multinational companies can enter and create greater employment (Herrington & Coduras, 2019). It must also be noted that 56% of jobs come from only 1000 employers which consist of the government and large corporations (Vuba, 2019). There is a greater reliance on big corporates to create jobs which does not ultimately lead to productivity and new innovations. GEDI (2017) highlights that as countries become more developed, more people leave self-employment to work for other organisations and there is a shift from quantity focus to quality as entrepreneurs become more innovative.

This does not seek to negate the importance of SMEs but rather suggests that governments and public policies should adopt a differentiated strategy to enabling high-growth businesses realise their potential for growth as separate to SMEs. Isenberg (2011) supports this by stating that blanket policies seeking to help all SMEs are inefficient. Mason & Brown, (2013) emphasized that there is a need for policies to shift from low-productivity self-employment to more productive innovation entrepreneurship.

2.2.3 *Promotion of high-growth digital startups*

In the last decade, a literature survey found 20 studies across different developed economies that support that a small group of high-growth businesses contribute to a disproportionately large share of employment growth (Brown & Mason, 2012; Mamburu, 2017). It is argued that the size of the business is less significant than rapid growth that characterizes the businesses. These studies also stated that these gazelle firms were among the most productive and innovative firms in their study – contributing significantly to not only economic growth but to their specific industries (Li and Rama, 2013; Bos & Stam 2014; Mamburu, 2017).

Isenberg (2011) distinguishes that these high-growth startups can have "spill over effects," such as the creation of tangible stimulus within the economy to drive competition, promote innovation, and efficiently improving allocation of resources (Brown, et al., 2017). This is because they accelerate the reallocation of jobs from old to new industries while contributing to job creation (Bos and Stam 2014; 2018). HGS exhibit high levels of productivity which can ultimately also influence the "transformative effect". Levin (2017) explains that high-growth startups can "make things seem like they are going faster than they are, and thereby actually make things go faster." Thus the presence of these business are beneficial to the development of other enterprises in the context (Thomas et al., 2020).

Scaling businesses also have specific needs such as market access, high levels of human capital, research & development, guarantees of intellectual property rights, recognition of open innovations such as policies and productive relationships amongst business stakeholders that offer relational forms of support (such as such as network building, institutional alignment of priorities, strategic guidance, leadership development, and mentoring) (Lerner, 2010; Mason & Brown, 2013a; Thomas et al., 2020). In light of the differentiated requirements of HGS, differentiated policies should identify potential HGS and seek to create favourable conditions to drive their productive growth (Mamburu, 2017). For example, fast growing businesses require extensive funding resources to enable growth such as debt financing, crowd-funding, and or venture capital while SMEs with slow growth can survive on money-based facilities such as grants, subsidies of tax incentives (Lerner, 2010). However only focusing on high-growth businesses may also be dangerous as they may not be persistent overtime. Rather, it is

more important to create conditions or ecosystems where businesses are likely to achieve growth faster (Mamburu, 2017).

2.3 Entrepreneurial Ecosystems (EE)

2.3.1 *Entrepreneurial Ecosystems*

Business environments that can offer specialized resources for venture growth are recognised as Entrepreneurial Ecosystems (EE). With Industry 4.0 and the emerging new digital innovations, stakeholders will be presented with new challenges to handle technology, management, government policies and stakeholder engagements (Thomas et al., 2020). The focus of this study is to understand how HGS operate within the SA EE and how the EE can, in turn, support and aid their growth in the digital field.

The metaphor of 'entrepreneurial ecosystems' has been popularised for the last two decades in attempts to understand how to best establish business environments that are conducive to increasing the success and sustainability for newly established ventures (Audretsch et al., 2019). Entrepreneurial ecosystems (EE) can be defined as "a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship within a territory" (Stam, 2015, p.1765). The term 'Entrepreneurial' refers to "the process by which new opportunities are explored, evaluated and exploited" (Stam & van de Ven, 2019, p.3). While 'productive entrepreneurship' refers to "any entrepreneurial activity that contributes directly or indirectly to net output of the economy or to the capacity to produce additional output" (Stam, 2018, p.7). It is measured as entrepreneurial activity that creates aggregate welfare increases (Stam, 2018). This also includes failed business ventures as those are instrumental in deploying human capital, lessons that fertilize breeding grounds for subsequent or 'catalyst ventures' creating net social value (Stam, 2018).

Stam (2015), explained that ecosystems led to research into locations as influencers of entrepreneurial activity. According to Stam (2015) the EE is made up of a collection of regional actors which include; entrepreneurs, advisors, workers, mentors, and macro factors such as cultural outlooks, policies, R&D systems, and network. The actors within the ecosystem absorb the necessary resources and produce critical resources for others that consequently spillover within and beyond the boundaries of the ecosystem (Acs et

al., 2017). The ‘territory’ (countries, regions, cities) is physically defined but its effects are not limited to the geographical area. This will be especially important as startups in the digital field have the potential to scale beyond geographical borders. In sum, entrepreneurs do not identify or pursue opportunities in isolation but that all the regional actors contribute to the creation and survival of high-growth ventures.

EEs are studied by scholars and practitioners as they are concerned with the quantity and quality of entrepreneurial activity while policymakers study them to identify what policies can be implemented to encourage higher levels of entrepreneurship. Studying contexts can provide deeper insights into cultural, social, political, and economic structures and processes associated with a place and journey experienced by the entrepreneur. This enables relevant stakeholders to not only identify bottlenecks but to improve entry and exit barriers experienced by local entrepreneurs. It is further clarified that location is not a cause or an isolated measure of “control” of entrepreneurial activity, but rather reflects and defines the kind of activities and practices that are born within the place (Stam, 2015).

Research has focused on thriving high-profile EEs and some of these include Silicon Valley, Tel Aviv, Edinburgh (Spigel, 2016) and Denmark (Isenberg, 2010). The majority of the studies have attempted to identify the core attributes of what constitutes ‘successful’ or ‘vibrant’ EEs. In this research field, every country has dedicated resources to understand their own emerging ecosystems. Furthermore scholars have found that “regions with vibrant EEs have high concentrations of entrepreneurship which means that they are able to generate a higher number of novel ventures, products, innovations and initiatives” (Carayannis, Provance, & Grigoroudis, 2016; Feld, 2012; Saxenian, 1990; Spigel, 2017; Roundy & Fayard, 2019, p. 98). To promote vibrant (well-developed) EEs, there is a flourishing stream of research on ‘ecosystem approaches’ which are models and indices theorized to understand how the various components of ecosystem function together to produce entrepreneurship.

2.3.2 *Entrepreneurial Ecosystems Approaches*

The continuous research has given rise to emerging EE approaches or frameworks focusing explicitly on how urban and regional contexts affect entrepreneurship (Stam & Spigel, 2016). There are many quantitative and qualitative attempts to theorize and

measure impact of EEs. For example, scholars from the Global Entrepreneurship Monitor (GEM) have documented the prevalence of entrepreneurial activity across 114 countries globally (Stam, 2018).

The GEM (2017) report, Figure 5 depicts the strengths and weaknesses of the South African entrepreneurship context. It compares it to other countries within its respective economic group.

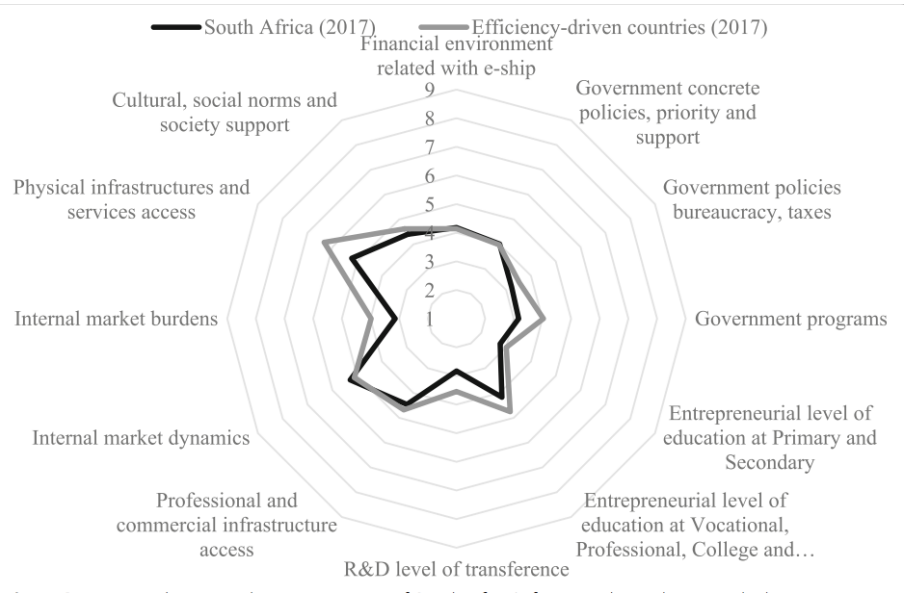


Figure 1: Comparison between the average state of South Africa's framework conditions with their average state in its respective economic group (Angola, Madagascar, Mozambique as Sub-Saharan participants).

The spider diagram above depicts that South Africa shows comparable scorings to other efficiency-driven countries in the group for the following conditions:

- financing for entrepreneurs,
- government policies and support,
- bureaucracy and taxes,
- school entrepreneurial education and commercial and professional infrastructure.

It indicates a poorer performance in:

- physical infrastructure and services access,
- internal market burdens,

- government programmes,
- post-school entrepreneurial education and
- R&D transfer.

The frameworks are meant to simplify the worldview using variables that describe and measure relationships. In sum, the GEM report indicated that the South African conditions framework is not sufficiently supporting a strong economic contribution from entrepreneurial activity (Herrington & Coduras, 2019). It further noted that an unhealthy ecosystem setting attributed to the lack of opportunity-driven entrepreneurship and poor institutional development in the long-run (Gomes, Vendrell – Herrero, Mellahi, Angwin, & Sousa, 2018; Herrington & Coduras 2019).

Pioneering works stemmed from Cohen (2006), Isenberg's six domains of entrepreneurship ecosystem (2010), and Feld's nine attributes for a successful ecosystem (2012). EE frameworks centralise entrepreneurs; how they discover entrepreneurial opportunities and scale up new innovations. However, according to (Isenberg, 2011) entrepreneurs are not the drivers of the ecosystem, as the ecosystem is made up of many different types of actors. In successful EE cases, small nudges from public servants and local business communities contribute to creating a self-regulatory and sustainable cycle of innovation, growth and reinvestment thus making it attractive for policymakers (Spigel, 2017). Feld (2012) argued that well established ecosystem approaches can contribute to building an engaged community where entrepreneurial actors can co-create and support innovative new firms to start and scale. Thus, ecosystem approaches seek to create value by harnessing local skills or specialities rather than depending on tax incentives or grants (Stam & Spigel, 2016).

To unpack the concept of EE approaches, in this section, three popular and distinct EE approaches will be identified and compared in relation to literature provided on the SA EE. This will allow for an understanding of the gaps inherent in the research and justify why this study will contribute to research in this field.

1. Isenberg's Six Domains

As an entry point into the discussion of EE approaches, Isenberg's Six Domains (Figure 3) serves as a popular model created as part of the Babson Entrepreneurial Ecosystem Project (2011).

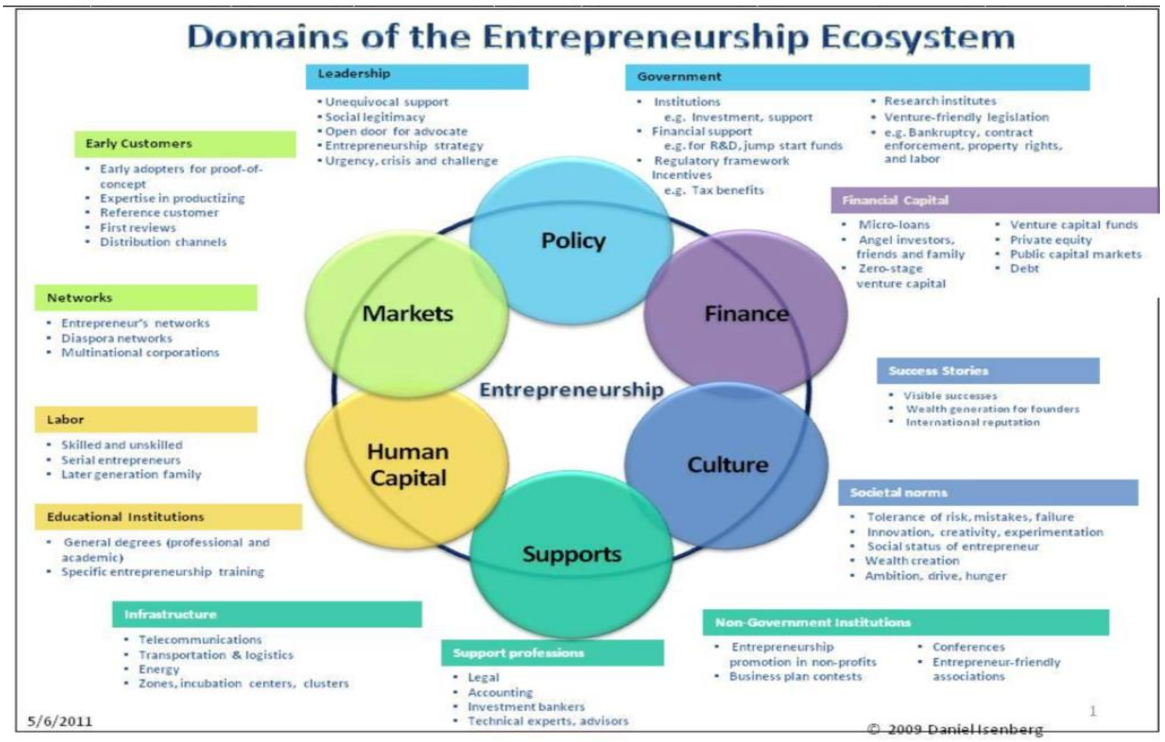


Figure 2: Six Domains of Entrepreneurship Ecosystem (Isenberg, 2010).

In this model, Isenberg (2011) has identified six distinct components (policy, finance, markets, culture, human capital, and support) that affect an entrepreneur in business activity, thus capturing their world view. EE studies emphasize primarily on the identification of successful EE components and whether these provide early-stage investment, support (e.g., through incubation or acceleration programmes), entrepreneurial or skilled talent pool, availability of social networks, entrepreneurial knowledge, successful entrepreneurial stories and values that promote entrepreneurship within the context of the EE (Isenberg, 2010; Neck, Meyer, Cohen, & Corbett, 2004; Roundy & Fayard, 2019).

Researchers are primarily concerned with the following; how the EE components are organised and connected within their own contexts (e.g., Motoyama & Knowlton, 2017), to determine the life cycle of their EE (e.g., Mack & Mayer, 2016) and ecosystem-level performance (Stam, 2018; Roundy & Fayard, 2019)

Isenberg's model serves as a high-level broad snapshot of the various stakeholders that historically exist to allocate resources and to support entrepreneurial activity within a particular region. This model lacks any causal paths (arrows) or any indication of how

activity is conducted or connected. According to Isenberg (2011), this was intentional to not prescribe a typical path or way of working as entrepreneurial activity is highly unpredictable. This was also done in part to leave a "high-bandwidth" for the various complex variables to function together to "cultivate their own" environments. This model allows for a holistic snapshot of the ecosystem which can help policymakers and businesses to identify key channels or bottlenecks within a region (Isenberg, 2011).

The focus of this model was to gauge EE effectiveness through the density and "connectivity" amongst the various components. However, scholars (Roundy & Fayard, 2019; Stam, 2018) argue that this approach can be developed further. For example, it offers a broad perspective or identifies bottlenecks but fails to capture the 'how' and micro-level functioning of the ecosystem.

2. Stam's Measuring Ecosystem Elements (2015)

To build on EE literature and move beyond EE as a metaphorical concept, (Stam, 2015; Stam & Spigel, 2016) devised a synthesized model (Figure 4) that depicts the EE as a complex system. The important ecosystem elements have been extracted from previous literature and reorganised as four ontological layers.

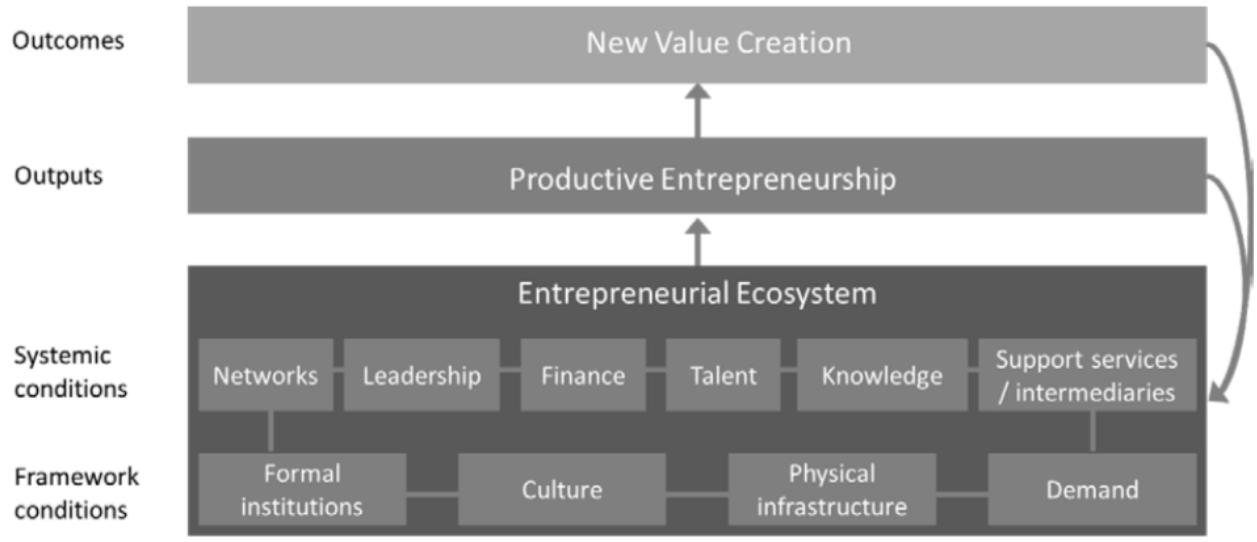


Figure 3: Key Ecosystem elements model - outputs and outcomes of the entrepreneurial ecosystem (Stam 2015)

The Stam (2015) model differs by providing a systematic layered view with causal depth ensuring that a system has many interacting components (Stam et al, 2018). The four layers consist of framework conditions, systemic conditions, outputs, and outcomes. There are arrows indicating upward causation which depicts how new value is created through intermediate causes and downward causation showing outputs and outcomes of the system looping back to provide feedback into the system conditions over time (Stam et al, 2018). The outputs represent entrepreneurship while outcomes represent value creation and structural change (Stam, et al. 2018).

The framework conditions include social aspects such as formal institutions and culture, physical infrastructure that enables human interaction as well as demand, access to buyers of goods and services (Stam, et al, 2018). These conditions serve as fundamental causes of value creation in the EE (Stam et al, 2018). Next, the systematic conditions are viewed as the heart of the ecosystem, it includes networks of entrepreneurs, leadership, finance, talent, knowledge, and support services that work together with framework conditions leading to entrepreneurial activity (Stam, 2018). For an ecosystem to be successful, it should not be left up to one actor to drive it, as every actor is defined by his or her individual motive. The presence of these elements and their interaction is said to be essential for the overall success. Below Table 1, unpacks the various conditions that make up Stam's ecosystem model.

Table 1: Ecosystem elements model - conditions (Stam, 2015)

Elements	Description
Formal institutions	The rules of the game in society, in particular the quality of government.
Entrepreneurship culture	The degree to which entrepreneurship is valued in a region.
Physical infrastructure	Physical infrastructure and the position of a region
Demand	Potential market demand
Networks	The connectedness of businesses for new value creation
Leadership	Leadership that provides guidance for and direction of collective action
Talent	The prevalence of individuals with high levels of human capital
Finance	The supply and accessibility of finance for new and small firms
New knowledge	Investments in new knowledge
Intermediate services	The supply and accessibility of intermediate business services

This model is distinctive as it provides insights into how entrepreneurial ecosystems can function as a whole system and that entrepreneurship is a conditional output of the broader system (Stam, 2018). This model also suggests important implications for the individual entrepreneur. It was emphasized that even though the entrepreneur is a single actor who can perform a limited set of roles, they are dependent on all the other actors to accomplish essential functions for the ecosystem to thrive. Consequently, the entrepreneur must make strategic decisions in terms of how they utilise the proprietary resources, how they interact with the institutional functions and what other actors help them achieve self-interests and collective objectives (Stam, 2018).

Stam's model examines how EE components are connected and was an empirically focused study that traced the prevalence of high-growth firms and how entrepreneurship is related to entrepreneurial ecosystems in the Netherlands. They established metrics to each component of the ecosystem (found in Appendix A) and were able to determine that small high-growth firms strongly influenced the quality of the region's entrepreneurial ecosystem. This model aimed to better understand instead of predict how entrepreneurial economies function to "produce entrepreneurship as an emerging property of the system" (Stam, 2018, p. 17).

Despite the insights it produced, it is not clear 'how' EEs and their core attributes influence the said entrepreneurs. The data used was readily available and selection had been pragmatic which led to an insufficient coverage of structural changes within the system. Structural changes within complex systems refer to radical changes in technology, institutions, and organizational change. Stam (2018) emphasized that the EE systems framework has important implications for individual entrepreneurs. Entrepreneurs are a single actor with a limited set of roles but dependent on many other actors to accomplish functions and drive a thriving ecosystem. Because of dependency, entrepreneurs need to make strategic decisions that concern resource endowment and working with institutional functions to achieve self- interest as well as collective objectives. The way entrepreneurs allocate their efforts are fluid, evolve over time as a result of individual behaviour but not entirely as they are prompted by the interdependencies that accumulate among different stakeholders engaging in the emerging ecosystem (Stam & van de Ven, 2019). Stam further emphasized the importance of research in entrepreneur's local contexts, to uncover detailed insights on

how developments in the ecosystem influence an individual entrepreneur regarding risk, time, and cost to their business or startup.

3. Roundy & Fayard's model of dynamic capabilities (2019)

To build on this (Roundy & Fayard, 2019) proposed a theoretical model that explains how EEs can influence the way entrepreneurs identify and capture opportunities, which is known as the model of impact of EEs on *dynamic capabilities*. This model was developed as an application of Teece et al's seminal works on dynamic capabilities.

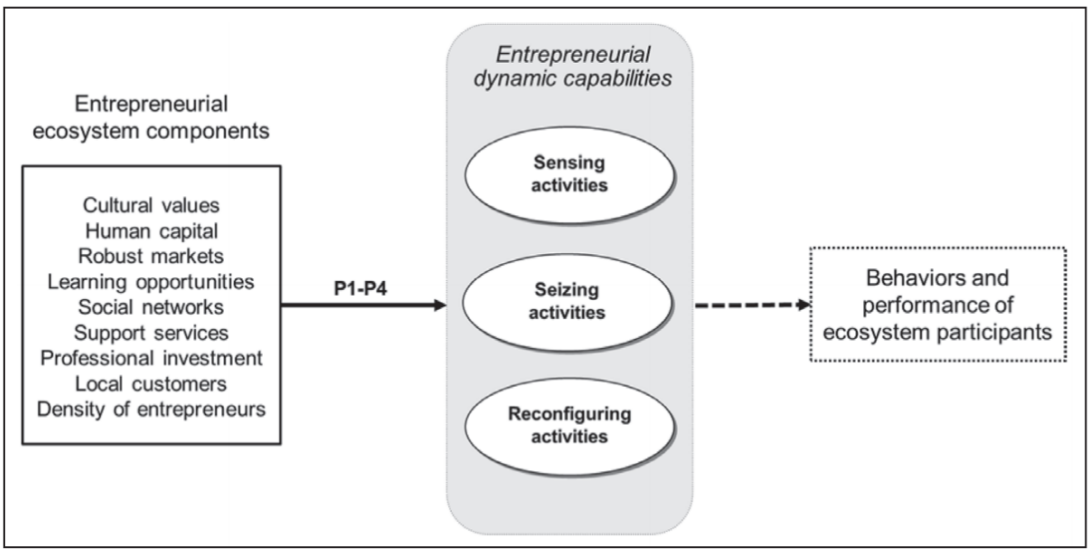


Figure 4: A Model of the Impact of EEs on dynamic capabilities (Roundy & Fayard, 2019)

"Dynamic capabilities are a firm's ability to sense, pursue and reconfigure opportunities and resources in response to quickly shifting environmental conditions" (Roundy & Fayard, 2019, pp. 98–99). In entrepreneurship application, dynamic capabilities essentially refer to a business' agility to respond to internal and external influences. It addresses how firms recognise both the 'inside and 'outside influences to build unique products and services and gain competitive advantage (Antonacopoulou, Ferdinand, Graca, & Easterby-Smith, 2005; Roundy & Fayard, 2019).

These are conceptualised in three sub-capabilities: (a) sensing which refers to the identification and assessing of opportunities (b) seizing which requires mobilising resources to pursue opportunities and capture value and lastly (c) reconfiguring which

means to continually renew, reconfigure, and redeploy resources to pursue opportunities.

These are further summarised as follows:

1. **Sensing capabilities** involves the ability to scan both local and global markets, gather information, sense market opportunities, and assessing these with customer needs and problems. Examples of sensing activities include research, observation of best practices, gathering economic information on environments, prior work experience and responding to changing customer demands. A firm's sensing capabilities are influenced by two general processes called searching and learning.

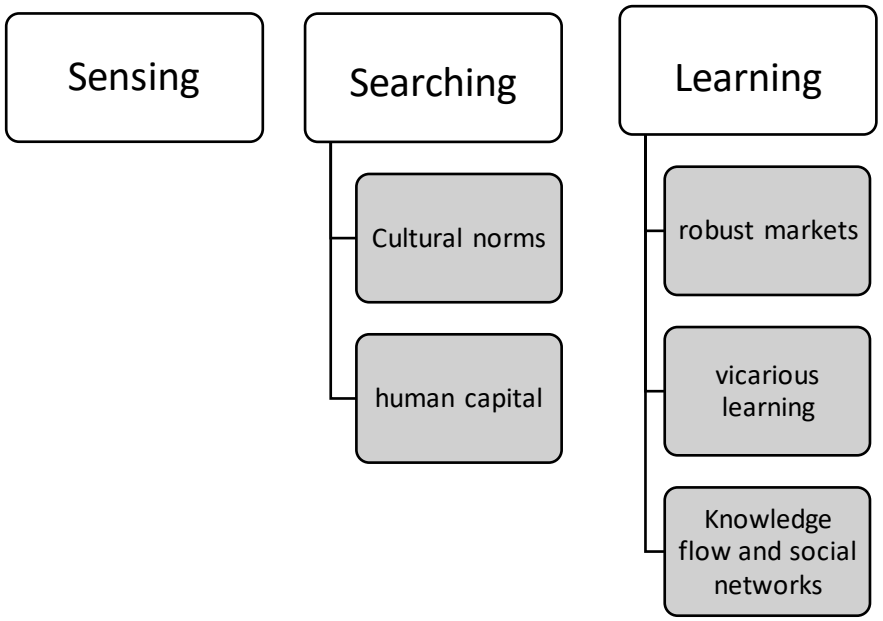


Figure 5: Sensing capabilities (Roundy & Fayard, 2019)

Searching activities refers to the ability to search and be alert to new opportunities. Vibrant EEs influence the likelihood of engaging in entrepreneurial search and improves their search capabilities through the following ecosystem components.

- Cultural norms: Vibrant EEs have cultures that promote entrepreneurship as a legitimate and status elevating pathway. It encourages and supports risk-taking, innovation and opportunity pursuit. Isenberg (2011) further elaborates values such as business failure tolerance, creativity and experimentation that influence entrepreneurs in their exchanges. An environment is created for 'sensing' and the

more entrepreneurs search for opportunities, the more this capability is practiced and refined (Roundy and Fayard, 2019).

- Human Capital: This refers to the knowledge gained from education, training, and experience from founding prior businesses, hiring high performing early-stage employees, and developing organisational fitness through routines and activities needed to grow young companies (Roundy, 2017a). In vibrant EEs, there is a high concentration of human capital as well skilled workers who have the experience and knowledge to serve as advisors and board members to startups (Isenberg, 2010).

Learning activities: Sensing new businesses opportunities are influenced by entrepreneurial learning (Teece et al., 1997). It is a process that requires experimentation and repetition to allow tasks to be performed with greater accuracy. Healthy ecosystems improve the entrepreneur's ability to learn, and this is done through the following ecosystem components.

- Robust local markets: This refers to the presence of ample local customers (or users) that are available to purchase products and services and provide rapid feedback for early-stage companies. The learnings from feedback can improve sensing capabilities by helping entrepreneurs identify new opportunities, refine their value propositions, pivot and realign their business models to meet consumer demand (Roundy & Fayard, 2019).
- Vicarious learning opportunities: This occurs when an organisation learns by observing the behaviours and outcomes of other organisation activities (Roundy & Fayard, 2019). Vibrant EEs have dense networks which produce, scale, and create success or failure narratives about ventures in the ecosystem which improve vicarious learning by allowing other entrepreneurs to learn from the actions and outcomes of other entrepreneurs in the ecosystem (Feld, 2012; Nelles, Bramwell, & Wolfe, 2005; Spigel, 2017; Roundy & Fayard, 2019).
- Knowledge flow and social networks: This refers to the density of social network of relationships and informal interactions among ecosystem participants (Isenberg, 2010). Well-developed social networks improve the transfer of information between the EE participants. This knowledge is transferred through the community and includes exchanges about technologies and customer

preferences. This also involves the presence of university and research centres. The more involved the entrepreneurs, the more they can build on their social networks and their capabilities to sense new opportunities.

2. **Seizing capabilities** involves actions taken to act on opportunities identified. Entrepreneurs need to be able to 'seize' opportunities by way of investing in necessary technologies, building assets or business models, and finding resources to develop products that are accepted by the market and capture value. Three forces that improve entrepreneur's seizing capabilities include support services (incubators accelerators), availability and access to human capital and professional and financial investments.

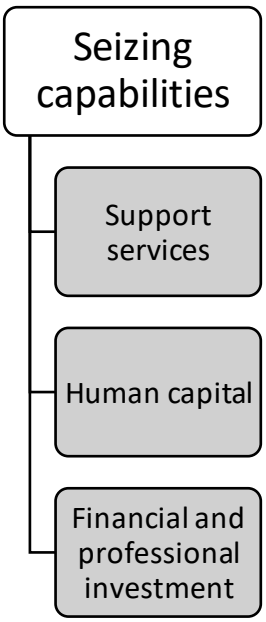


Figure 6: Seizing capabilities (Roundy & Fayard, 2019).

- Support services: Vibrant EEs offer a range of support services that help founders' birth and grow their ventures. These organisations include enterprise development, incubators, accelerators, business development or research centres and lastly professional services such as legal, insurance, banking, accounting and technology services (Isenberg, 2011; Spigel, 2017; Roundy & Fayard, 2019). These improve the entrepreneur's capabilities to capture opportunities and connect them to resource providers, investors, mentors, and human capital. These organisations host events expand the social networks which feed into cultural values, as well as refine searching abilities as well. By doing so, entrepreneurs are likely to access finance, talent and ultimately seize opportunities.

- Human Capital: As mentioned previously. This refers to the reservoir of individuals with entrepreneurship-oriented goals and talent to build ventures. Some of the individuals are frustrated with the bureaucracy of large organisations and corporates and thus leave them to create new ventures based on sensed opportunities (Neck et al., 2004; Roundy & Fayard, 2019). Failed businesses are likely to redeploy talents and vibrant EEs have an abundance of human capital that is needed when startups seek employees with specified skillsets. Access to specialized talent increases founder capabilities to build successful ventures based on the opportunities they sensed.
- Financial and professional investment: When ventures are founded and opportunities are sensed, entrepreneurs require financial capital to build, test, scale and refine their business models. To scale, entrepreneurs require capital beyond their control. This involves access to capital for all stages of the business along the spectrum of seed finance to venture capital to angel to mezzanine financing (Case & Harris, 2012; Isenberg, 2011; Roundy, 2017a; Spigel, 2017; Roundy & Fayard, 2019). Diverse pool of local and international investors improves entrepreneur's capability to acquire financial resources to pursue opportunities, take risk and indirectly gain knowledge through the expertise and interaction with professional investors.

3. **Reconfiguring capabilities**: After opportunities are sensed and then seized, it is important that ventures reconfigure their resources in response to changing environments. This is because overtime, resources and capabilities tend to become less valuable as competition rises, markets shift and to sustain profitability entrepreneurs must be able to substantially reconfigure their business models, assets, and competencies. Entrepreneur's market information is timelier thus reconfiguration activities can range from implementing new techniques in management, marketing, innovate on business models, update processes, and lead engagement to achieve new targets.

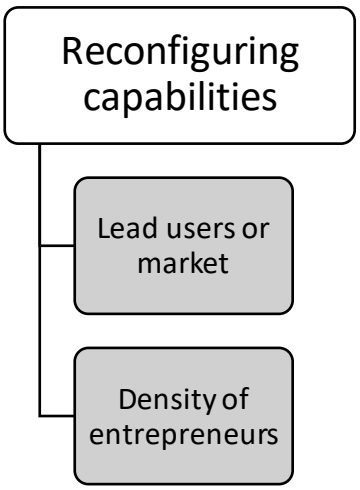


Figure 7: Reconfiguring capabilities (Roundy & Fayard, 2019).

- Lead users or local customers of innovations: This is one of the most important forces that impact founders. Consumer needs are continuously changing and with digital products, there is increased competition with low substitution costs. Thus, entrepreneurs need to be observant and responsive to demand and preferences such that they can develop tailored solutions and features to sustain competitive advantage.
- Density of entrepreneurs: vibrant EEs typically have many entrepreneurs creating early-stage businesses across numerous sectors. Founders can observe and learn from the activities of other entrepreneurs in the same or closely adjacent industries. When entrepreneurs face changes in their environment, they can look to nearby ventures for novel reconfigurations which improves their capabilities to find and combine new components as well as pursue new opportunities. Finally, they need to be able to implement the reconfigurations they observe. This capability is developed overtime with experience in working or building for other ventures who were faced with rapid iterations and can work lean. Vibrant EEs need to have entrepreneurs who have experiences evolving with organisations that have undergone responsive changes to marketplace. The abundance of lead users and employees with early-stage ventures thus improve entrepreneur's reconfiguration activities and thus their dynamic capabilities.

(Teece et al., 1997; Roundy & Fayard, 2019) explained that in a vibrant (well-developed) EE, entrepreneurs are likely to found ventures based on 'leading edge' technologies as

they are aware of customer preferences and needs. They are good at obtaining feedback from users and this improves their capabilities to reconfigure business models and resources. Another characteristic of vibrant EEs is that there are typically many entrepreneurs creating early-stage businesses across various sectors and as a result learn from other ventures in adjacent industries to adequately respond to changing environments.

Detailed arguments and mechanisms driving this theory can be found in table 2 below.

Table 2: The Influence of EEs on Entrepreneurs' Dynamic Capabilities (Roundy & Fayard, 2019)

Dynamic Capability	Ecosystem Mechanisms	Main Theoretical Arguments
Sensing activities		
Searching for, being alert to and identifying new opportunities	Cultural values, norms and simple rules	The culture of vibrant entrepreneurial ecosystems (EEs) increases the likelihood of entrepreneurs' engaging in sensing activities and, thus, improves their dynamic capabilities.
	Human capital	The availability of entrepreneurship-specific human capital in vibrant EEs improves entrepreneurs' sensing activities and, thus, their dynamic capabilities.
Engaging in entrepreneurial learning	Robust markets, vicarious learning and dense social networks	The robust markets, vicarious learning opportunities and flow of knowledge through social networks in vibrant EEs improve entrepreneurs' sensing activities and, thus, their dynamic capabilities.
Seizing activities		
Acquiring and mobilising resources to pursue opportunities and capture value	Support services, human capital, financial capital and professional investment	The entrepreneurial support services, human capital and access to professional investment in vibrant EEs improve entrepreneurs' seizing activities and, thus, their dynamic capabilities.
Reconfiguring activities		
Renewing and redeploying resources so that future opportunities can be pursued	Local customers, density of entrepreneurs, human capital	The abundance of lead users of innovations, entrepreneurs and employees with experiences in early-stage ventures in vibrant EEs improves entrepreneurs' reconfiguration activities and, thus, their dynamic capabilities.

Both the Stam (2015) and Dynamic Capabilities (Roundy & Fayard, 2019) exhibit significant similarities. They are both focused on understanding how entrepreneurs navigate the ecosystem, allocate their efforts and resources towards strategic decisions in the broader functioning of the ecosystem. What separates the two models is that the latter addresses directly to venture or entrepreneur (micro-level) behaviour and how EEs produce benefits for them. It was stressed that the macro-approach to EEs can be insufficient as it does "not address the attribution of outcomes, costs, and benefits' to ecosystem participants" (e.g., Cunningham, Menter, & Wirsching, 2017; Roundy & Fayard, 2019). The theory behind the proposed dynamic capabilities model also suggests that "the EE in which the venture is located is an important factor influencing heterogeneity in early-stage ventures" (Roundy & Fayard, 2019, p. 111). It was

emphasized that by identifying how benefits are acquired from particular EEs, it can then lead to an assessment of which capabilities-improving benefits are influenced by local contexts and which are acquired from "greater distances" or international EEs (Roundy & Fayard, 2019). Ultimately this can also lead to an enquiry into which capabilities need improvement and what are the opportunities and challenges faced by local entrepreneurs.

2.3.3 *The role of the South African Entrepreneurial Ecosystem for HGDS*

Prior research indicates that ambitious and high-growth firms accelerate the reallocation of jobs from old to new industries (Bos and Stam 2013; Stam, 2018). To investigate the prevalence of HGDS this section will delve into the emerging properties of the ecosystem in SA and how location plays a role in influencing capabilities to support venture growth for digital startups. It is important to note that a successful ecosystem exists on its own unique merits. South Africa's regional context, its history, culture, infrastructure, and economic conditions are unique and created locally.

According to various Scholars, a range of SA ecosystem stakeholders agree that the South African technology startup ecosystem is in its infancy (GEDI, 2017). However, reports are inconsistent due to varying reasons, lack of entrepreneurship scholars, nature of subject, interest, or availability of entrepreneurs to study. Historically, as well, African countries have had incomplete coverage over the years (GEDI, 2017).

There are both quantitative and qualitative studies on the broader South African EE. Some of the prominent quantitative studies reviewed in this chapter include ANDE SA ecosystem snapshot 2017, GEM, (2017-2019) and the GEDI Ecosystem Report 2017. Other quantitative reports include, World Economic Forum (WEF), the Startup Genome, Seed Academy. While qualitative reports include OC&C's research on SA's Tech ecosystem (2018), Allan Gray Orbis Foundation and Levin's (2017) discussion paper on accelerating the South African Ecosystem.

In SA, high-growth technology based digital startups have experienced a healthy inflow of investment and growth and most significant developments have occurred over the last five years (VC4A, 2018).The ecosystem is split in two – one in Johannesburg/Pretoria (Gauteng) and the second in Cape Town (Western Cape). Due to Johannesburg and

Pretoria's proximity to government offices, the Gauteng province is primarily run by government investment and is closely examined. Whilst Cape Town and Stellenbosch ecosystems are more independent (twice the size of Gauteng) and more innovation focused with international ambitions and a greater number of emerging digital and tech startups (OC&C, 2018). These environments have a wide presence of research centres disseminating knowledge such as universities as well as graduates that come out with technical skillsets.

The SA Tech EE is known to have produced many successful innovative startups and is considered vibrant according to the OC&C study (2018). The government recognises the role that startups and SMEs play and has developed many sophisticated structures to help facilitate small businesses. Their mandate is to tackle job creation and inequality through wealth creation. A study noted that growth and developments of the ecosystem is largely driven by the private sector. Examples of efforts include the establishment of the Silicon Cape in 2009, and investments from South African corporates through accelerators, incubators, and innovation programs. A report by Tech Crunch highlighted that $259 million funding flowed into South African startups in 2020. SA being fourth on the list with Nigeria, Kenya Egypt being the top three VC investment destinations (Kene-Okafor, 2021).

Thus far, HGDS have had significantly positive social and economic effects in SA. An example of a globally renowned South African tech startup is GetSmarter. It is a EdTech business that offers short-term online certification courses for distance learning students in partnerships with top-tier global universities(GetSmarter, 2019). The business was established in 2008 and funded through angel investments. It was acquired by 2U, an American EdTech giant, for $103 million in 2017. Initially GetSmarter created over 500 jobs, which grew to over 1000 jobs in Cape Town over two years (VC4A, 2018). Another example is Aerobotics, established in 2014. Aerobotics uses aerial drones and sophisticated image processing to help growers manage yield, pest, and disease in their farms through artificial intelligence. Since inception, it now provides 84 jobs in Cape Town (Aerobotics, 2020). Another high-growth startup is called SweepSouth, founded in 2014. They are an on-demand application that offer access to cleaning services that match domestic workers with hope and office cleaning opportunities. Within its first year, it received seed funding as well subsequent growth capital of R10million from investors such as First Rand Group, Newtown Partners and Naspers (SweepSouth, 2020). This

allowed them to create over 1000 jobs and pay out over R20million to workers in just one year (VC4A, 2018). Subsequently, SweepSouth, not only empowered workers who constitute a significant proportion of the informal sector in SA but also addressed social concerns of domestic worker pay, training opportunities and formal protection under the Labour Relations Act (Anwana & Anwana, 2020; VC4A, 2018). However, it was noted that the impact from SMEs or Startups is insufficient (35-40%) of the GDP and that there is a need for startups to grow faster (Levin, (2017).

The OC&C (2018) study confirms that focus on job creation has centred around promoting startups, early-stage entrepreneurs and developing entrepreneurship. However, even with increased efforts to promote entrepreneurship, there are many studies that highlight challenges within the SA EE. These have been summarised below.

- **Level of Support**: There are a cumulative of 340 development agencies in South Africa, yet unemployment has increased to 32.5% (STATS SA, 2020). Even though there is vast amount of support, one study found that 40% of all new SA businesses fail in the first year while 60% in the second and almost 90% within 10 years of inception (Bushe, 2019). It is further acknowledged that support is not available when it comes to ensuring that growing businesses are sustainable. According to the GEM report SA (2016/17), South African entrepreneurs are nearly three times more likely to close their business as opposed to entrepreneurs operating in an efficiency-driven economy, (Herrington, Kew, & Mwanga, 2017). This is because most small businesses fail to move beyond the first stage of growth to the subsequent stages of survival, success, take off and maturity, ultimately resulting in minimal (employment or financial) benefits to society (Olawale & Garwe, 2010). Growing businesses require upskilling, specialized business functions and more complex access and exports to markets. Once they leave acceleration programs, or co-working spaces, they require rebalancing of funds and efforts dedicated for growth.
- **Nascent Ecosystem**: Due to a premature ecosystem, Levin (2017) pointed out that startups benefit big corporates rather than the entrepreneur or the state. Examples of these include Standard Bank's acquisition of SnapScan, and Old Mutual's 22 Seven, thus claiming that the ecosystem may not be advanced enough to facilitate M&A activity that may benefit founders. Startups that do eventually grow and occupy a greater market share, then end up exiting internationally or selling to corporates for

short-term gain as opposed to maintaining a long-term vision that can ultimately feedback positively into the national economy (Levin, 2017).

- **Domination of Corporates:** In both OC&C and GEDI reports, it was highlighted that there is a domination of large firms who outpace smaller businesses and have low appetite to work with startups – which is a recurring problem in the SA EE (OC&C, 2018).

In South Africa, the Aspen Network of Development Entrepreneurs ANDE (2017), conducted a similar approach to Isenberg (2011) to understand the SA EE. It visually depicted the vibrancy of the SA EE by quantifying the various players available within the ecosystem. For example, there are 101 support players, 340 support organisations (in comparison India has 140 and Israel 130). It goes on to report 97 direct finance providers, 142 capacity development providers and finance providers range from lending, equity to grants. It was certainly helpful in highlighting what organisations and resources are available, but it does not provide an indication of *how* effective or what role they play in supporting entrepreneurial activities.

Thus, it served as a starting point into the system but lacks insights into the micro-level relationships of the various components. Considering this, ANDE (2017) was only able to provide broad recommendations on how the ecosystem activities can be improved. These recommendations were as follows; (1) collaboration between actors (2) availability of entrepreneurs (3) research & information sharing (4) access to funding for early-stage entrepreneurs and (5) breaking barriers for vulnerable entrepreneurs. These notions suggest that the EE in reference may not be efficient in unlocking economic growth and employment, and that the impact of high-growth businesses is not fully appreciated by current stakeholders. It is a high-level perspective which provides an opportunity for researchers to investigate whether HGS are even aware of the resources available and if they are, then how do they go about co-creating value for themselves and other stakeholders.

Scholars and practitioners in this field use Isenberg's model as a core driver to extend their own theories and research so the core components (market, human capital, support, culture, finance, and policy) mentioned herein be raw ingredients for other reconfigured models. In this evolution of EE research, many scholars note that prior EE scholars (including Isenberg) have left critical gaps in the EE literature.

(Stam & Spigel, 2016) noted that many frameworks serve as merely a conceptual umbrella involving the 'geography of entrepreneurship' by isolating certain components of the EE as 'success factors' that can be replicated to address challenges within contexts. This, however, disregards the micro-level connections between entrepreneurs and the EE components (Roundy & Fayard, 2019; Stam, 2015; Auerswald 2015).

2.3.4 *The importance of entrepreneurial narratives in entrepreneurial ecosystems*

Roundy, (2016) emphasizes that work in entrepreneurship at an individual-level or through the use of "narratives" allows for a social construction of the ecosystem. Narratives are "discourse tools used to shape one's own understanding (i.e., sensemaking) or influence others' understanding (i.e., sense giving) of actions, events, or experiences (Brown, 1998; Roundy, 2016).This view hones into the cognitive and cultural processes that take place within the ecosystem. These are seen as one of the key processes through which entrepreneurs make sense and communicate about their ventures. Narratives are also used in entrepreneurship to aid functions such as resource acquisition, legitimizing business ventures and identity construction. Scholars such as Spigel (2017) and Feld (2012) suggested that narratives can play a role in spurring entrepreneurial activity through "stories of successful local entrepreneurs who found startups that [go] on to become large, global market leaders" that might serve to "inspire younger entrepreneurs to undertake similar journeys." (Roundy, 2016, p. 5).

It is still under-theorized how accounts can spread entrepreneurial success but scholars such as Roundy (2016) discussed that a typology of narratives developed from success stories, historical accounts, and future-oriented narratives can begin to examine the interrelationships and connections between the physical components of the entrepreneurial ecosystems and processes that occur *as a result* of a complex web of interactions. For example, insights into future-oriented narratives involves storytellers enacting their vision of the future, i.e.., "what the future of the ecosystem could or should look like" (Roundy, 2016, p. 14). As these narratives are received, accepted, and or rejected, they can shape participants' and observers' perceptions of the future and the trajectory of the ecosystem.

SA has made impressive progress over the last decade and the government seeks to promote both economic inclusion and address poverty through job creation. There are support initiatives and investments from both the public and private sector. However, the majority of studies adopt the broader ecosystem perspective rather than honing into entrepreneurs and identifying their specific growth needs in relation to the context.

Both GEDI (2017) and Levin (2017) interviewed entrepreneurs in their research, but their sample included startups that ranged from early to growth stage of business development. Both these sources emphasize on the promotion of high-growth startups more than SMEs and differentiated support allocated to the development of these as opposed to general support offered towards all types of entrepreneurial activities.

In sum, SA has an emerging ecosystem with a collective objective to drive growth businesses that positively impact economic development. However, the majority of the research conducted in the field provides a high-level understanding of the operational challenges of the ecosystem as well as the physical manifestation of support availability. The needs and problems are acknowledged by the stakeholders, but the entrepreneur level effects are understudied. There is a lack of granular information and metrics on the reasons behind the failures or lack of success of support levers. Scholars further emphasize that high rates of entrepreneurship do not indicate economic performance, and it will be important to aim for stronger frameworks that are effective in unlocking long-term impact than small unproductive businesses that employ fewer people and drain resources (Herrington & Coduras, 2019; Sheriff et al., 2016).

It is for these reasons, that the proposed dynamic capabilities theoretical model will be applied to South African HGDS in a qualitative approach to assess how these entrepreneurs sensed, seized, and reconfigured resources and opportunities within the EE. By identifying how the core attributes of the ecosystem is leveraged by entrepreneur's abilities, it can build towards an understanding of how EEs influence entrepreneurial activities. This will allow for an exploratory and open-ended assessment of the ecosystem's readiness to support SA entrepreneurs. Since location is an important factor in shaping venture capabilities, an exploration in this field can further assess which "capability-improving benefits are influenced by a firm's local context and which benefits are acquired from greater distances" (Roundy & Fayard, 2019). This study will however

serve as just one of the many perspectives that can be explored in the ecosystem field of research.

2.4 Conceptual Framework and research questions

To study the micro foundations and complex interrelationships between the startup entrepreneurs and ecosystem stakeholders, Roundy & Fayard, (2019) proposed a theoretical model in Figure 8. This will be used to study founders with specific growth needs in the SA context to provide valuable insights on how effectively they were able to sense, seize and reconfigure opportunities and resources available to them.

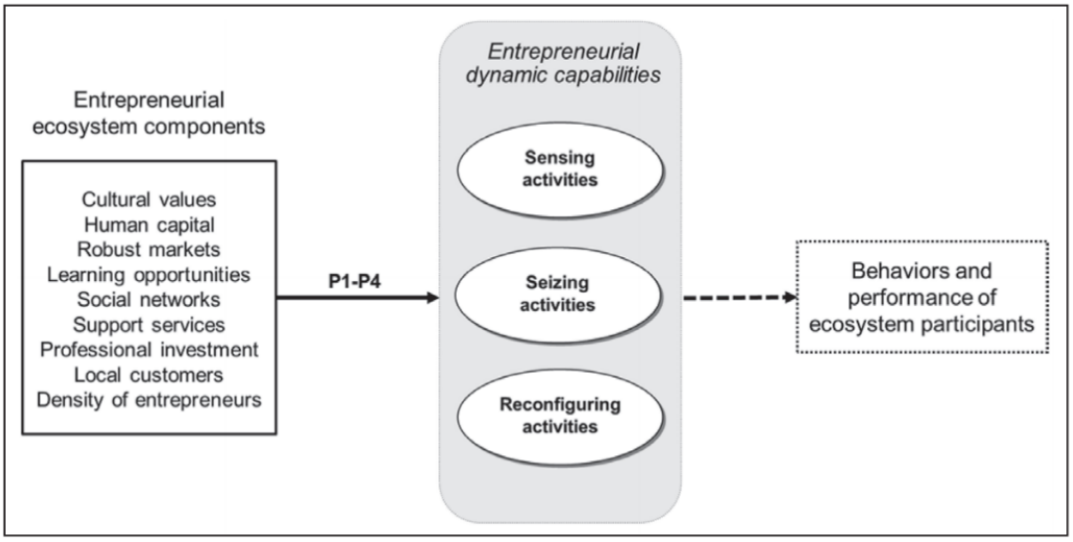


Figure 8: Model of dynamic capabilities as proposed theoretical model (Roundy & Fayard 2019)

The proposed model was used to guide the following research sub-questions:

1. **What characterises successful transitioning from a basic startup to high-growth startup within the South African context?**

   Sub-questions

   1.1) How did the founders sense opportunities and resources available to them to strategically recognise a new business opportunity within the SA EE?

1.2) How did the founders seize opportunities and resources available to them to capture the business opportunity within the SA EE?

1.3) How did the founders reconfigure opportunities and resources available to them within the SA EE?

2. How did the location shape HGDS founders' capabilities in South Africa?

Sub-questions

2.1) What benefits were acquired from the SA EE?

2.2) What benefits were acquired from international ecosystems?

2.5 Conclusion

The world has transitioned into the digital economy (ecosystem that harbours digital ventures or enterprises) due to the emergence of novel and powerful digital technologies that are transforming broader policies and have dynamic organizational consequences (Nambisan et al., 2019). EEs play a role in identifying relevant stakeholders to continuously investigate and learn the needs of entrepreneurs to create the best environments or infrastructures for innovation and productive entrepreneurship. There is a need for ecosystem stakeholders to collectively investigate their ecosystem capabilities and address challenges that hinder innovation for digital companies in SA.

There is an acknowledgement that entrepreneurship is a social activity (Thornton 1999; Roundy & Fayard, 2019). "Scholars increasingly acknowledge the social and cultural embeddedness of entrepreneurship (e.g., Smith & Stevens, 2010; Urban & Muzamhindo, 2018), which has shifted the focus of research from individual entrepreneurs to entrepreneurial ecosystems (EEs): the interrelated set of actors, organisations, resources and values that generate and support regional entrepreneurial activities" (e.g., Acs, Stam, Audretsch, & O'Connor, 2017; Brown & Mason, 2017; Hechavarria & Ingram, 2014; Malecki, 2018; Roundy, Bradshaw, & Brockman, 2018; Spigel, 2017; Stam, 2015; Roundy & Fayard, 2019, p.95).

There is also an established consensus that the EE approaches are narrowed down to 'high-growth startups' or 'scaleups' which are an "important source of innovation, productivity, growth, and employment" (World Economic Forum 2013; Mason and Brown 2014; Stam, 2018, p. 3).

Research on EEs is under continuous development with organisations such as GEM documenting entrepreneurial activity across countries and regions globally (Stam & van de Ven, 2019). Many scholars have also concluded that ecosystem approaches are easy to promote but hard to implement (Stam & Spigel, 2016).

For this study, three popular and distinct EE approaches were identified and compared. On the basis of this, the *dynamic capabilities model* by Roundy & Fayard (2019) is proposed as a theoretical model to enable an understanding of the broader functioning of the ecosystem and its stakeholders. The objective is to explore the narratives of the HGDS founders and highlight the challenges and opportunities experienced by them. This way support can be tailored effectively for their growth in the context of South Africa.

CHAPTER 3. RESEARCH METHODOLOGY

This chapter outlines the research approach and methodology employed during data collection and analysis. The qualitative research method was applied to gain insights into the South African EE as experienced by one of the key drivers; the entrepreneurs - henceforth known as founders of HGDS.

The broad aim of the chapter is to describe the method and how research is designed, gathered, analysed, and stored. This chapter is structured as follows; (3.1) will identify and describe the research approach. (3.2) will discuss the research design, the procedure, and methods in detail. (3.3 to 3.8) will cover aspects of data collection and analysis. Lastly, (3.9 to 3.11) will identify and address factors of transferability, credibility and dependability as well as acknowledge the limitations and ethical considerations adhered to in the study.

3.1 Research approach

Research methodology refers to a systematic procedure that researchers adhere to when conducting research and this is to ensure valid and reliable results that address the research aims and objectives (Jackson et al., 2007). There are three main research methods; quantitative (based on numerical data and statistical measurement), qualitative (based on written, spoken, or textual data) and mixed methodology which is a combination of the first two.

This study employed a qualitative research method. Although there is prevalent research on emerging ecosystems and entrepreneurship activity in recent years, there is limited research focused specifically on high-growth startups in the context of South Africa. This method offers a researcher to collect open-ended and comprehensive answers pertaining to specific personal experiences in question. Given the exploratory nature of the research questions, it was decided that a qualitative approach using semi-structured one-to-one interviews was most appropriate.

This form of research is mainly concerned with gaining insights and understanding of underlying motivations or reasonings (Dudovskiy, 2016). Both Stam and Roundy established the need for further research on micro foundations of entrepreneurship –

this being individual entrepreneurs or founders. Quantitative methods are more dominant in this field, but it was stressed that due to the non-linear nature and complex EE systems, the flexibility of qualitative data (semi-structured interviewing) can provide rich insights into the phenomena. Specifically, in local contexts, understanding the lived experiences of founders can uncover detailed insights on how developments in the ecosystem influenced their decisions regarding risk, time, and cost to startup.

Applying the dynamic capabilities theoretical model in a qualitative approach can enable scholars to unpack multi-faceted causal relationships. Furthermore, the interacting agents (founders and components) can create narratives of knowledge, value and culture that form the foundation of the EE. Thus, a qualitative approach will be more effective in capturing this discourse (Roundy & Fayard, 2019). Interviews are one of the most widely used methods of qualitative data collection.

Semi-structured interviews are flexible by nature and this data collection method allows for an in-depth exploration as well as a tailored line of questioning for each unique startup. In total, twelve interviews were conducted. These were recorded and later transcribed. This information can be used for an extensive comparative analysis of how each of the founders thrived in their ecosystem settings and how they related to the various SA EE components identified in the conceptual framework (chapter two). The study was essentially interpretive and includes descriptive analysis of the founders, their businesses, and the bulk of interactions with the ecosystem. The aim of this technique is to generate bases, draw on systematic evidence of patterns in causal relationships and interpret considerations and conclusions from the data (Creswell et al., 2007).

The qualitative method is criticised for lacking generalizability, and excessive reliance on subjective interpretations of researchers (Vaus, 2002). It is true that statistical and quantitative data can provide greater measures of reliability and generalizability. However, many scholars have contested that generalizability is inappropriate for qualitative studies and have directed its purpose towards “providing in-depth explanations and meanings rather than generalising findings (Carminati, 2018). Qualitative method is most suited towards the “seek now and test later” approach and thus one of the benefits would be exploring rich viewpoints in early stages of research. It will allow for a better initial understanding of the problem and to identify phenomena,

attitudes, and influences in established research by generating more testable questions (Healy & Perry, 2000).

3.2 Research design

This study will adhere to exploratory forms of research. It does not provide final or conclusive answers to research questions (Dudovskiy, 2016). This study can be characterised as biased with a range of causal solutions to a specific problem. The key research statement is the research question, and it is posed in the early stages of the research process which is unstructured.

There are a few disadvantages to this method; the generation of information may be subject to bias. Secondly, it will utilise a modest number of samples that may not adequately represent the target population thus limiting generalizability to a wider population. In this case, location plays a paramount role in startup growth (which will be split between Gauteng and the Western Cape) which this poses a further challenge. Finally, it may not prove useful in decision making at a practical level. However, it is advantageous in the sense that it offers flexibility and adaptability to change, it can be effective in laying the groundwork for future research and potentially save time as well as resources by determining in the early stages what type of research is worth pursuing in this area (Dudovskiy, 2016). To summarise, this form of study can result in a range of causes and alternative options for a specific problem – which is essential for this study, as focused research on the context of high-growth startups is still underdeveloped.

3.3 Data collection methods

Semi-structured one-to-one interviews were conducted to collect data. This method involves “conducting intensive verbal interactions with individual or small number of respondents to explore their perspectives on a particular idea, program or situation” (Boyce et al., 2006). Interviews were executed online via Zoom due to the recent COVID-19 crisis preventing physical interactions.

A semi-structured interview schedule was drawn up. The format includes a combination of general questions followed by tailored ones for each participant. Questions were

added during the interview for clarification and or to find opportunities to probe for further insights and elaborations. Even though the questions are pre-determined, this form of interview allows the interviewer to manage the flow of responses received in a fluid manner such that themes can be explored with rigour by both the interviewer and respondent (Jackson et al., 2007). The aim of this format was to bring forth depth and comparable results across the interviews, allowing the researcher to analyse the unique experiences of each HGDS. They were investigated in accordance with their historical development and the EE. Ultimately this approach allowed for a comparative analysis of the different relationships within the complex components of the SA EE. The participants were given an opportunity to discuss and uncover insights that they themselves were unaware of.

The advantage of an interview is to allow for detailed information (also gathering stories, human emotions, and underlying tones) as primary data which is absent in statistical studies. It provided perspectives which can be analysed against the literature or information found online. Moreover, the researcher had direct control over the process and was able to clarify any issues that arose. There are a few disadvantages to this method. First, it was time consuming to schedule as well as to execute. Secondly, the risk of interviewee bias can compromise the validity of the findings (Connaway & Powell, 2010). Finally, the multidimensional information collected proved complex to analyse.

3.4 Population and sample

3.4.1 *Population*

The target population is referred to “the entire aggregation of respondents that meet the designated set of criteria” (Burns & Grove, 2001). It is the mass collection of potential people or firms from which a sample can be drawn (Saunders et al., 2019). The population for this study were founders of HGDS who had significant experience in scaling their businesses either through increased annual turnover or employment growth in the last decade.

3.4.1 *Sample and sampling method*

A sample refers to a segment of the population being studied. The founders of HGDS were selected based on purposive and convenience-based sampling methods. Purposive sampling is a non-probability technique that involves the researcher relying on his or her own judgement to choose members of the population to participate in the study (Dudovskiy, 2016). This is a focused study on South African HGDS and hence in this case - a judgement involves a predetermined criterion. This can also be referred to as homogenous sampling. This technique focuses on a subgroup in which all sample members are similar, (Saunders et al., 2012).

A participant criterion was established in the literature review. Criteria for selecting the 12 participants were: (a) founders in high-growth digital startups (technology based and offering digital artifacts, platforms and or infrastructures as a product or service) (b) their startup was in existence for less than 10 year (2011-2020), (c) they had experience in scaling their business (either through expansion, turnover, or employment) and lastly (d) they were founded and primarily based in South Africa. The selection process was sector or industry agnostic and founders varied in gender, age, race, education, and experience within their business.

Channels such as Endeavor South Africa Network, Kaylon Venture Partner portfolio, LinkedIn and personal networks were used to scout HGDS that were eligible for this study. Once identified, they were invited to partake in the study. Convenience sampling or 'availability sampling' was also used. It is a specific type of non-probability sampling which relies on data collection from population members who are available to participate in the study. Getting in touch with high-growth startups was time-consuming, busy founders do not always have excess time to take part in university-based research and so they were interviewed based on availability. Dudovskiy, (2016) states that this technique can prove effective during the exploration stage of the research.

It was deemed appropriate because only identified participants can contribute value to the study. The sample method can be considered disadvantageous in a sense that it may be subject to researcher judgement, which can cause a low level of reliability or high level of bias and of course the inevitable inability to generalize findings. However, to minimise errors and increase reliability, the sample list was drawn up and approved

by the supervisor, an academic with experience in the field. The researcher conducted twelve interviews with HGDS founders across South Africa.

Table 3: Profile of participants

Description of respondent type	Number sampled
High-growth Digital Startup Founders	
TOTAL number of participants	12

3.5 The research instrument

A research instrument is a tool used to obtain information that is relevant and appropriate to one's research methodology and no single instrument is superior to another (Wilkinson & Birmingham, 2003). For the purposes of this study, a semi-structed interview schedule or guide was drawn up (Appendix C). This outlined a collection of predetermined questions that were asked by the interviewer (Bryman, 2012).

The focus of this study was to ascertain how these founders interacted with the SA EE to achieve scale and sustainability. The set of questions were determined by the theoretical model and research questions in chapter two. The interview schedule was split into three sections:

1. Demographic profile of participants
2. HGDS startup indicators (criteria established from the HGDS characteristics in the literature review)
3. Ecosystem perceptions in relation to the theoretical model of Dynamic capabilities by Roundy & Fayard, (2019)

Due to the exploratory nature and tailored questions of the interview, each guide was different. However, the generic set of questions that related to the ecosystem components allowed to construct a generalist perception of the ecosystem and a shared sentiment amongst founders.

3.6 Procedure for data collection

The identified potential participants were contacted to participate via personal networks and LinkedIn. The interviews were pre-organised via email. A letter of consent and confidentiality was signed by participants prior to the interview (Appendix B). Data was collected through one-to-one interviews conducted online via a video conferencing platform called Zoom. The interviews were recorded with permission and transcribed into text scripts for analysis.

3.7 Data analysis and interpretation

A thematic analysis method was used to analyse data. This refers to identification of broad themes or patterns that seek to address the research questions and objective of the study. (Maguire & Delahunt, 2017). This form of analysis allowed the researcher to not only summarise but tease apart, interpret, and make sense of complex narratives and ultimately extract valuable insights. The information was organised in a three-step process, (1) development of codes where raw data was categorised (2) identifying themes, patterns, and relationships (3) summarising data which involved linking research findings to research questions and objectives.

3.8 Limitations of the study

The limitations of a study are characteristics of design that influence the interpretation of research findings (Price & Murnan, 2004). They can be understood as constraints on generalizability as a result of the chosen research method applied (Price & Murnan, 2004). These characteristics can emerge during the study due to unexpected challenges or due to the external or internal validity method applied and adversely affects findings beyond the researcher's control.

- One of the major limitations of qualitative studies is researcher bias, including unintentional bias.
- The assumption that the participants would answer the interview questions honestly and candidly. Semi-structured interviews gathered self-reported data where participants may not be entirely open, or could have misinterpreted the

question, said something the researcher wanted to hear and or did not get a chance to fully provide an account of their experiences due to lack of time.

- Diversity constraints in the sample as there was reliance on the availability of startup individuals. For example, majority of the HGDS are characterised as “software as a service” type of business.
- The sample size was small and limited to Johannesburg and Cape Town, which limits generalization of findings. However, since studies show that the two major cities are thriving startup hubs, the intent of this research was to obtain rich accounts of founders in their natural setting rather than generalized findings.
- Being a short-term studying the scaling mechanisms of startups, this research did not consider how HGDS perform beyond their growth period or their likelihood of survival. In this case, a longitudinal study could provide a denser comparative analysis over time (Mamburu, 2017).

3.9 Transferability, credibility, and dependability

To strengthen the study, it is essential for researchers to understand any limitations of study design and implement strategies that can minimize the effects.

3.9.1 *Transferability*

One way to ensure transferability is using ‘thick descriptions’ (Korstjens & Moser, 2018). This means capturing and providing detailed information related to not just the participants, their experiences, or answers but their contexts as well such that their behaviour and experiences are more meaningful to the reader.

3.9.2 *Credibility*

Credibility in qualitative research is concerned with the aspect of truth-value and quality of study (Korstjens & Moser, 2018). Credibility is established if the interpretation and perceptions of the participants is captured in a way that they can confirm it as a true reflection of their responses to the research questions (Munn et al., 2014). For this report, credibility was established by ensuring that the findings collected, and interpretation formulated was a true reflection of the experiences and perceptions of the

participants. It is easy to verify information obtained through the original group of participants by using cross-site referencing with abundance of information available in the public domain.

3.9.3 *Dependability*

Dependability refers to the degree to which research methods can produce consistent results (Dudovskiy, 2016). This reliability measure can be ensured through specifically providing an audit trail. An audit trail entails providing rich descriptions of the steps and measures taken to carry out each aspect of the research, keeping and maintaining records of the process as well as justification of theoretical inferences. The dependability of the research was established by ensuring that the process was documented in detail, such that it if the research were repeated by another researcher, it would arrive at similar findings.

3.10 Profile of participants

Due to the exploratory nature of the study, the following criteria was asserted to derive the profile of participants:

1. Founders of high-growth digital startups (sector agnostic but technology based and offering digital artifacts, platforms and or infrastructures as a product or service). The founders varied in gender, age, race, education, and experience within their business.
2. Startup was in existence for less than 10 years (2011-2020),
3. They had experience in scaling their business (either through expansion, turnover, or employment)
4. Their startups were founded and primarily based in South Africa.

Participant	Year founded	Type of Startup	Startup location	Growth indicator
1	2016	Software as a Service	Johannesburg & Cape Town	Expansion into Europe & West Africa
2	2016	Mobile application Software as a service	Johannesburg	Experienced annual growth of at least 20% in terms of employment of turnover

3	2017	Mobile application Software as a Service	Johannesburg	Experienced annual growth of at least 20% in terms of employment of turnover
4	2017	Software as a Service, Fintech	Johannesburg	Experienced annual growth of at least 20% in terms of employment of turnover
5	2018	Software as a Service	Johannesburg	Experienced annual growth of at least 20% in terms of employment of turnover
6	2017	Software as a Service, Fintech	Johannesburg	Expanding into the UK
7	2015	Software as a Service	Johannesburg	Expanding into the US
8	2014	Software as a Service	Johannesburg	Experienced annual growth of at least 20% in terms of employment of turnover
9	2019	Software as a Service, Fintech	Cape Town	Expanding into Mexico
10	2014	Software as a Service, Fintech	Johannesburg	Experienced annual growth of at least 20% in terms of employment of turnover
11	2017	Software as a Service, Fintech	Johannesburg	Experienced annual growth of at least 20% in terms of employment of turnover
12	2017	Software, Fintech	Johannesburg	Expanding into Ukraine and the UK

3.11 Ethical considerations

It is acknowledged that ethical considerations are an important aspect of research (Bell et al., 2019). To conduct qualitative research, it was necessary to obtain permissions to collect data from the relevant organisations, prior to the study. Interview participants in

this research participated based on informed consent. Furthermore, they were provided sufficient information and assurances regarding the focus and purpose of the study, and how findings would be used such that they understand the implications of participation without the exercise of any pressure (Saunders et al., 2012). All communication with regards to this research were transparent and honest, without any exaggeration or biased views based on conflicts of interest. Participants were informed that the interviews were recorded and transcribed in advance. All cited works of other authors were referenced using the APA referencing system. Furthermore, a letter of participant consent was approved and issued, to proceed with interviews with the relevant organisation (Appendix B). The Wits Business School ethics form was completed and approved before data was collected and submitted after the research proposal was accepted (Appendix D).

3.12 Conclusion

A sample of twelve founders was used to conduct a qualitative data collection. The semi-structured interview guide was produced based on a proposed theoretical model from prior literature to ensure that the quality of the study was maintained.

CHAPTER 4. PRESENTATION OF FINDINGS

4.1 Introduction

The purpose of this qualitative study was to understand the high-growth digital startup founders' perceptions and individual assessments of the South African entrepreneurial ecosystem. Instead of only focusing on a material manifestation or "successful components" of the entrepreneurial ecosystem (such as the number of ventures, concentration of support organisations or availability of finance), the aim was to supplement existing research with founders' narratives. Twelve interviews were conducted with South African HGDS founders.

This chapter describes and presents the findings that were gathered from conducting this study. The presentation stems from 16 hours of interviews as well as background reviews of startup websites and or news clippings. The chapter starts by introducing the participants' sample and establishing their high-growth digital startup characteristics for the purpose of this investigation. From the collected data, themes were identified in relation to the two research questions and the proposed theoretical model of dynamic capabilities by Roundy & Fayard (2019). The thematic analysis process was used to analyse the findings. Founders' views were captured using direct quotations from the interview transcripts. Finally, a summary of findings pertaining to each research question is presented, followed by a conclusion. The following chapter will then discuss and compare the findings of the study in greater detail.

4.2 Demographic profile of participants

The study included 12 participants who met the eligibility of the HGDS criteria. They were invited to participate and signed informed consent forms prior to being interviewed (Appendix B). Specific demographic information was collected to describe the individuals. This included their age, gender, race, and their highest qualification. Table 4 summarises the demographic data for each participant. The majority of the founders were 31 years or older. Out of 12, there were three foreign founders who had been residing in South Africa for longer than five years.

Table 4: Participant demographics

Participant	Age	Gender	Race	Highest Qualification
1	31-40	Male	White	Masters
2	20-30	Male	White	Honours Degree
3	31-40	Male	White	Bachelor's Degree
4	41-50	Female	Indian	College diploma
5	41-50	Male	White	Honours Degree
6	41-50	Male	Indian	Bachelor's degree
7	31-40	Male	Asian	Masters
8	31-40	Male	Indian	Honours Degree
9	31-40	Male	Black	Masters

10	31-40	Male	White	High-school
11	20-30	Male	White	Bachelor's degree
12	30-40	Male	White	Bachelor's degree

4.3 High-growth digital startup indicators

For participation in this study, the following criteria was established for the target population.

1. Participants were founders of high-growth digital startups (sector agnostic but technology based and offering digital artifacts, platforms and or infrastructures as a product or service).
2. Their startup was in existence for less than 10 years (2011-2020),
3. They had experience in scaling their business (either through expansion, turnover, or employment)
4. Their startups were founded and primarily based in South Africa.

Table 5: HGDS criteria for each participant.

Participant	Year founded	Type of Startup	Startup location	Growth indicator
1	2016	Software as a Service	Johannesburg & Cape Town	Expansion into Europe & West Africa
2	2016	Mobile application Software as a service	Johannesburg	Experienced annual growth of at least 20% in terms of employment of turnover
3	2017	Mobile application Software as a Service	Johannesburg	Experienced annual growth of at least 20% in terms of employment of turnover

4	2017	Software as a Service, Fintech	Johannesburg	Experienced annual growth of at least 20% in terms of employment of turnover
5	2018	Software as a Service	Johannesburg	Experienced annual growth of at least 20% in terms of employment of turnover
6	2017	Software as a Service, Fintech	Johannesburg	Expanding into the UK
7	2015	Software as a Service	Johannesburg	Expanding into the US
8	2014	Software as a Service	Johannesburg	Experienced annual growth of at least 20% in terms of employment of turnover
9	2019	Software as a Service, Fintech	Cape Town	Expanding into Mexico
10	2014	Software as a Service, Fintech	Johannesburg	Experienced annual growth of at least 20% in terms of employment of turnover
11	2017	Software as a Service, Fintech	Johannesburg	Experienced annual growth of at least 20% in terms of employment of turnover
12	2017	Software, Fintech	Johannesburg	Expanding into Ukraine and the UK

All 12 participants had been founders of their high-growth digital startups, and as such were involved in operations as well as in scaling their startups from inception. They were all based in South Africa, with nine having offices in Johannesburg while two were based in Cape Town and one operating in both cities. Nine (75%) of the startups were less than five years old while three were six years old. They all offered a technology based digital product or service that was produced in South Africa. The majority of them offered Software as a Service (SaaS) as products or services. This is a way of delivering applications over the Internet—as a service. This can be via mobile applications, web

browsers etc. It allows the users to access products or services over the internet without having to install and maintain complex software.

4.4 Thematic Analysis

The purpose of this study was to explore how the South African entrepreneurial ecosystem enabled growth for local digital startups. By understanding the lived experiences of HGDS founders, opportunities and challenges within the EE could be identified. Below are the research questions.

1. **What characterises successful transitioning from a basic startup to high-growth startup within the South African context?**

    Sub-questions

    1.1) How did the founders sense opportunities and resources available to them to strategically recognise a new business opportunity within the SA EE?

    1.2) How did the founders seize opportunities and resources available to them to capture the business opportunity within the SA EE?

    1.3) How did the founders reconfigure opportunities and resources available to them within the SA EE?

2. **How did the location shape HGDS founders' capabilities in South Africa?**

    Sub-questions

    2.1) What benefits were acquired from the SA EE?

    2.2) What benefits were acquired from international ecosystems?

For this research, the theoretical model by Roundy & Fayard (2019) was used to determine the research questions as well as the research instrument. As such, for the first question was focused on how founders successfully transitioned from basic startups to high-growth. The participants were asked to elaborate on their sensing, seizing and reconfiguring activities and assess these capabilities within the SA EE to achieve scale. While in the second question, they were asked to explore how their location (SA as well as international contexts) played a role in enabling growth with the SA EE.

In total, eleven themes emerged from the data collection and coding process in relation to the research questions and their sub-questions. These eleven themes are shown in Table 6 in order of the research sub-questions.

Table 6: Research sub-questions, Themes, Sources and Frequency Counts

Research sub-questions	Major Themes	Frequency	Sources
Research Question 1: What characterises successful transitioning from a basic startup to high-growth startup within the South African context?			
1.1) How did the founders sense opportunities and resources available to them to strategically recognise a new business opportunity within the SA EE?	Theme 1: Having prior work experience and education that attributed to finding business opportunity. Theme 2: Innovation led by market validation	136	12
1.2) How did the founders seize opportunities and resources available to them to capture the business opportunity within the SA EE?	Theme 3: Taking personal and financial risk. Theme 4: Obtaining critical mass of users for growth. Theme 5: Leveraging support systems and mentorship networks to solidify identity. Theme 6: Accessing capital for growth in South Africa. Theme 7: Reflecting on access to local talent to capitalize on opportunities in South Africa.	283	12
1.3) How did the founders reconfigure opportunities and resources available to them within the SA EE?	Theme 8: Reconfiguring resources to seize opportunities when faced with macro-environmental changes.	59	12
Research Question 2: How did the location shape HGDS founders' capabilities in South Africa?			

2.1) What benefits were acquired from the SA EE?	Theme 9: Reflection on institutional engagements and regulation changes Theme 10: Opportunities and challenges with regards to digital adoption in the SA EE	80	12
2.2) What benefits were acquired from international ecosystems?	Theme 11: Global connectivity and opportunities from international EEs	35	12

4.5 Findings for Research Question 1: What characterises successful transitioning from a basic startup to high-growth startup within the South African context?

4.5.1 *Founders' sensing activities in the SA EE*

In sub-question 1, the aim was to assess the sensing activities of HGDS founders to strategically recognize new business opportunities. Two themes emerged in relation to sensing activities. These themes provided further insights into their searching and learning activities.

Table 7: Major Themes in RQ1 sub-question 1.1

Research sub-questions	Major Themes
1.1 How did the founders sense opportunities and resources available to them to strategically recognise a new business opportunity within the SA EE?	Theme 1: Having prior work experience and education that attributed to finding business opportunity. Theme 2: Innovation led by market validation

Theme 1: Having prior work experience

Having prior experiences was a common theme when identifying new business opportunities and taking up entrepreneurship. This theme was referenced by all 12

founders (100%). Below Table 8 summarises prior backgrounds of the 12 founders in relation to their education, work experience and number of startups founded previously.

Table 8: Sub-question 1.1 Theme 1: Prior founder experiences

Participant	Highest Qualification	Years of work experience	No. of previous ventures	Experience in the industry of the startup
1	Masters	10-20	4	Yes
2	Honours Degree	3-5	8	Yes
3	Bachelor's Degree	10-20	3	Yes
4	College diploma	20+	4	No
5	Honours Degree	10-20	4	Yes
6	Bachelor's degree	20+	5	Somewhat
7	Masters	10-20	1	Yes
8	Honours Degree	5-10	0	No
9	Masters	5-10	1	Yes
10	High-school & Masters in Entrepreneurial Program	20+	5	Yes
11	Bachelor's degree	5-10	2	No
12	Three Business School Diplomas	10+	2	Yes

In terms of education, ten participants (83%) had a university level degree, a Bachelors, Masters, or a Diploma. One participant had a college diploma and one had only completed high school.

All HGDS founders had substantial work experience prior to the startup, of which ten indicated that it was in the same industry as their current business and two indicated that it was in a different field. The majority (67%) or eight participants had more than ten years of work experience, while the remaining had more than three years of experience. None of the founders had started these high-growth businesses without obtaining work experience first. Figure 9 summarises the founders' work experiences.



Figure 9: Participant years of work experience prior to the startup

In terms of founding previous startups or self-founded businesses, only one founder had zero previous startups while the rest had at least more than one startup. In terms of industry experience, nine founders (75%) had experience within the same industry.

All the founders (100%) acknowledged that having prior experiences was a contributing factor to recognizing business opportunity. It was a common theme. The business opportunity occurred while they were at their previous jobs or businesses or through research and interactions in the South African business environment- they understood the market, the level of tech adoption, legal structures. All (100%) of founders met their cofounders while they were at their previous jobs or businesses. Participant 1 immigrated to SA in search of business opportunities and opened up a startup launcher that invited tech engineers to launch innovative ideas. Their third project turned into their current startup. While Six Participants (50%) all had technology-based businesses which later influenced them to solve problems using their current startup. For example,

Participant 5 said *"I have pretty much run my own companies my entire life. So, my previous startup, which was something we started out of a garage, I grew to be South Africa's biggest email service provider, I sold that. And I learned a lot about email in that business. And while in that business, I came up with my current business idea."*

In contrast, participant 8 met his cofounder while working as a strategy consultant and together they identified a problem to solve and then quit their jobs. Another notable example was participant 2 who built a successful media company, sold it internationally and then decided to join a tech venture capital. They *said "I really have had the opportunity to work with a lot of different tech companies while we decided to invest in them, work with them in all sorts of ways. That really has opened my eyes."*

Below Table 9 captures other participants' narratives on how their startups stemmed from prior experiences.

Table 9: RQ1 Sub-question 1.1 Theme 1: Participant views on prior experiences playing a significant role in recognizing business opportunities in South Africa

Participant 3 "My business was started as a side gig as a concept on PowerPoint presentation where I was frustrated at work with a form you had to fill out. I won a competition at the Standard Bank incubator, in the bank where we had to present solutions that could make the bank better. Like future business models, and so I won a hundred thousand prize money. There are incubators, they are accelerators. They are like startup conferences or pitch days or demo days. Like that opened my eyes…"
Participant 4 "I come from a very conventional business background, which is textiles and aviation. But when I went into the aviation industry, and I was struggling to access to finance for my airline, because it's a high-risk project. I noticed that I was getting too much interest from my consumer sand they used to tell me that they could help me. when they saw my airline was struggling because of capital. At that time, I started doing research on alternative funding options and I had the first mover advantage."
Participant 6 "From 2010, I started my own business, which was focused on investment banking, financial services, private equity, So, having that hedge fund mindset is great, but you have got to implement it in the right way for positive good. I am in my 40s, you know, I have worked at other organisations, I have built relationships across different spheres. I have been running my own business for last 10 years."
Participant 7 "My co-founder, we've actually been in business for a long time since 2005. We launched this startup in 2015 …but prior to that we've been in a mobile ecosystem for about 10 years, we launched several b2b and b2c products. To develop this current business, we

understood over the past X number of years, we have been in the ecosystem, that there's a big disconnect between what a brand is or what a business wants to achieve, versus how a consumer would like to interact with the brand."

Participant 8 "My background, so I am an actuary by profession. But right after I finished my masters, I moved into strategy consulting. I ended up working with all the big telco operators…What I saw was that we had a very high mobile penetration. Right about the same time, my co-founder was my manager at the time, we were writing a white paper together. we were trying to figure out whether South African startups, African startups, startups from developing nations could compete against their international counterparts."

Participant 9 "the origin story of the startup emerged during our time at Uber. So, I was heading up vehicle solutions for Uber which is basically a team responsible for designing products that would help drivers get access to cars. And I would work with banks, leasing companies, car rental companies, so this was early 2015. After four years I eventually headed up vehicle solutions for Uber across all of Europe, Middle East, and Africa. So, I think a lot of what people don't see on the surface is. what we had done before we founded the startup, we were doing this for four years."

Participant 10 "So, I had a previous venture, which was a one of the largest ecommerce auction websites in South Africa. Especially good one…We wanted to solve a problem with one of our platforms with regard to payment. I think what a very big blessing in disguise for us was the fact that it was not our first journey, you know, it was our fifth one. So, from that perspective, we were very fortunate in order to be able to understand what are the challenges that we are going to be facing? How hard is going to be, and more importantly, that, you know, in any startup, after every single up there is always a down and after every single down there is always a up. So as long as you understand that you can go through every challenge that will be thrown at you."

Participant 11 "And we started a business, a franchise in the food and beverage industry. And from there, essentially, I was a small business owner myself and came to the end of the month, and we needed some working capital. And we approached the banks, the bank said no, the turnaround time was around 12 weeks to come up with an answer which was ridiculous. And I looked at other alternative lenders in the market. And I saw it was very manual, very paper driven. I just saw there was a problem. I saw a need as a small business owner myself that isn't being filled and isn't being innovative enough with the use of technology."

Participant 12 "Previously I took over a business as an employee…that just came out of acquisition in a global company… it's a big build-up of different businesses I have built and launched. I came to the realisation that I am actually not going to work for anyone else…"

Theme 2: Innovation led by market validation

The second recurring theme was building an innovation led by market validation. participant 6 said "*And, it is not just about building the tech…you know, you can have the greatest tech out there. But if you are not solving for something, what is the point?*

This refers to assessing the appetite for market adoption. It stems from the previous theme; prior experiences allowed the entrepreneurs to identify the problems but majority of them indicated that they validated their solution before attempting to capture it. The founders emphasized that they were continuously researching and learning about customer needs which enabled them to gauge the appetite for South African market adoption before they produced the novel innovation.

Participant 5 furthered this sentiment by saying *"You do not look for the problem, and then try and solve it, you often see the answer and then build a business around it. So, because I am so involved in email out of my previous business, I started seeing this problem and this need…"* This experience was shared by majority of the founders. Participant 10 said, "*We were solving a problem in our existing business, and this was meant to be a 3-month project that turned into a full-fledge startup six years later" Likewise* participant 4 said *"I was looking for alternate channels for funding and I found that there was no equity crowdfunding in South Africa."*

Some founders like participant 6 and 8 wanted to solve for corruption and unemployment which were already established problems and thus market validation was achievable. Two founders experienced the problems first-hand for example for participant 3, it was filling out forms or for participant 11, it was accessing working capital as a small business. Lastly, there were two founders that they validated their market through research such as participant 1 who conducted a geographical study or participant 2 who followed trends in the market that had yet to be solved.

The two themes certainly overlap as prior experiences within the industry influence how founders identified the problem and developed a market validated solution around it.

All 12 founders employed a variety of strategies to understanding how to solve problems in the "emerging market" context. Quite a few participants said that they looked at what was being done in the American and European markets to see how solutions could be

adapted to the African market**.** Participant 8 emphasized that international markets were extremely competitive and for South Africa to produce scalable solutions, they had to focus on a problem that was unique to the African market. This way innovations could not be replicated by the more advanced international ecosystems as they did not have that context. For example**,** participant 9 said "*And we figured we could change car subscriptions to be something that appealed, only spoke more to an emerging market customer. And that is how we designed you know, drive now buy later…"*

It appears that there was consistency in how the founders sensed opportunities. Having prior experience in terms of industry and education allowed them to (1) identify the need or validate their market and most importantly, (2) the majority (100%) of the participants said they met their co-founders through their prior experience which led them to ultimately seize the opportunities they identified. Sub-question two will address how they captured the opportunities they identified.

4.5.2 *Founders' seizing activities in the SA EE*

The second sub-question explores how founders of high-growth digital startups seized business opportunities in the SA EE. Five themes emerged in relation to their seizing activities.

Table 10: Major themes in RQ1 sub-question 1.2

1.2 How did the founders seize opportunities and resources available to them to capture the business opportunity within the SA EE?	**Theme 3: Taking personal and financial risk.** **Theme 4: Obtaining critical mass of users for growth.** **Theme 5: Leveraging support systems and mentorship networks to solidify identity.** **Theme 6: Accessing capital for growth in South Africa.** **Theme 7: Reflecting on access to local talent to capitalize on opportunities in South Africa**

Theme 3: Taking personal and financial risk

Taking personal and financial risk was the most common theme in relation to seizing activities. All founders (100%) indicated that they had pre-established businesses or jobs, but they were willing to let go of these in pursuit of the identified business

opportunity. This theme highlighted how HGDS founders made the decisions to (1) take risk by deploying personal full-time resources to pursue the venture. (2) take financial risk by bootstrapping or deploying personal funds into the business. All 12 founders indicated that they self-funded their business by bootstrapping it from inception before they approached funders or received any formal funding. For example, five participants quit their jobs, five exited and sold established businesses and two founders shifted their focus from previous ventures.

Participant 6 said *"We started gaining traction in 2020, we had other fantastic businesses in the group that were doing really well, and we realised that when we got rid of the other businesses, when we sold them, now we could focus completely on this."* Meanwhile participant 2 and 5 said that they started these startups because they had already sold their previous businesses and they could afford to finance their current ventures.

Participant 3 said *"I got like my personal bonus and pension fund, which would keep me alive for 12 months. So, what I will first do is I will run on all my own cash and see how far I can get it how much I can de-risk and how much traction I can get."* Similarly, participant 11 said that by quitting their job and investing life savings, they were forced to innovate and quickly build a minimum viable product to secure funding. They said *"Essentially, having a proof of concept meant we could not get access to funding…So that forced us to bootstrap the business. And we invested all our life savings into the business. We didn't draw a salary for the first 18 months, we kept the business very lean."* Participant 2 also said that their experience in investing in tech startups previously allowed them to see how to better deploy resources. So, after their first seed round, they went straight to venture capital funding.

Both factors of personal and financial risk indicated that founders had safety nets to fall back on if they were unsuccessful or that they had the necessary capital for sustenance in the short-term while they looked for alternate funding channels for growth.

Theme 4: Obtaining critical mass of users for growth

For HGDS obtaining critical mass of users was exceptionally important to maintain competitive advantage and gain access to capital. Theme 4 highlights founder capabilities to capture value within South Africa or internationally. It was noted that the majority of the founders started gaining traction months after inception. These founders gained their first clients within 6 months of operation but explained that even though they had established a need, it took 2 years of experimentation and finding the product-to-market fit. Majority of the founders had built MVPs (minimum viable products) and those alone helped gain traction.

Participant 1 said *"so we launched it in November 2016 and had our first client in January 2017. So, two months later. One of our biggest is MTN."* Participant 2 went through a similar growth spurt because they positioned themselves as a unique product in their industry, *"There's a sector for proptech, it's technology specifically for your sector. And most businesses don't even know about it…So we've tried to position ourselves as the authority and the thought leaders when it comes to tech and property is very much a land grab now and in the first market is important but also good product is pretty critical. In the first few months of 2019, we exponentially grew our tenant base. So…we have almost 100,000 tenants on board, which is a big dent into the South African population."*

For participant 5, they emphasized on obtaining users through partnerships. They said *"We started selling so we had like, maybe six paying customers in January, we now have about 100. So, it's important to know that my business is all about partners. We sell to companies who sell to them to their customers. We've grown from 7x customers to having 2000 customers loaded on our portal…The market for my company is so big, that if I educate the whole market on how to solve this problem, only 10% of that market who uses us will make more money. So, part of what we're doing is educating the market."*

Three founders found that their previous clients served as their biggest clients while for participant 3, their former employer Standard Bank agreed to test their pilot. These founders held a reputation in their respective industries or had good relationships with their employers which helped them achieve multinational clientele within the first six months. For younger participants who introduced completely novel and risky solutions such as participant 8 who introduced job seeking for the lower to medium segment and

participant 11 who built a financing model for SMEs, it was difficult to obtain critical mass initially because they lacked an established network. However, once they had an MVP, they were both able to scale their solution with the help of external investments.

In the table below, participants highlight that in order to build a successful startup, the product had to be scalable. It was important to obtain a critical mass of users. Majority of the founders focused on improving their MVP to attract customers and later investments.

Table 11: RQ1 Sub-question 1.2 Theme 4: Participant views on Obtaining critical mass of users for growth in South Africa and beyond

Participant 1 "Very quickly after launching the business, we have 80% clients in Johannesburg, 20% in Cape Town…And quite a few like small financial service providers, Neo insurers and so on."
Participant 5 "So, we only started getting customers late 2019. But we spent most of the first part of late part of 2019 trying to raise funding. And then we received our private equity funding check in December. And I said this business is only really started from January 2020."
Participant 6 "We've integrated with a smart city operator…and a company called my fan park that does celebrity shoutouts because they needed the wallet functionality. And we have just signed an agreement to integrate with South Africa's third largest online classifieds business called junk mail. So that's quite big contract for us as well."
Participant 7 "Only towards kind of 2018/2019…that's when our revenue kind of picked up. We're doing a few million Rand a year… we started with maybe over 2/3 million Rand a year. And then we built that up to around 19 million to 20 million Rand at the beginning of the year. We have multinational clients, I mean, one of our first proper clients are in Sri Lanka, actually…But 99% of our clients are in South Africa."
Participant 8 "So, when we first launched, we had a very basic MVP version, it was only SMS based. And I would say we grew that for a good six months. At that point, I think when we hit about 10 to 15,000 job seekers, and then I would say by the end of the first year, we had close to 100,000 registrations at that point, the service was starting to get a bit more meaningful. Then around the one-year mark was when we started getting offers for paid users. Some of our growth strategies included Network effects – the larger our jobseeker and employer base becomes."
Participant 9 "I think that, for me, that was the low hanging fruit is like we knew exactly what Uber's problem was. And we knew how to solve it. So at least we could start off by focusing on their community of drivers. I mean, the demand for the product is quite high, bearing in mind again, that they are not being served by the banks. Yeah. In South Africa, there are over 12,000 Uber drivers. And a lot of them have really proven their ability to use Uber to make

money. So, we received 1000s of applications in our first year of operation, the challenge for us was actually having enough cars. For us the challenge was more on the supply side, that was not the demand side."

"We are expanding into Mexico, there are a lot of similarities, I think we studied Mexico, you know, Mexico manufactures over a million cars a year. It has a pretty large population, 120 million people. So, double the size of South Africa. pretty robust, you know, US car market."

Participant 10 "As a payment company basically serves a few million South Africans. We are also in that growth phase where; we basically have an average of about 100,000 new customers using us on a monthly basis. So, we are at that stage where we are covering all major cities and rural areas and communities in South Africa. So, at the forefront of financial inclusion…"

Participant 11 "Since 2018…We grow on average, like 30 to 40% month on month. We sit down with around 3% bad debt which is, which is quite good for unsecured business lending, usually anywhere from 5 to 10% in the industry."

Theme 5: Leveraging support systems and mentorship networks to solidify identity

Theme 5 was referenced 24 times. Founders emphasized on the importance of pre-established support system and mentorship networks. The majority of the startups did not need to undergo any form of incubation programs. One of them claimed that time devoted to incubation programs can be spent developing products. Table 12 summarises formal support received as well as challenges faced by each of the startup founders.

Table 12: RQ1 Sub-question 1.2 Theme 5: Leveraging support systems and mentorship networks to solidify identity.

Participant	Year Startup founded	Support received	Challenges
1	2016	Incubation Services from previous venture Had a network of advisors and pre-established relationships. Entrepreneurship events and competitions	You needed to know the right people

2	2016	Venture Capital Network Endeavor Entrepreneur Network Entrepreneur Organisation	
3	2017	Standard Bank incubator	Only short-term support
4	2017	Advisory Board that was well-networked in the industry	Limited mentorship due to International VC and location was a hinderance
5	2018	Vast network of social capital in the same industry Endeavor Entrepreneur Network Entrepreneur Organisation Local VC Partner as advisory	
6	2017	A vast network from the investment industry Standard Bank incubator Founders Factory UK Government – Go Global Program	Local support not sustainable
7	2015	Alchemist Accelerator Local VC Partner as advisory A vast network of family and friends Endeavor Entrepreneur Network	
8	2014	Mixture of international and local VCs acting as advisors and offering support. Local VC was able to provide support in terms of attracting corporate clients. International entrepreneurship competition	International VC advisors were unable to help with market knowledge
9	2019	Endeavor Entrepreneur Network Entrepreneur Organisation International VC Partner as advisory Section 12J Loan Partner	
10	2014	EY Vantage Incubation Programme Endeavor Entrepreneur Network	
11	2017	AlphaCode Accelerator Retail Capital – Corporate Partner	
12	2017	Personal support network Entrepreneur Organisation	

Notably, five out of 12 of the founders were part of Endeavor South Africa. This is a non-profit global organisation that enables high-impact entrepreneurship in the country. Founders expressed that they were able to leverage the dense global networks provided by the organisation. All (100%) of the founders received some kind of short or long-term support from both local and international organisations. Three of the founders stated that the support they received from incubator or accelerators played an instrumental role in achieving scale in South Africa. Participant 8 said that support was there, but these support organisations need to play a more sustainable role *"Yeah, I think that I think that perhaps accelerators and incubators need to play a better role in seeding the entrepreneurship ecosystem, because it exists. It's just very nascent. And I remember that when we won Seedstars, Standard Bank ran the program…They've disappeared since then. I think they still exist, but they're not at all doing the same sort of events at the same frequency having the same sort of meetups."*

In addition to listing support accessed, founders elaborated on their experience with regards to support organisations playing a role in helping them achieve scale. These founders' experiences are collated in Table 13.

Table 13: RQ1 Sub-question 1.2 Theme 5: Participant views on leveraging support systems and mentorship networks to solidify identity.

Participant 1 "I would say more we needed to know the right people. You know, it is a new technology. So new technology needs to build the trust. We had to partner up with a couple of people that could introduce us to the different executives that we needed to engage with in order to convert the deal if that makes sense, we also had a bit of mentoring support from our own incubation programme."
Participant 2 "Yeah so, I mean, I am part of Entrepreneur organisation called EO... And so, this is definitely very strong one that I can reach out to. And I'm actually part of the Endeavor mentorship now moving to become an Endeavor entrepreneur. The network from the venture capitalists, has been strong. So Kaylon has a lot of good reach. In terms of the industry, CRE, which is the other US based VC, are very well networked in capital, and finding capital."
Participant 3 "Standard Bank Incubator. At first, it was through the Standard Bank incubator they had this innovation week, this competition they held for a global FinTech Pathfinders challenge…I came third and the judges, two of them were CEOs of venture capital firms. We got introduced to the venture capital community. And so, I did not know that people would fund your business. And only after that level, is when I found out that, hey, you do not actually have to do everything yourself."

Participant 4 "We just had one seed investor from Silicon Valley…One of the challenges was that they are based in Silicon Valley, and we are in South Africa, okay, so that support is not readily available".

Participant 5 "We are part of Endeavor because I'm a historically an Endeavor entrepreneur. Endeavor is an amazing organisation. And then we are part of EO (Entrepreneurs Organisation). But entrepreneur's organisation is like a support group."

Participant 6 "We took on the shareholder with Founders' Factory and Standard Bank. They definitely helped us with the credibility, and we had a good name in terms of the investment banking industry, but this is a is a is a consumer goods or B2B, good as well as service and product. So, we needed a bit more credibility and having other shareholders come in definitely helps. The UK-SA tech hub has been phenomenal. And, and it is on the back of that relationship that we set up in the UK that I applied for my exceptional talent visa, and I got on to the global entrepreneur programme."

Participant 7 "We weren't part of the ecosystem before and were disconnected. Earlier this year we got into the Alchemist Accelerator in San Francisco so that we can expand into the US. We learn a lot from customers and partners. And then once we started raising capital, like for example, Kaylon so Clive definitely is a big mentor of ours, he is always trying to help his investee companies, so he is amazing."

Participant 8 "Locally there are not many examples of startups that have successfully scaled and exited – when you overlay the dimensions of startups in our industry/ type of startup, that number is basically zero. As a result, it has been difficult to find mentors with whom we can directly relate to. Fortunately, the internet is an amazing tool when it comes to networking – we've used LinkedIn and our own networks to reach out to entrepreneurs across the globe who are doing similar things. Generally, tech entrepreneurs are friendly and willing to chat."

Participant 9 "Yeah, so I think there were a lot of new relationships are formed, obviously, I think we had some strong credibility with different players that we have worked with at Uber, as well. You know, once you are part of the network, you can then tap into a lot of entrepreneurs that we respect, that we look up to that were inspired by. You know, even in my Endeavor onboarding interview, I mentioned that, for my early 20s, I looked up to you know, people like Adrian Gore. It is one of the toughest resources to gain as an entrepreneur and as a founder…So I think that mentorship is obviously key. One is the network; we have access to mentors. But last is actually profiling."

Participant 10 "EY had an incubator programme called the Vantage programme. It was a six week or eight-week programme, resourced the programme as an individual that can actually help formulate and build a strategy for the business to grow. Then we also went through the Endeavor programme…We've got access to the entire Endeavor network globally. We work very closely with it as well from a mentorship perspective."

Participant 11 "One biggest hope was that we got accepted into AlphaCode for credit is a leading RMB incubation programme. So, I mean, they were instrumental to our growth and our launch because they helped us with marketing with PR, with legal with mentoring, office space. Then we only applied for one competition, the Prestige Awards. Because it is such a

UK based award. And we thought it would be quite cool to get like international recognition. I should apply for more awards now after we won, it kind of gave us confidence."

Participant 12 "No funders no accelerators, No. If I do not need money, I do not know what other value they can provide. I am on the Entrepreneurs Organisation…I think, just as an entrepreneur personally, and knowing the same people in the same space."

The two founders (participant 4 and 8) who only received international support from their respective VCs said that they were unable to guide them in terms of local market information. Thus, it was important to build alternative local networks to obtain mentorship and find new opportunities. Quite a few of the participants said they received mentorship and networks through their VC funding partners, especially the local ones for example those who were funded by Kaylon Venture Partners. These founders explained that support enabled them in the form of mentorship and getting access to social networks.

However, support was not limited to independent organisations, but it was also sourced through personal networks developed over the years. This included support from family, friends, customers, and entrepreneurship competitions. Lastly, a few participants said that support organisation need to play a more sustainable role in South Africa. For example, participant 6 said that Standard bank Incubator endorsed a non-equity stake in the business but did not play an active role to build the business. While participant 8 said that early-stage support organisations are key for a young ecosystem. Their example was also the Standard Bank Incubator who introduced them to Seedstars global pitch competition where they got international recognition and prize money. However, their engagement was minimal post the competition. Participant 8 also said that in Cape Town, there was entrepreneurial hype on the ground, but the support did not translate into sustainable or long-term impact.

Theme 6: Accessing capital for growth in South Africa.

Theme 6 which is access to finance for growth was identified as one of the most important factors for achieving growth. The list below, summarises the key points for access to capital for HGDS founders.

- 10 (83%) of the HGDS founders approached and received funding.

- Nine founders were able to access capital within the first two years of operation which was in the form of angel investors, pre-seed, seed, or series A funding. This was after they had a product and market traction.
- Two startups were entirely self-funded.
- Four founders received capital from both local and international sources.
- Four founders accessed local funding.
- Two founders accessed international funding.
- Zero founders obtained any capital from government funding channels.

The table below presents the various sources of funding or access to capital for HGDS, that is available on the public domain.

Table 14: RQ1 Sub-question 1.2 Theme 6: Accessing capital for growth

Participant	Year Startup founded	Funding Received	Location	Funding Details in the public domain
1	2016	2017 – Angel Investment 2018 - Pre-seed Funding (Local) 2020 - Series A (International)	Local + International	Pre-Seed Funding – SA based Kaylon Venture Partners and Mauritius-based Compass Venture Capital Series A – Saivu Ventures + Kaylon + Compass Ventures
2	2016	2016 - Angel Funding 2019 - Equity Crowd Funding	Local	Angel Investments
3	2017	2019 – Series A	Local + International	Kaylon Venture Partners CRE Venture Capital
4	2017	2018 – Pre-seed funding	International	Silicon Valley based – Nexus Ventures
5	2018	2019 – Private Equity 2020- Seed Venture Capital	Local	Kaylon Venture Partners
6	2017	Self-funded	-	-
7	2015	2019 – Seed 2020 - Pre-Series A Venture Capital Funding	Local + International	Kaylon Venture Partners HAVAIC

8	2014	2016 – Seedstars Award 2016 – Seed Funding 2018 – 2nd Equity Funding 2020 – Grant Funding	International	Omidyar Network Omidyar Network and Edge Growth Vumela Fund Brozin family's Forever Young Capital, and Catapult Trust UNICEF Innovation Fund
9	2019	2019 – Seed Round + Angel Investor 2021 – Seed Funding 12J Loan Partner	Local + International	Nairobi based Savannah Fund. SA based Angel Investor. CRE Venture Capital Kindred Ventures Optomise 12J Fund Institutional Loan Partner
10	2014	2016 – Seed Funding 2017 – Seed Funding 2019 – Series A	Local	Yossi Hasson and Kaylon Venture Partners
11	2017	2019 - Angel Investor Acquired by Corporate Competitor	Local	Not Disclosed Retail Capital
12	2017	Self-funded	-	-

All 12 participants commented on the (1) availability and (2) nature of risk associated with acquiring capital in the SA EE. The general sentiment around access to funding was that there is funding available in South Africa but to access it, entrepreneurs need to have strong products and networks while ecosystem stakeholders need to have risk appetite to invest in novel innovations. Participants 1 and 5 said that because the VC ecosystem is small, it was easy to raise capital if the product and traction was there. One of the notable comments around risk was that there was growth capital available but not enough risk appetite for seed stage startups. Participant 11 said, when they approached funders, they were rejected 50 times because they did not have a fully functioning product. They then used their own savings which was supplemented with angel investments to refine their product. Consequently, after refining their product, they were acquired for 60% by their major competitor. These views are captured in the table 15 below.

Table 15: RQ1 Sub-question 1.2 Theme 6: Participant views on accessing capital in SA EE.

Participant 1 "We raised capital to be able to grow the team and, and make sure we can substantially grow the capabilities and revenue in the coming years or so… Because they are not so many VCs. So, you can quickly know who is in the place if that makes sense. But it's not really a startup market, it's more an investor market because of offer and demand."

They also said. "So, it's still very small. Yeah, I think we this lot of work still to make this community big enough to have a volume of transaction, the right partners, the right trust from international capital who are happy to invest in the business in the country. So yeah, there is definitely a lot of money available. But I think it's a lot of people a lot of institution that are risk averse, so they don't necessarily want to invest in startups. And because for the simple reason that startups are high risk investment, with very small chances of return. So, I've just seen, we need more capital in order to find this critical mass to make the big impact on the country."

Participant 5 "I think that the funding space in South Africa is actually quite good. But that's my just because I've received funding. And I think there is a very hard lesson for all entrepreneurs to realise that if funders are not interested… Because there is definitely money in South Africa."

Participant 11 "the biggest problem with a lending business is access to capital. Essentially, having a proof of concept. And we could not get access to funding we had like, over 50 rejections, we went up to investors, and we told them, this is what we want to do. And everyone basically said, no, because looking back on it, we are just two young guys with no experience, no money, no proprietary technology, we did not have anything. Just trying to get out there and trying to innovate without having any innovation whatsoever. So, from this manual process, we understood what we needed, and that we did not have the capital to do it…We invested all our life savings into the business."

Participant 7 "you have got to really hustle quite a bit before you have any chance of raising capital. Right. I think that is a massive hole we have here. And of course, there is a reason is not that there is much capital in South Africa but…for capital to really work for these investors, they need to invest in a lot less risky asset or risky startups. So, we are not so big on capital basically… If we did not have the revenue growth, we are not going to get a raise."

In contrast**, Participant 4**, gained capital in their first year from a Sillicon Valley based VC. They said "We just had one seed investor from Silicon Valley. But so far, we have not been funded by any government and institution or any VC in South Africa. We keep on trying here and there, but we know the problem, and that is why we exist. Because we don't really believe that the system works, because we are also a new startup. It was a small funding based on face value. I met him personally. He saw my passion, and the dedication."

Participant 8 elaborated that they had approached a government led capital fund who took 8 months to complete due diligence and while they waited for approval, they were approached by an international venture capital who gave them a better offer within 3 weeks. They said

"because this business model hasn't been applied or tried before. And you need people with the risk tolerance that will say, I am going to give you this money, and there's a good chance that I'll get nothing in return because you're trying something completely novel, but there is a chance that you will get something that it will work. If it does work, you are going to solve a huge problem. And we're going to get a lot of return in the process as well. And so, the risk appetite for a seed stage investment is very different from the risk appetite for a growth investor. In South Africa, we have plenty of growth capital, we have very little of seed. So, it is a chicken and egg situation where how are you going to get the growth, if you don't invest in your seed?"

They went on to explain that "the government bodies generally invest only in traditional ventures…its where they know if I put 100 grands, it's going to go into this many costs, you're going to buy these goods, you're going to do this to it, and you're going to sell it for double the price. That is the business model. So, the first is understanding. The second is their mandate and their ability to invest especially in early stage startups. The VCs all around South Africa, they have a very low tolerance to risk, let us say when it comes to early stage startups. So, it is very, very difficult."

This sentiment was echoed by **participant 2**, who said "the venture capital mindset is very rare in South Africa, relative to other places in the world, you know, especially the hubs, Silicon Valley, New York, London, Berlin, etc. And there are many hubs, however, literally in the past two years since we raised our first round, the market has definitely matured in terms of that mindset, but it was hard, because we knew the ecosystem is very small, those people who understand venture backed businesses and how to value them etc."

Participant 9 said that they had access to capital within the first year. "So, they've backed a couple of African tech businesses. But the biggest backer we had at the time, was CRE venture capital. So CRE, invests mostly in African FinTech. They get excited about the promise of Africa. But yeah, they're US based, and our angel investors were spread across the globe."

Theme 7: Access to local talent to capitalize on opportunities in South Africa.

The last prevalent theme that affected the founders' ability to seize opportunities was access to talent and the entrepreneurial culture in SA. The majority of the founders said that they had full-time teams based in SA but had outsourced specialised departments locally or internationally. Their employment distribution and detailed views are presented in table 16 and 17.

Table 16: HGDS Startup Employment Distribution

Participant	Employment at inception	Current Employment	Details
1	2	20	In-house technical capabilities. Outsourced Accounting, and Legal. Diverse team with South African and International employees
2	3	10	South African
3	3	10	South African
4	2	8	South African Dev Team outsourced from India
5	3	10	South African
6	2	12	100% South Africa Looking to hire 4 Persons in UK and SA
7	2	28	South African Team with 1 person in the US
8	2	8	All South African Sales Team – Temporary Dev Team outsourced from India
9	3	25	10% Amsterdam 20% Mexico 70% South Africa
10	3	50	South African Outsourced specialised roles like marketing and security
11	2	6	South African
12	1	45	South Africa Team 1 Person in the UK 1 Person in Ukraine

Table 17: RQ1 Sub-question 1.2 Theme 7: Participant views on access to talent in South Africa.

Participant 1 said “I think hiring is a challenge hiring in general, finding talents but like South Africa, it's a bit of an internal fight with other businesses to get access to talent. So, it's hard. But so far, so good. We try to focus on the local talents and not outsourcing to a big region like Europe, India, etc. We want to try to promote the local.”

Participant 2 “So, there's obviously quite a bit of onboarding on that on that side as well. So, I think, you know, a bit of both trying to find people that have certain expertise, but also training them to be up to date on the capabilities in what we trying to do.”

Participant 3 “I would say there's a strong talent pool. And if you could pay decent wages, then it was easy. If you couldn't pay decent wages, then it was not easy. So, there's very few people are willing to work for below market salary in exchange for equity. And as they can see that the business is going to win. But then secondly, we knew that they wouldn't count for any BEE points. And so, the BEE mandate was very strong in South Africa, so that's why we tried to only keep South Africans.”

Participant 5 “It's quite hard to get skilled engineers. But I think that's a global problem. And I think we've been lucky; we've gotten pretty good staff. So far, but our approach has been different to what it was in the past. So, when I built a business in the past, we hired kind of cheap, and then we trained the staff. Whereas with this business, we've made a conscious effort just to pay well, and then we just get better people. And I think that's just a lesson of life. If you just pay better, you get better.”

Participant 8 “SMEs are meant to be the backbone of every economy. That's what it's meant to be right…Like an early clear pathway into entrepreneurship. SMEs are meant to be that pathway, unfortunately, in South Africa, and I don't know if it's like a vestige of apartheid. But what's happened is that there's a lot of concentration of power amongst a small proportion of large corporates. So, in South Africa, relative to other nations, we actually have a disproportionately much larger size of our employment pool being hired by larger corporates. And as a result, SMEs in South Africa are disempowered relative to the bigger corporates. And then it's a sort of a cycle that sort of self-perpetuates.”

Participant 9 “Based in Amsterdam, you have Netflix, eBay, Google Amazon. So, all the top tier technology is there meaning you also have top tier talent that you can access. So, for us it was, how do we make sure that we're in a place where we can attract global talent to build a global marketplace.”

Participant 10 echoed this by saying “And then the next one availability of scientists, engineers in our space, what is very key is software, software development to software engineers. This is also a skill that is pretty rare in South Africa. And when the skills available, there obviously gets snatched up by the big organisations or major enterprises. Enterprise organisations like banks and public sector, etc. So yeah, it’s definitely a major obstacle for us at this stage. This being availability of trained talent in your field.”

"So, the specialist roles can be outsourced, cybersecurity would be one or security as a whole. There are some areas from a marketing perspective, that we also need to outsource. And the only reason why we outsource is because we basically are operating as a lean business…but we are working at bringing this function fully in house by employing. But we fully acknowledge the fact that you are going to have some areas in the business that you're going to need to outsource even though you want to bring as much as possible in-house".

They also said that one of the other concerns they had was hiring based on the Black Economic Empowerment (BEE) regulations. They said they had had labour challenges in the past because they would rather hire based on skill rather than to fill a quota.

"One of the major issues we have in the country is that we will not hire you based on your skin colour or more importantly, we will not hire you based on your nationality. And I think this is very important and it's very challenging that in today's day and age, we have to basically fill seats in a company based on meeting a quota. And for us as being as being something that we really fought hard. That made us reach a BEE level in an ethical manner very challenging, but nonetheless, still possible. And I think one of the things that we're most proud of, especially on this day, is we've got almost 50% of our workforce, that's a female workforce."

Lastly, **Participant 12** said with more technological advancements people are having to upskill globally. From their experience expanding the startup abroad, they said "And it's a global challenge as well, technology and engineers. But then because of that, then there's a faster club, a high demand, low supply, so then you get nuances around the quality of individuals and then costs obviously are higher because of the scarcity of the skills."

The HGDS founders had mixed views regarding the entrepreneurial culture and acquiring talent in South Africa. First, many participants acknowledged that skilled talent was available in SA. It was also stated that employees required initial training in the field of their particular innovation but if they had the right backgrounds, it was not difficult.

Three participants shared the view that "getting a job" was the main priority and mindset. Participant 8 elaborated that graduate are attracted to high-profile jobs *"all the talents are starting to move towards these larger corporates. And then before you know… you get stuck into a corporate…you're a small little cog in a huge machine. And I think it's just a cultural thing that we have to, like, figure out in terms of how to evolve."*

Many of the founders indicated that even though the talent was available, the skilled people were pulled towards corporate jobs. Most notably, participant 8 highlighted that corporate hired a disproportionately large pool of employees which disempowered smaller businesses or startups. They explained that "*Corporates is where the majority of the power is currently sitting, unfortunately. And it's one of the big problems that we have*

to address if we want to fix entrepreneurship like that." This also meant that fewer skilled people were likely to go into building their own businesses. Another participant added to this saying that this meant that people who did not end up getting a job went on to start small businesses out of necessity. This then contributed to the high failure rate as businesses were started out of necessity and without appropriate skills or knowledge.

Participants 3 and 5 said that accessing talent was also dependent on high wages. If the employees were paid competitive industry wages, then finding talent was easier. However, they said startups are forced to pay in equity in order to operate as lean as possible. In addition, with this talent scarcity, innovative startups looking to scale were forced to outsource work while they built their in-house capabilities. This also meant outsourcing work to international talent for example technology development teams outsourced to India, in the case of participant 4 and 8. Participant 4 also said that hiring specialised outsourced teams meant saving on costs as these skills were not only available for cheaper but that the business was able to operate lean as fixed costs were reduced.

Lastly, participant 8 highlighted concerns about educational foundations in SA. They said *"And I think that I understand why they are the way they are… It's a function of our economy and our society. And I think there's a more fundamental thing here that we have to solve…education, for me is like the biggest thing. When we did get money, it was international money, but international money that was used to hire and fund two entrepreneurs, that weren't even South Africans, right, my entire dev team at present is based out of India, and not so African either. And that's because the skillset needed to grow these businesses just doesn't exist in this country. We need to address that. So, I would say, as a medium to long term, we need to be focusing on the foundation."*

Three concerns emerged from the overall discussions, (1) SA has foundational problems when it comes to education and skills. (2) The cultural mindset is risk averse whereby there is "SME versus Corporate mindset." This means that "getting a job" is seen as a priority and jobs are not available then businesses are created out of necessity and for self-employment. (3) There is a constant rivalry between corporate and SMEs or startups to recruit niche or specialised talent, this is leading to startups hiring international talent, which also more cost effective.

4.5.3 *Founders' reconfiguring activities in the SA EE*

The third sub-question explored HGDS founders' ability to reconfigure and redeploy resources in order to acquire new business opportunities and scale in SA. Reconfiguring activities emerge as entrepreneurs respond to macro-environmental changes in the broader context. One major theme emerged in relation to founders' reconfiguring activities.

Table 18: Major Themes in RQ1 sub-question 1.3

1.3 How did the founders reconfigure opportunities and resources available to them within the SA EE?	**Theme 8: Reconfiguring resources to seize opportunities when faced with macro-environmental changes.**

Theme 8: Responding to market changes influenced by the Covid-19 global pandemic while attempting to scale within South Africa.

When asked about the activities required to respond to the changing business environment in SA, many of the founders immediately referred to the Covid-19 global pandemic. As this study was conducted in the year 2020, many of the founders explained that their reconfiguring activities involved responding to changes caused by the pandemic which adversely affected whole sectors of the economy due to national lockdowns worldwide.

All founders (100%) acknowledged that there was an increase in digital market adoption and internet penetration. A few of the participants were able to identify new opportunities in the SA business environment. They had to shift their business models in order to address the changing needs and increase their market share. While there were some participants who struggled to change their business offerings and maintain their growth trajectory. Below table 19 presents participant views on shifting business models in response to the Covid-19 pandemic in year 2020.

Table 19: RQ1 Sub-question 1.3 Theme 8: Participant views on shifting business models in response to the Covid-19 pandemic in year 2020.

1) views of participants who benefitted and were able to shift their business models to grow their market shares.

Participant 1 "The pandemic has really been an amazing opportunity for us to prove that conversational AI solution is really what businesses should implement now to help their business to continue. While they don't necessarily have the same human capabilities or call centres available to still continue business. We pretty much doubled in size this year."

Participant 3 "It was incredible for us. COVID made our volumes quadruple in March. And now they are like 25,000 transactions per month…Our systems broke due to the high number of sales."

Participant 2 "Yeah, it's impacted our revenue during the lockdown. And because the property and the rental market shut down. No one was looking…so it affected us in a negative way. But in a positive way, it's also affecting us because the adoption of technology, ecommerce, and digital ways of viewing and all sorts of trends are really popping up. That has definitely been accelerated, there's a complete leapfrog effect. I think over time, the adoption of technology and property definitely was, in a sense accelerated with COVID."

Participant 5 "You know…we're going to have an 8% GDP contraction in South Africa, we're going to have a global GDP contraction of between four and 10%. Our sales are definitely better because cybercrimes are up a lot during COVID, so therefore, that's made us more relevant. We're able to access international customers significantly more easily."

Participant 6 "For us, it's definitely a greater awareness of tech. And in uncertain times, you want to create certainty. Our startup helped create certainty. And I think that's what people have started to realise. So, it's not just the tech adoption, it's the certainty in highly uncertain times. Initially during the lockdowns, engagement was super low because nobody was transacting, and nobody was trading and stuff like that. But post the reopening of the economy, I'd say we've gone up like fivefold."

Participant 7 "During COVID, it was a bit weird. So, on average, over the past, I would say since COVID, our average revenue is around 6, 7 million Rand on a monthly basis. So, it did increase quite a bit. Hoping to get a bit more in peak retail season."

Participant 10 "You know, South Africans are the most sceptical people on the planet. You have the majority of the big chunk of the population that sceptical to go online using their credit cards. COVID-19 actually helped where, for a period people were forced to shop online. And I think that kind of opened up. You know, people's perspectives, and viewpoints changed on what the online shopping and digital economy is all about. And I think most people kind of see it in our numbers, once they've gotten a taste of it. No one is obviously going back."

Participant 11 "When South Africa entered a hard lockdown in March 2020, we did a blanket rate payment holiday for all of our clients, whether they were operating or whether they weren't operating. So, we kind of allowed businesses to carry on repaying us. So essentially, we gave 90% of our clients that payment holiday. By September, we were already at 100%. Everyone was paying us back normal rates, which shows the resiliency of small businesses and how businesses were operating. And we only had two small casualties of guys actually closing

their stores. We were expecting a lot more…but besides that, all businesses survived that, because everyone came together, they were all supporting each other."

"Look, I think there is good cash flow, especially after this pandemic, I think a lot of this shift has gone towards SME funding and growth cycle, there's more capital available now for our type of business than they were, when we started."

(2) views of participants who were adversely affected and struggled to pivot their business model

Participant 5 "But there's way more bad things, way more. There's a whole industry, which relies on people moving every day. And it's an enormous support system. We have got to get people back to the office to fuel the economy's again."

Participant 4 "Because of the economy getting investments will be a challenge for these high risk startups. We changed our strategy during COVID, we are now more focusing on rescue businesses. We believe our platform can not only help startups, but it can also help those businesses which are in dire need, which are not a growing concern. And we can rescue those businesses through equity crowdfunding."

"Another measure we took during COVID was, we created a partner dashboard. So, in the case we cannot afford internal resources, we will be able to onboard the businesses with partners which has given us an edge because now we might not need too many resources in house."

"In COVID, if the relief funds which were given to the banks were instead given to our platform, it would have really changed the landscape. If they made us their distribution partner to deploy the funding, they received from these development agencies, we could have automated the distribution."

Participant 8 "The truth is, this year has been pretty brutal. We're going to have to raise another round for sure. Corporates have put a hiring freeze for the foreseeable future. And over the last six months, what the team has been doing has been focusing entirely on shifting our model away from corporates towards SMEs Whereas all the SMEs, they basically immediately ran out of money as they run on month a month. And so, they fired people within the first couple of months. And now that the economy is starting to pick up SMEs are starting up again. So, restaurants that previously fired people are starting to potentially hire them again. But also, people that got fired either from corporates or other SMEs, they're starting to think about starting their own businesses. So, we're starting to see amongst the SMEs, there's a bit more chatter relative to the corporates, which is weird, given the lopsided nature of our workforce. But that's why we've decided to shift towards SMEs, because that seems to be where the action is at present."

Participant 9: "Obviously, it was limited, travel and all of that. And it's probably affected our drivers from buying the cars. So, I think it has impacted our customers' ability to earn enough income to afford the cars. But thankfully, we've really seen a recovery now, in their earnings. During the COVID period, we're just offering promotional discounts to our members, to kind of help them navigate the difficulties of COVID. But obviously, that's one of the reasons why we also recognise opportunity to go beyond just ride hailing and see who the other customers are

out there that might want to also subscribe for a car with a drive now by later model…So we have hundreds of subscriptions now."

Quite a few of the participants addressed that they had to change their entire business strategies in response to the crisis. These changes occurred in the form of (1) changes in business models (2) building new capabilities (3) reshuffling taskforce to address needs. For example, participant 7 said that their revenues went to zero as corporate froze hiring and they redirected their attention towards small businesses as lockdown was lifted. The majority of the founders also explained that acquiring talent became easier. For example, participant 6 said *"I think finding the right talent is difficult, sometimes, I think it's going to be a get become a bit easier now knowing that we can all work from wherever we are in the world."*

Participant 4 made a comment worth noting, they said that they approached the government with an opportunity to distribute relief funds for SMEs, but their solution was not adopted. If the government had used their technology to digitalize the due diligence processes of small businesses and distribute funds through them, the startup would have scaled through the Covid-19 period and would have likely increased both turnover and employment while positively impacting small businesses and the overall business environment. Thus, they emphasized that pivoting business models was not difficult from an entrepreneur's point of view as they had agile teams and were forced to shift due to macro-environmental changes. However, pivoting was unsuccessful or harder if other ecosystem stakeholders were not receptive and willing to support the shift in business models with speed.

An unexpected finding that emerged from this theme was that participant 8 said that due to the retrenchment of jobs post Covid-19 pandemic, there may be a potential increase in people starting their own businesses. In addition to this, access to global talent can be seen as more viable and thus this may potentially lead to an increase in the production of innovation in the country.

4.6 Findings for Research Question 2: How did the location shape founders' capabilities of HGDS in South Africa?

The aim of the second research question was to understand how location played a part in founders successfully scaling up. Three themes (9-11) emerged as founders discussed what local and or international conditions enabled venture growth for them.

Table 20: Major Themes RQ2: Sub-questions

2.1 What benefits were acquired from within the SA EE?	**Theme 9: Reflection on institutional engagements and regulation changes** **Theme 10: Opportunities and challenges with regards to digital adoption in the SA EE**
2.2 What benefits were acquired from outside the SA EE?	**Theme 11: Global connectivity and opportunities from international EEs**

4.6.1 *What benefits were acquired from the SA EE?*

This sub-question addressed local conditions that enabled venture growth in the SA EE. Theme 9 emerged from narratives about interactions with SA institutions such as banks or Corporates, the government, and regulatory changes. While theme 10 elaborated on the main opportunities and challenges experienced by founders as they scaled their businesses.

Theme 9: Reflection on institutional engagements and regulatory changes in South Africa

Theme 9 raised views on engagements with South African (1) corporates or financial institutions, (2) government support and regulation changes.

It was noted that eight of participants (66%) served large corporates as their main clients. They all shared three common experiences in relation to engaging with corporates (1) engagements related to Telcos or Banks were long and lethargic. This included payment terms which were deemed unfair for startups who were depended on revenue for survival

in the short-term. (2) The opportunities were massive if unlocked and (3) institutions were beginning to recognise startups and were more open to working with them. Notably, Participant 11 was acquired by their corporate competition, and this was instrumental to their growth as a startup. This acquisition allowed them to build out their technology, be the quickest in the market and remain profitable. Below table 21 summarises a variety of views on engagements with South African institutions and corporates.

Table 21: RQ2 Sub-question 2.1 Theme 9: Participant views on institutional engagements in South Africa

Participant 1"We are doing work with financial institutions. I think there are great foundations. The financial industry in South Africa is very well reputed. Like from a reputational point of view, globally. It's quite positive, from integration capability systems, not necessarily saying that they are all digitalized. But that's where we come in, I think their foundations allow big corporates to collaborate with startups that have different expertise and being able to apply that into great job combining forces."
Participant 7 "I think Telcos seem friendly enough. With regards to startups, I think Telkom is probably the friendliest to startups, with the whole process. I think they're all looking to help startups in this ecosystem. So, majority of our revenue comes from big corporates. Large enterprises are the reason we are in the customer engagement space. So, the more customers you have, the more valuable you are to us."
Participant 8 "When we started… we wanted to support SMEs. But what we realised is that SMEs are not going to be able to fund our business. We need to be able to sell it to corporates, and just a few corporates in South Africa. In the early days, we were really struggling to crack corporates. And in South Africa, the big corporates, is where you needed to be doing business with them if you want to survive. That's the first thing and the second thing is that corporates in general, they're so lethargic and like the processes are so covered in red tape. That VC relationships really helped to get us in."
Participant 11 "We see ourselves competing with the banks, but the banks, I guess they acquired one of our competitors… for 20%. So, I guess they see value in our technology rather than our product offering. Because what they do now is the startup's technology to offer their own funding to their clients. So, I think they see a competition more with our technology and our agile methodology of our offering."
Participant 9, who was not directly serving any banks as clients said that "But every challenge, we experienced whether it was Pakistan, with a Saudi with Egypt, South Africa, Nigeria, Kenya, or even or even across Europe, it was the same, it was the same story. The banks don't see this as any finances and see this as a particularly interesting sort of segment. So, we knew that we wouldn't be a threat to them. They however noted that their relationship with other corporates had been amicable. "So, Discovery insurance, basically designed the product, we worked on that together to basically

roll out products in the marketplace.

Participant 11 "So we actually got acquired by 60% acquisition by one of our biggest competitors, and obviously with that money, we were able to build that piece of technology that we're currently using in the business. Their support has changed our business, with marketing, the technology element, the split workforce systems, with organisations, with capital, that's probably the most important thing. They have really given us huge funding rounds."

With regards to competition from other players such as banks, they said, "So, the banks, we don't really step on their toes, because we're really going after the underserved market. So, we take on the clients that the banks rejected."

Participant 3 noted that a major concern was corporate payment terms. "Another big landscape issue in South Africa is that clients would take six to nine months to pay you…A massive company, and we ended up giving in a written notice to them after 12 months to say this deal is not profitable for us, it takes six to nine months to pay us. We can't do this."

In relation to the government, all 12 founders (100%) said that they did not have any material relationship with the government in terms of support, finance, grants, or recognition. Multiple founders acknowledged that they had previously tried to build relationships but nothing concrete had materialised for example, participant 8 had approached a government-led capital fund who was interested to invest in their business. But this government fund took eight months to complete due diligence and while the startup waited for approval, they were approached by an international venture capital who gave them a better offer within three weeks.

With regards to government engagements and experience in regulatory changes, it was noted that none of the founders had decided to work with the government or the public sector. When asked about the effect of BEE regulations, many participants showed signs of fatigue. Participant 5 said *"One of the problems with BEE is that the skilled South Africans of colour, that are entering the job market are getting sucked up by the corporates. And that's why you have such little black entrepreneurship. Because…the corporates are so desperate to hire those people to fill their quota. So, then you get a lot of white people who are getting moved out of sort of promotional, or high paying corporate jobs, to start their businesses. So, you have this big white entrepreneurship move getting forced by the system, and yet a very low black entrepreneurship move, because they're getting sucked into the corporates. I think, this could be one of the feeders of poor entrepreneurship in the black community."*

While some participants experienced limitations in getting tenders with government departments like the traffic department because they did not qualify for BEE. Participant 3 described that the BEE regulations had caused massive constraints on their growth in South Africa. *"For my one tender, we had to sell 50% of our business to a BEE partner in order to win a tender, and it was just like any big bank or telco insurance company, you need to be BEE compliant, you want it to be 51%, black owned, and it was quite difficult being three white founders. Because when you're raising money, you're diluting to the investors."*

Other participants noted that it was just important to be aware of regulatory changes and be compliant. They were positive that change was underway, even if slow, but it was certainly there. They commented that it was important to have the right networks and relationships to secure tenders with state-owned businesses as well as corporates.

Lastly, a few participants explained that their attempts to work with the government had been futile. Participant 4 said "*In COVID, if the relief funds which were given to the banks to support were given to a platform like us, it would have really changed the landscape. If they made us their distribution partner to deploy the funding and we could have automated the distribution."* And Participant 11 said *"We told them at the beginning that we could get a portion of the relief debt and loan it out to SMES but then they wanted us to fill out this like a 100-page document."*

In light of this most founders shared a view that "there was *a focus on technology and 4IR, but not enough tangible initiative to see it through."* They said it would be better to start implementing digitization through government related services. Participant 6 said *"You cannot expect your citizens to adopt innovation when you as a government are not making it any easier for them. When you provide services to them, like vehicle registrations, it's like…your private life is lived with all this technology, and then when you need to do something government related, you have to go back in time."* They further explained that in contrast, UK gov tech, helped them not only set up their offices abroad but provided for visa applications as well.

Participant 8 further raised the concern that the government did not yet understand innovative models. They said *"the government bodies generally invest only in traditional ventures…its where they know if I put 100 grands, it's going to go into this many costs,*

you're going to buy these goods, you're going to do this to it, and you're going to sell it for double the price. That is the business model. So, the first is understanding."

Founders' unanimous view was that the government did not understand their solutions, they were not willing to take the risk on innovative ideas and processes were time-consuming. They acknowledged that their technology, combined with the mandate of the government, could result in gross benefits for the country but with the red tape, they could not wait for the government to make their business successful." There was also a lack of trust, endorsements and or recognition.

Theme 10: Opportunities and challenges with regards to scaling in the SA EE

All participants were optimistic about the growth of the ecosystem. Quite a few participants agreed that the SA EE has improved significantly in the last two years. Participants elaborated on opportunities that they had sensed over the years as well as challenges that they had encountered. The majority of the founders noted that the "SA market was small" but with plenty of contextual problems to solve. However, in order to grow, their problem had to be scalable in wider global contexts. SA is a growing economy with increased internet penetration and availability of internet infrastructure in the last decade. Thus, there is a massive potential for innovation, especially leapfrog innovations. This means that SA entrepreneurs have a difficult task of creating niche products while having to solve global problems.

The founders noted the following opportunities within the SA EE:

1. The population on the African continent is young and thus market growth can be exponential with the use of technology. Participant 1 said "*I think South Africa is a young nation and will contribute significantly to the global youth in the next 20 years. From the digital perspective SA has a lot of smartphone penetration. A number of challenges can be solved with the use of smartphones and so there are big opportunities because it's less developed than the European market, but has, in my view, quite a few foundations that can help fast track and accelerate all those kinds of innovative solutions. It's the right time to do those kinds of initiatives and follow the trend of the market to grow in in adoption and usage."* Furthermore, with SA being a developing nation, there is less competition and excessive opportunities for the

skilled talent to capitalize on. Participant 12 also added to this view by saying "*So, in the developed part of the world, with change there are risk processes with procurement, compliance and complexity, whereas in developing it is free flowing and ideas are born out of necessity."* It is also worth noting that participants 1 and 4 were not South African citizens and had relocated from Europe or Asia because there were many problems to solve in the country. Similarly, participant 2 said "*South Africa is the net. It's a blank canvas. So, I think that's the opportunity, if you have the right product for this market, there's so much room to disrupt. It is hustle town. And if you know how to hustle, there's massive opportunity."*

2. In terms of startup support, many participants emphasized that that the flow of support was mainly directed by private organisations and corporates. However, quite a few businesses benefited from Section 12J funds as a government-led initiative. Participant 2 said *"the capital landscape is changing with 12J funds like Kaylon, which is a government tax incentive to pull money back into certain sectors for entrepreneurs. So, I think the effort is certainly there."* However, some viewed that if it was hard to find capital, entrepreneurs could grow through strategic partnerships whereby there are many positive conversations and entrepreneurs looking to help one another to grow. Participant 2 said *"the more we pour money into developing, the better the product, the more the adoption of all the growth and funding could help accelerate our adoption, because it's very much a consumer brand play. So, either we, grow through funding, or grow through good partnerships. And so, we found the right partner and we leverage their brands."*
3. Another major opportunity highlighted was that SA has first-world infrastructure. This coupled with third world problems reiterates that there is capacity to leapfrog. For example, when participant 9 was deciding to expand beyond South Africa, they could not consider Nigeria or Kenya immediately. They said *"the other piece was, you know, markets like Nigeria, or Kenya, most of the vehicles are imported. The road infrastructure is not at the same level as Africa. So, which means the condition of the vehicle gets impacted more, the unit economics is different. Because even though the mandate is to move intra Africa and to develop Africa, more the infrastructure can be a hindrance in those countries, as opposed to us, we have the third world problems, but we also have first world infrastructure."*
4. This also means that cross-fertilization with mature EEs is possible. Participant 9 also emphasized that there is potential for SA entrepreneurs to expand into other

ecosystems such as Mexico and Southeast Asia as they have similar infrastructure and contextual problems but larger markets than SA. Another participant highlighted that the advanced Financial Services industry was an advantage compared to other African countries.

5. During Covid-19 pandemic and the economic crisis, there is increased support available for SMEs in terms of funding and startups can leverage on that. Participant 11 said "*I think a lot of this shift has gone towards SME fund funding and growth cycle, there's a lot of capital, there's more capital available now for our type of business, then they were when we started. And I think it's an appetite today and the growth is unbelievable how much South African SMEs need working capital and how hungry they are for it."*

Lastly, as startups scale, they are able to see other problems emerge and they can reinvest into the ecosystem and support younger startups for both financial gains and or social impact. For example, participant 12 created their own Foundry so that they could continue building solutions. Other founders participated in entrepreneurial events, contributed to research, and shared knowledge through social and public media platforms. Participant 4 said that "*SA has one of the best financial services and one of the best stock exchanges in the world"* and with Silicon Cape in Cape Town, the country is seeing exceptional talent amongst technology founders and entrepreneurs which in itself will attract investments and a growing entrepreneurial culture.

In terms of challenges, the majority of the founders highlighted the risk-averse nature of the South African EE.

1. There was capital available at growth stage, and not seed stage for novel innovations. For example, participant 2 said *"The investment structures are very much private equity. Anyone who does have capital to invest, they have a private equity mindset, it is a very different way of running a business in venture backed businesses that have very different metrics, metrics that are driven by, obviously, positive good unit economics, but also growth. So, it's not about profitability, but about major growth and traction on an exponential level that you keep growing with capital. That is essentially a model that allows you to accelerate the growth of your business."*

2. The government was likely to understand traditional or organic forms of businesses as opposed to ventures that could have exponential growth. This was made evident as majority of the founders were not supported by government entities in terms of growth. For example, participant 7's business model was not understood by government offices. In addition to this, many founders understood the intention for BEE regulations but shared the view that BEE regulations would become a barrier for growth stage businesses as they would have to dilute their business equity to be compliant and restrictions on employable talent would become an obstacle in the future.

3. In terms of access to talent, many founders explained that the cultural mindset of people was to acquire stable jobs as opposed to starting risky new businesses. Even though obtaining work experience can be useful, this means that there are less skilled individuals working for corporates while non-skilled individuals are forced to start businesses out of necessity.

4. Infrastructure problems such as electricity and geographical disparities placed barriers to scale. Participant 3 said *"And, and so one of the ways I would de-risk my new business is I would take away the BEE regulation, I'll take away poor payment terms. I'll take away people that can't afford to pay for my products. I'll take away lack of electricity. And so, I moved to new geographic location where I'm not trying to solve for electricity or trying to solve smartphones. So, you move to an environment where you can solve a niche problem without having to solve all sorts of other things."*

Lastly, with Covid-19, the loss of jobs will adversely affect both corporate and SME clients which means that startups who serve them will be affected as well. Participant 8 said "*The jobs being added is reducing, especially because of Covid. So net jobs are being taken away from the economy. So yeah, I don't understand how a business is supposed to survive in this anyway."*

A general consensus was that even though the SA ecosystem is fragmented in a sense that there are large corporates, third party agency models that pose challenges to scale. This is because scaling cannot be streamlined like it is done in the US or UK, but unique business models can still be developed.

4.6.2 *What benefits were acquired from international ecosystems?*

Theme 11: Global connectivity and opportunities from international EEs

The second sub-question was concerned with conditions outside the SA EE. Global connectivity and international opportunities emerged as a theme in response to what international conditions have played an instrumental role in enabling growth for South African ventures. Participants noted that they had received significant international support in the form of (1) VC funding, (2) support services (3) credibility and recognition.

For example**,** participant 4 said "*being backed by Sillicon Valley helps ensure credibility in this ecosystem."* Their crowdfunding platform strives to address the funding gaps in the ecosystem, but they highlighted that due to the regulatory vacuum in this area, they failed to acquire support from the local government. Thus, in order to build support, they had to seek for international investments from inception and a Sillicon Valley investor was approached with a higher risk appetite. This allowed them to build trust and credibility within the South African EE. Participant 6 also emphasized on government-led interventions in the UK that made it easier for them to set up in the UK and serve that market. They said, "*Like in the UK, you have something called Gov tech, where government look at processes that are very manual and they do hackathons to get tech entrepreneurs to come and solve to digitise those processes."*

Participant 6, 8 and 11 shared similar views about how winning international awards allowed them to gain traction, confidence, and trust in the SA EE. Next, participants found that attracting international clientele meant that they could take advantage of the foreign currency. Participant 12 said **"***There's global companies that do it quite often quickly. For the same effort physically, I get 20% return on my calendar- just on currency exchange in the UK. So, clients paying for an amount equivalent to South African 12 months at a time."* This was echoed by participant 6 who established a second base in the UK and said "South African Reserve Bank won't allow us to do dollars pounds euros, they'll only allow us to do Rands. But now with the UK entity, we can do multiple currencies".

Another example of leveraging global ecosystems was participant 9 who based their administrative operation out of Amsterdam, Netherlands entirely. They said 70% of their

operations was in South Africa but they chose to head up their startup from Amsterdam due to the well-developed ecosystem there. They emphasized the importance of being near technology giants such as Google, Netflix and most importantly Uber, who was their main partner in offering car financing solutions in South Africa. Being new top tier technology giants meant that they could attract the best talent as well. Furthermore, their aspiration was to become a global marketplace. Participant 9 said "*We're not building an African marketplace or building a Latin American marketplace. Our aspirations were to build a global marketplace. And as a global centre, Amsterdam just had more of those. Those things in the ecosystem that made it a better place for us to call home. Just administratively, and also from an investment perspective."* In addition, being in the international ecosystem, meant that they could attract global VCs and partnerships which also facilitated their expansion into Mexico and ultimately to scale their niche product.

This leads to the last advantage being international expansion, participant 1, 6, 7 and 12 managed to expand internationally within an average period of 3 years. Participant 7 said "*In terms of like marketing and competition, the US market is probably obvious, the startup space is also more developed. The US market is more developed, there's more user adoption there. You have to be scalable in your niche and the market. And this is the reason why we want to look at the US markets sooner."* It was also indicated that the SA EE is not like other African EEs. It is similar to European or North American EEs which means that expansion into those ecosystems is more profitable. They went on to say that *"We did consider expanding into Africa and there is a product need in the African markets. However, in South Africa, our ecosystem is actually less like the rest of Africa and more like, the European and North American ecosystem."*

Founders' narratives views emphasized the importance of offshoring IPs, trading in foreign currencies and being able to expand their markets as they aspired to scale their technology startups beyond the South African market.

4.7 Summary of the findings

The purpose of this study was to explore the dynamic relationships of HGDS founders with the broader EE stakeholders in SA. Through the use of a proposed theoretical model, high-growth founders or entrepreneurs assessed how they identified, captured,

and redeployed opportunities and resources within the SA ecosystem as well as the way the location played a role in achieving scale. Entrepreneur's dynamic capabilities highlighted interactions with ecosystem components such as the South African market, institutions or large organisations, the government, financial providers, support organisations and talent available. Table 22 summarises the major findings collected from the interviews.

Table 22: Summary of the major findings collected from the interviews.

Research sub-questions	Major Findings
Research Question 1: What characterises successful transitioning from a basic startup to high-growth startup within the South African context?	
1.1 Sensing opportunities through prior experiences and market validation (Themes 1-2)	• Having prior experience in terms of industry and education allowed the founders to (1) identify the need (2) validate their market and most importantly majority (100%) of the participants said they met their co-founders through their prior experience which led them to ultimately seize the opportunities they identified.
1.2 Seizing opportunities through taking risk, obtaining customers, support services, financing, and talent acquisition. (Themes 3-7)	• HGDS founders made the decisions to (1) take risk by deploying personal full-time resources to pursue the venture. (2) Take financial risk by bootstrapping or deploying personal funds into the business. • The majority of the founders gained their first clients within 6 months of operation but explained that it took 2 years of experimentation and finding the product-to-market fit. • All (100%) of the founders received some kind of short or long-term support from both local and international organisations. The majority of the founders stated that the support they received played an instrumental role in achieving scale in South Africa. One concern was that there is need for more sustainable impact from support organisations. • 9 out of 10 founders were able to access capital within the first two years of operation which was in the form of angel investors, pre-seed, seed, or series A funding. This was received after they had a product and market traction.

	• Zero founders obtained any capital from government funding channels. • All 12 Participants commented on the (1) availability and (2) nature of risk associated with acquiring capital in the South African ecosystem. • It was noted that growth capital is available, but risk appetite is required for seed stage startups. • The general sentiment around access to funding was that there is funding available in South Africa but to access it, entrepreneurs need to have strong products and networks while ecosystem stakeholders need to have risk appetite to invest in novel innovations. • Three concerns emerged from the overall discussions around access to talent, (1) SA has foundational problems when it comes to education and skills. (2) The cultural mindset is risk averse whereby there is "SME versus Corporate mindset." This means that "getting a job" is seen as a priority and jobs are not available then businesses are created out of necessity and for self-employment. (3) There is a constant rivalry between corporate and SMEs or startups to recruit niche or specialised talent, this is leading to startups hiring international talent, which also more cost effective.
1.3 Reconfiguring resources and identifying new opportunities. **(Theme 8)**	• These changes occurred in the form of (1) changes in business models (2) building new capabilities (3) reshuffling taskforce to address needs. • They emphasized that pivoting business models was not difficult from an entrepreneur's point of view as they had agile teams and were forced to shift due to macro-environmental changes. However, pivoting was unsuccessful or harder if other ecosystem stakeholders were not receptive and willing to support the shift in business models with speed.
Research Question 2: How did the location shape HGDS founders' capabilities in South Africa?	
2.1 **What benefits were acquired from the SA EE? (Theme 9-10)**	• **Institutional engagements:** In relation to Telcos or Banks were long drawn out and lethargic. This included (1) payment terms which were deemed unfair for startups who were depended on revenue for survival in the short-term. (2) The opportunities were massive if

unlocked and (3) institutions were beginning to recognise startups and were more open to working with them.

- **Government:** None of the participants had any material relationship with the government in terms of support, finance, grants, or recognition. Multiple founders acknowledged that they had previously tried to build relationships but nothing concrete had materialised.
- **Regulatory changes:** long processes and complex but SA has good foundations. BEE regulation places restrictions on hiring and getting tenders.

Founder noted the following opportunities within the SA EE:

- SA is a growing economy with increased internet penetration availability of internet infrastructure in the last decade. Thus, there is a massive potential for innovation, especially leapfrog innovations.
- The population is young on the African continent and thus market growth can be exponential with the use of technology.
- SA has many problems to solve, and it is seen as a blank canvas for entrepreneurs to build startups and innovations.
- The flow of support is mainly directed by private organisations and corporates. However, there are government-led initiatives such as the 12J fund.
- SA is a developing economy and in comparison, to the European or American counterparts, there is less competition and excessive opportunities for the skilled talent to capitalize on.
- SA ecosystem is fragmented in a sense that there are large corporates, third party agency models and SMEs. Thus, scaling cannot be streamlined like it is done in the US or UK, but unique business models can be developed.
- SA has first-world infrastructure, with third world problems which reiterates that there is capacity to leapfrog. This also means that cross-fertilization with mature EEs is possible. Participant 9 also emphasized that there is potential for SA entrepreneurs to expand into other ecosystems such as Mexico and Southeast Asia as they have similar infrastructure and contextual problems but larger markets than SA.
- In times like the Covid-19 pandemic and economic crisis, there is increased support for SMEs in terms of funding and startups can leverage on that.

	• Lastly, as startups scale, they are able to see other problems emerge and they can reinvest into the ecosystem and support younger startups for both financial gains and or social impact. For example, participant 12 created their own Foundry so that they could continue building solutions. Other founders participated in entrepreneurial events, contributed to research, and shared knowledge through social and public media platforms. **In terms of challenges, the majority of the founders highlighted the risk-averse nature of the South African ecosystem.** • The South African user market is small, so in order to scale, startup must solve global problems. • There was capital available at growth stage, and not seed stage for novel innovations. • The government was likely to understand traditional or organic forms of businesses as opposed to ventures that could have exponential growth. • BEE regulations would become a barrier for growth stage businesses as they would have to dilute their business equity to be compliant and restrictions on employable talent would become an obstacle in the future. • The cultural mindset of the people was to acquire stable jobs as opposed to starting risky new businesses. • Infrastructure problems such as electricity and geographical disparities placed barriers to scale. • Lastly, with Covid-19, the loss of jobs will adversely affect both corporate and SME clients which means that startups who serve them will be affected as well.
2.2 **What benefits were acquired from international ecosystems?** (Theme 11)	• Participants noted that they had received significant international support in the form of (1) VC funding, (2) support services (3) credibility and recognition. • There was emphasis on cross-fertilization between local and international ecosystems.

4.8 Conclusion

This chapter presented the findings collected during the study. It began by unpacking the demographic findings of the study and providing a background on the high-growth digital startups of the targeted sample population. Thereafter, a thematic analysis approach was laid out in relation to the theoretical model identified in Chapter two - the literature review. For each research question, themes were extracted, and findings were presented accordingly. Eleven themes emerged from the data which explored founders' lived experiences of the South African entrepreneurial ecosystem. Chapter 5 will discuss the findings in greater detail in relation to the existing literature while chapter 6 offers conclusions and recommendations for further research.

CHAPTER 5. DISCUSSION OF THE FINDINGS

5.1 Introduction

This qualitative research aims to investigate and explore the dynamic relationships between founders of HGDS and broader EE stakeholders who supported their growth in South Africa as well as how their location was integral to achieving scale.

Twelve founders of high-growth digital startups were interviewed to collect reliable and valuable insights pertinent to founder assessments of the SA EE. This chapter provides an in-depth discussion of the findings in a conclusive and concise manner related to the theoretical reflections identified in chapter two.

Integrating the theoretical and empirical elements, this chapter summarises the findings to answer the following research questions.

1. **What characterises successful transitioning from a basic startup to high-growth startup within the South African context?**

   Sub-questions

1.1) How did the founders sense opportunities and resources available to them to strategically recognise a new business opportunity within the SA EE?

1.2) How did the founders seize opportunities and resources available to them to capture the business opportunity within the SA EE?

1.3) How did the founders reconfigure opportunities and resources available to them within the SA EE?

2. How does the location shape HGDS founders' capabilities in South Africa?

Sub-questions

2.1) What benefits were acquired from the SA EE?

2.2) What benefits were acquired from international ecosystems?

5.2 Reflecting on how HGDS founders achieved scale in the South African Entrepreneurial Ecosystem

Assessing the scalability of the HGDSs in this study requires the use of a model discussed in Chapter 2. Using Figure 10, which depicts the Roundy & Fayard proposed model of *dynamic capabilities (2019),* high-growth founders assessed how they identified (sensing activities), captured (seizing activities), and redeployed (reconfiguring activities) opportunities and resources within the SA EE. Their interactions with the various components showcased a variety of behaviours by the ecosystem stakeholders. The dynamic capabilities model served as a guide to explore founders' narratives such that they could assess the ecosystem readiness in favour of venture growth in South Africa.

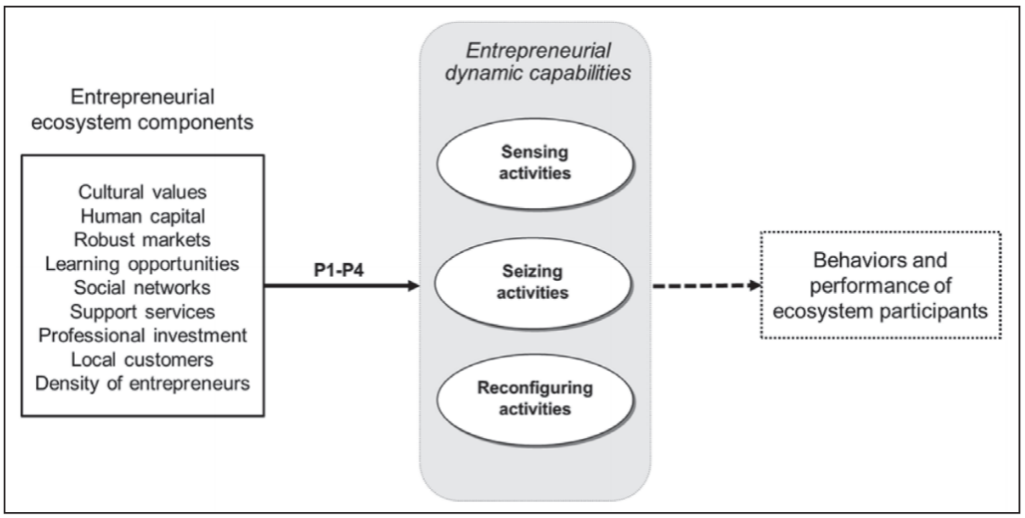


Figure 10: Model of dynamic capabilities adopted from Roundy & Fayard (2019)

5.2.1 *Assessing founders' sensing capabilities in relation to EE*

Sensing activities allow entrepreneurs to scan both local and global markets, gather information, detect market opportunities, and assess these with customer needs and problems (Roundy & Fayard, 2019). A firm's sensing activities are influenced by various internal and external factors such as the entrepreneurial environment, cultural mindset, education, training, as well as experiences from prior businesses. These factors informed the entrepreneurs' market and industry knowledge, how they acquired social networks, human capital and how they went about validating and experimenting their ideas rapidly. The quality and application of sensing activities then refine the

entrepreneurs' abilities to 'sense' or strategically recognize new business opportunities. This is referred to as the sensing capabilities of the entrepreneurs. All the founders reflected that their sensing capabilities were predominantly shaped by two overlapping factors: prior experiences and market validation. When discussing how they sensed opportunities, founders emphasized their prior experiences and market knowledge enabled them to validate their product before any investments were laid down. These prior experiences included having prior business ventures, and industry experience through corporate jobs. The Majority of the founders had more than 10 years of work experience before starting their current HGDS. There were two direct advantages of having prior experiences and market knowledge.

1. **Social networks and human capital**: Over time founders had built a vast network of relationships within the ecosystem. While these entrepreneurs met their co-founders at previous jobs or business ventures throughout their careers, they also had the opportunity to create relationships with corporates who became their primary customer base in their current startup. Also, a majority of the founders had personal experiences of growing businesses or had co-founders who had experienced the challenges of having had their own ventures before. They drew on these experiences to reduce the likelihood of repeating past mistakes. These experiences also helped them establish credibility in the business environment. 11 founders (91.6%) had had previous startup ventures which allowed them to meet VCs who then backed them financially after seeing their product and credible track record. In addition to social capital, past experiences also enabled them to accumulate personal financial capital that they then used to manage the risk of starting their new businesses. All founders either self-funded or bootstrapped their businesses at inception.
2. **Market validation:** All founders explained that they had established a need for their solution in the local market. This meant that they were able to validate their business value proposition or build minimum viable products (MVPs) from the onset. These decisions involved understanding several external factors, such as customer needs, the rate of digital adoption or internet penetration in SA, the historical positional power of corporates, as well as bureaucratic red tape and regulatory requirements. All founders emphasized the impact of sensing activities in improving their dynamic capabilities. They explained that having market knowledge and networks not only led them to find a scalable solution that solved a contextual problem but having worked

with customers previously allowed them to start testing and acquiring market feedback quickly.

One of the founders said, *"You find the answer and build a business around it"* and this highlighted the importance of chasing opportunities that could in fact be scaled and had an established target market. This was predominantly why they did not fail in the first year of starting their business, a common trend for startups and SMEs in SA where more than 40% fail in their first year (Olawale & Garwe, 2010). This can further explain why there is a high-failure rate in SA and that perhaps many business owners fail because they are young and inexperienced, and do not validate their market value propositions before starting their businesses. This is especially important for digital startups as building technologies requires extensive investment and if products are not validated according to market needs, there is a high chance of failure. When the founders identified an opportunity that was worth pursuing, they not only had the industry knowledge and networks available to them, but they had also built a safety net of financial capital to manage the risk.

5.2.2 *Assessing founders' seizing capabilities in relation to EE*

Seizing activities involve actions taken to capitalise on entrepreneurial opportunities and create value. Entrepreneurs need to be able to seize opportunities by investing in necessary technologies, building assets or business models, and finding resources to develop products that are accepted by the market (Roundy & Fayard, 2019). Seizing activities include leveraging support services such as incubators or accelerators, professional and financial investments, and lastly acquiring human capital or talent.

Founders were asked to discuss the factors that contributed to their attempts to capitalize on entrepreneurial opportunities in SA. It was found that the founders understood that their ecosystem was relatively young, and that they had to take the initiative and risk. They also understood the nature of institutions whereby having strong networks allowed them to create their own opportunities. Having this broader understanding of the ecosystem, helped founders to reduce expectations, take personal and financial risk, and make appropriate decisions in order to better grasp opportunities, thereby refining their seizing capabilities. There were four prominent factors that affected the founders' ability to successfully seize opportunities:

1. **Taking personal and financial risk to obtain critical mass of users:** All 12 founders (100%) took personal and financial risk. They initially used their personal funding to start the business and second, either closed down previous ventures, quit their corporate jobs, or shifted their focus to the current startup. This meant that they had solid risk appetite and were confident in their innovations. Technology-based startups are different to self-employment businesses or SMEs; they need to capture a critical mass of users in order to scale otherwise they run the risk of being displaced by competition (Song, 2019). The majority of the founders started gaining traction months after launching. This, again, can be attributed to their sensing capabilities.
2. **Leveraging support services:** All the founders indicated that seizing opportunities was made easier through external support. Nine founders (75%) received support in the form of mentorship and networks. Five participants were part of a global network organisation, Endeavor South Africa. There were five participants who went through other renowned incubation or acceleration programs after at least one year of operation. These include the Standard Bank Incubator, AlphaCode (Rand Merchant Investment holdings), EY Vantage and the Founders Factory. Three out of the five who had benefited from incubators or accelerators, said that these played an instrumental role to their development before obtaining funding. The findings also showed that the support they received was from the private sector and corporates as opposed to government incubation or support programmes.

   The two organisations that were acknowledged by the majority of the founders for providing sustainable growth stage support were the Entrepreneurs' Organisation (EO) and the Endeavor Organisation. These large organisations had deep global networks and aided them through access to mentors and board members, publicity, or guidance. Both organisations are mature, have long standing histories, and are global networks. In particular, the Endeavor Organisation has played a significant role in supporting high-growth or high-impact entrepreneurship in SA. It is a non-profit organisation established in 2004 and since then has supported job creation by selecting, mentoring and accelerating high-impact entrepreneurs (Endeavor, 2020). Furthermore, they have previously supported 26 companies in 2018 and 2019 which were able to create 4650 new jobs in just two years. These companies included tech startups such as SweepSouth, Clickatell, Ozow, and Pargo, who all saw at least 29% annual growth in employment over three years (Endeavor, 2020). One of the

participants said that while growing up, he was inspired by entrepreneurs who were selected by the Endeavor Organisation. The founders also indicated that as opposed to new initiatives or organisations, older and more mature organisations offered more sustainable support. The perception among the founders is that these more mature organisations are better able to assist them by connecting them to mentors, finding customers, providing media publicity, and making introductions with well-established corporates or investors.

Eight of the founders (66%) indicated that they received significant support from VC funding partners as opposed to going through formal support organisations such as local incubators or accelerators. Their VC partners were able to make necessary introductions with key EE stakeholders and guide their business strategy. The VCs' overall industry experience also helped them mitigate risks in their businesses. The VC most prominent in the founders' responses was the South African based Kaylon Venture Partners.

There were some founders who stressed the importance of sustainable support available. For example, participants 8 and 4 only had international VC partners and could not leverage local mentorship. Another example was the Standard Bank Incubator, who introduced participant 8 to the global Seedstars competition and endorsed participant 6 by taking a non-equity share, with no support thereafter. Participant 3, who was also part of the Standard Bank Incubator, received coaching, met his angel investors through the incubator and the bank even became his first pilot clients. However, after this, there was limited engagement with them.

Nine founders (75%) further explained that due to the nature of their extensive sensing activities, they did not require organisational support in the initial stages of businesses. Rather, they needed this organisational support in order to scale within the SA market or expand internationally. For example, participant 7 said that they were disconnected from the SA EE until they had scaled up. They then approached a global acceleration program called the Alchemist Accelerator who could help them penetrate the US market. Participant 6 said that the UK GovTech program helped them set up offices and scale into the UK. Lastly, three of the founders also won international competitions which allowed them to gain global interest and build a track record which helped them develop trust within the SA EE. It can be inferred that if

growth-stage support is not available locally, entrepreneurs are more likely to expand and benefit from international support organisations rather than local ones, provided the entrepreneurs have advanced enough sensing capabilities to allow for this, which many young founders do not have. The report by OC&C (2018) highlighted this concern where it was found that early-stage support was available in SA but there was a need for growth-stage support given the new business failure rate

3. **Access to Financial and Professional Investment:** Ten of the founders (83%) approached and received funding. Out of those, nine received it within the first two years of operation. Eight of the founders received local funding. It was increasingly stressed by all founders that, despite popular opinion, growth capital was available in SA. However, founders noted three factors that enabled them to receive funding; they had to have (1) functional MVPs (2) a trusted track record by way of marketing, customer base or networks and (3) an established personal credibility within the ecosystem. Two important findings were that, first, none of the founders received any seed capital as an early or idea stage business. Second, none of the founders received any direct form of government funding. One participant said that while the government was interested in funding, they took eight months to conduct due diligence making it difficult to make use of appropriately. Another founder shared the same view, indicating that the process was complicated, slow and a long-term commitment.

   There was, however, a government-led initiative called Section 12J Capital Fund that enabled five HGDS with growth capital. Section 12J of the Income Tax Act is a government mandated initiative (started in 2009) by the South African National Treasury. It incentivises taxpayers to invest in the economy and local companies so that they can receive a tax reduction of up to 100% (VentureBurn, 2020). In the sample, five founders received capital through a Section 12J fund, a South African Venture Capital Company (VCC) - Kaylon Venture Partner. Kaylon focuses on investing and building high-growth technology-based companies in South Africa. In addition, one founder was able to access funding from another Section 12J Fund called Optomise, to grant loans for car financing.

   When Kaylon invested in one of the participants, they said *"At Kaylon, we firstly invest in people…the founders gave us confidence that they were the right team for this*

opportunity. This is not their first rodeo, and they bring significant experience in building and scaling tech businesses" (Mungadze, 2020). This goes to show that experience and building credibility is of utmost importance in order to receive funding. Participant 8 raised this as a barrier to innovation and scaling, highlighting that South African VCs need to build an appetite for risk.

Participants 4 and 8 were only able to attract international investments as their innovations were completely novel in the South African context. These founders explained that their solutions had never been tried before, they had no competition, and this, however, was interpreted by popular funders as high risk. They further explained that they were able to acquire risk capital internationally within their first year of operation. Participant 4 echoed this view by saying that they were able to attract capital from Sillicon Valley based on one meeting. This suggests that there is the availability of international players who are willing to take the risk and invest in South African startups. It would be worth exploring whether the government can introduce risk sharing partnerships or initiatives to address the funding gap for innovative startups requiring seed capital. This confirms ANDE's Ecosystem recommendations (2017) where they highlighted the issue of funding for early-stage entrepreneurs and breaking barriers for vulnerable entrepreneurs.

Participant 9 said that due to the "risk-averse mindset" of the ecosystem, capital was only available for growth once the startup had built a track record of credibility, product, and market traction. This reiterates that novel innovations with massive potential are at risk of being stifled if they do not gain traction in the short-term. As a result, promising new founders are significantly more likely to fail if they are unable to secure seed capital for innovations that have never been tried before. This explains the GEM report (2017) whereby the TEA measure showcases high rates of entrepreneurial activity but lower economic development. In the absence of high risk seed capital, entrepreneurs either end up opening traditional businesses or shutting down (Herrington & Coduras, 2019). As Stam (2015) argues, there needs to be tailored policies in place to not only increase the quantity of new business ventures, but also their quality.

In the case of this study, however, the majority of the participants received funding in their first two years. Due to the risk-averse nature of VCs and funders, the majority

of the founders explained that their experience in prior startups played a vital role in acquiring financial capital from VCs. An early-stage entrepreneur can find local or international capital faster and with more ease if they engage in strong sensing activities, have personal risk appetite and finance to build and test the product, than a younger entrepreneur with less experience and social networks.

4. **Access to Talent and Human Capital:** Founders had to build teams in order to capture value. The majority of the startups had small teams of up to 10 employees for the first two years in order to remain lean but later averaged a growth of 20% in employment. The majority of the founders experienced challenges finding niche skills, but they acknowledged that SA has skilled talent, going on to say that the main challenge was getting access to it as there was increased competition from larger organisations. That being the case, access to talent was not seen as a major barrier to growth; they were all open to outsourcing specialised talent locally or internationally maintaining a lean team to build their businesses. Outsourcing was seen more positively post the Covid-19 pandemic. This was because it was easy to attract talent from anywhere in the world as increased digitalisation enabled offices to operate online to a large extent. One of the unexpected findings was that recruitment may change post pandemic as entrepreneurs can access global talent, thereby building products faster. However, this could potentially raise concerns for local job creation.

5.2.3 *Assessing founders' reconfiguring capabilities in relation to EE*

Reconfiguring capabilities pertain to activities that emerge as entrepreneurs respond to macro-environmental changes through deployment, of resources and talent within the ecosystem. When asked about how the ecosystem had shaped their reconfiguring capabilities, many of the entrepreneurs again referred to having strong sensing capabilities. From the literature review, it was understood that vibrant EEs enable entrepreneurs to observe and vicariously learn from their own activities and that of others in the same or adjacent industries. This, combined with well-developed seizing capabilities, improved their capability to combine new components, allowing them to pursue new opportunities (Fleming, 2001; Roundy & Fayard, 2019). Reconfiguring

capabilities can therefore be seen as being enabled by having strong pre-existing sensing and seizing capabilities.

Founders said that their prior experiences had made them aware of the challenges inherent in the SA EE. For example, participant 8 had initially started out to support SMEs but ended up serving corporates, then changed their business model in light of the Covid-19 pandemic to find a way to serve SMEs again. Since the year 2020 was massively affected by the Covid-19 global pandemic, many founders explained that for young companies it meant rapidly changing business strategies to either capture new opportunities or merely survive. All of the founders experienced that internet penetration and digital adoption through the use of e-commerce platforms and online payments increased significantly. This allowed many of the founders to capitalize on new opportunities. For example, participant 10, an online payment gateway, saw a 40% increase in online payments post the national lockdown. As a consequence, they had to hire additional employees in order to meet demand. Participant 5, offering cybersecurity solutions, saw a rise in cybercrime due to increased digital adoption and their demand increased by 30%. These founders had to build additional capabilities, quickly, to meet demand.

A few founders struggled during this period but adapted their business models to survive. This included participant 7 who saw a decline in revenue and product use as the service industries shut down. They had to shift their focus from corporates to SME employment. Participant 4, offering equity crowd funding, also saw a decline and lack of market appetite. They shifted their model from startup funding to rescue business funding. They further explained that pivoting a business model was not easy as it required support from other relevant stakeholders. For example, they had approached the government to distribute their SME relief funds through the startup's platform and failed to convince them. This would have helped both the startup as well as scaled the distribution for small businesses in dire need. This case confirms that even though startups are willing to innovate, other stakeholders are slow to adopt new innovations.

Lastly, the majority of the founders explained that having technology-based businesses meant that it was easy to move their workspaces online. This not only allowed them to cut costs but confirmed that they could employ and work from anywhere in the world,

further emphasizing that access to talent was and will be a minimal barrier to innovation and growth in South Africa.

To reconfigure strategically also depends on how much industry experience entrepreneurs have, as well as how long a capital runway they have to survive. To pivot a business model, both of these must be acquired and refined overtime. Both can also be attributed to strong sensing and seizing capabilities.

5.3 Reflecting on how location shaped HGDS founders' capabilities in South Africa.

The dynamic capabilities theory suggested that the location of the venture is an important factor influencing heterogeneity in the dynamic capabilities of early-stage ventures (Roundy & Fayard, 2019). By studying location, researchers can begin to assess and distinguish which capability-improving benefits are acquired locally and which are acquired internationally.

An evaluation of the impact of location on HGDS capabilities was intended to generate insights on how or what conditions were created by the ecosystem for startup founders. It prompted the identification of several challenges and opportunities unique to SA as well as benefits that were acquired from global ecosystems to execute and build ventures in South Africa, thus stimulating the local economy.

There were two findings that emerged. (1) given the nascent nature of the ecosystem there are opportunities in the SA market that have yet to be explored, and (2) global connectivity can accelerate the speed at which the ecosystem expands and can support both early and growth stage startups. Local conditions were discussed in terms of interactions with key stakeholders such as large institutions, the government, and regulatory changes.

In terms of stakeholder engagement with corporates and financial institution, it was clear that they had appetite to work with entrepreneurs and startups, but their processes were long and lethargic. Some of the participant views indicated that if one had had the right networks, this process was easier. It was worth noting that due to the historical and positional power of a few corporates, founders had to find ways to solve problems for

these incumbents. This way massive, shared value could be unlocked, and ventures could achieve growth faster. For example, participant 7, who offers personalised SMS marketing, said that corporates controlled the markets with access to a large number of customers. Thus, it was more feasible for them to seize their existing markets then to go after informal or small businesses. This allowed them to scale their offerings rapidly, even during the lockdown period and consequently expand into the US.

The majority eight (66%) of the founders served corporates as their main customers. They agreed that in the last two years, it had become easier to work with corporates and South Africa's strong financial industry was well reputed which gave their startups more credibility. For example, Telcos welcomed personalised marketing, AI conversation bots, and digitalized identity forms, and verification methods. Founders had to remain persistent and continuously work towards refining their products so that they could remain valuable to corporates. One of the participants also discussed that their initial business customers were SMEs, but they had to switch to corporates as the former was unable to afford their product in a sustained manner. These findings are consistent with the literature where it had been highlighted that a few corporates held strong positional power in SA (Herrington & Coduras, 2019). However, because they were willing to work with startups, it proved better for startup growth as they could capitalize on a large number of customers.

Levin, (2017) had also mentioned that due to the nascent nature of the ecosystem, entrepreneurs ended up exiting to corporates. In relation to this, it was noted that corporates were interested in acquiring startups that extended their business propositions. For example, participant 11's startup was acquired for 60% within the first two years. They also said that other startups in the industry were also acquired by corporates such as Standard Bank's acquisition of Merchant Capital. However, this partnership enabled them to grow even faster by being funded to build their technology. They were also given support in the form of SME loans, offices, and expertise. In this case, participant 11 emphasized that they were willing to be acquired in order to grow. Their partnership benefited them extensively and gave them access to SMEs who they could, in turn, help with growth through working capital. According to Levin (2017), it was highlighted that the young ecosystem was not advanced enough for M&A activity and only ended up benefiting corporates as startups exited. Participant 11 served as an example where both the entrepreneur as well as the local ecosystem benefitted. These

interactions indicate a positive view of the corporates and is unique to South Africa, as large corporates have well-grounded foundations but need digitalization to improve. Thus, they are open to hiring startups who can eventually obtain growth.

Another view on corporates was that there was a struggle between startups and corporates for skilled talent. The entrepreneurial mindset was underdeveloped as young graduates would look towards finding a job that paid well rather than a risky startup. GEDI, (2017) report on SA had mentioned that corporates were accountable for a disproportionately large number of jobs. A few participants mentioned that because they were a small team, they could address this problem by outsourcing, and then as they grew, pay well. It was further highlighted that the entrepreneurial mindset and risk-averse nature is embedded in the South African culture whereby, graduates are more inclined to look for jobs then start their own innovative businesses. Even though corporates create more jobs, it can be speculated that either there are not enough innovative entrepreneurs to take the risk or that the young ecosystem does not provide the parameters to take risks. These parameters include risky seed capital or sustained support as mentioned in research question one.

With regards to engagements with the government and experience in regulatory changes, it was noted that none of the founders had decided to work with the government or the public sector. Five of the participants (3, 4, 6, 8, 11) said that they had, however, found opportunities to work with the government which had failed to materialize. These included automating government forms or traffic department processes, distributing funds to rescue businesses using crowdfunding platforms, using escrow technology to track incoming or outgoing expenditure in government bodies, partnering up with the government to allocate medium-to-low jobs, and lastly distributing relief funds online or as loans. The founders explained that governmental processes were drawn out, which meant hiring someone full-time to take on the task and were traditional and risk-averse about adopting new innovations. This created a lack of trust and willingness to work with the government. Additionally, the founders did not receive any form of support, funding, or recognition from the government. Participant 6 said that in contrast to SA, they received “phenomenal support” from the UK government, who endorsed their technology and helped them set up in the UK after they won the UK based international *Go Global* competition.

With regards to regulatory changes, it was noted that South Africa was behind in terms of adoption of innovations. For example, participant 4 noticed a regulatory vacuum when it came to introducing crowdfunding in SA. It took them two years to obtain the necessary accreditations to start operating. However, other founders said that due to the well-developed foundations, it was easy to learn how to be compliant in terms of integrating tools to digitize manual processes. Past experiences played a major role in ensuring competency and success which, for a young entrepreneur, would require a longer learning process. Participant 7 agreed that being regulatory compliant was complex but after researching the US and European markets, he concluded that it was easier to meet the requirements in SA than in global ecosystems. A few participants (3, 5 and 10) noted that the BEE regulation made it difficult to hire specialized talent or to acquire tenders. However, they also said that as young startups, it was not a major barrier to growth as they did not qualify for the required revenue threshold yet.

Many studies on the SA EE have mentioned that regulatory environments and red tape can be a barrier to innovation and growth (ANDE, 2017; GEDI, 2017; Levin, 2017). This view was shared by a few participants, especially participant 4, who introduced a novel innovation but struggled to launch it even after market validation. In light of this, a study on *Enhancing the entrepreneurship framework in SA* suggested that an introduction of data-driven regulatory interventions or regulatory sandboxes would allow for innovators and technology entrepreneurs to test their business models in live environments without having to comply with legal requirements or procedures (Anwana & Anwana, 2020; Vermeulen et al., 2017). This approach would not only reduce the level of risk, but timeous recommendations based on reliable data could allow the government to significantly support the production of innovations and entrepreneurship growth.

Most of the founders eventually turned to seeking international support. For example, participant 9 based their administrative operations in the Netherlands and participant 4 acquired seed funding from Sillicon Valley investors. In total, six participants received international funding. The majority of the founders found that the nascent nature of the ecosystem enabled them to attract foreign interest and that a cross-fertilization of global ecosystems was underway.

The majority of the participants were expanding into Europe or United States as opposed to other African countries. Levin (2017) has stated that in order to build a world-class

ecosystem, it was important to move into other African and emerging markets to attract local and global impact funding. Some participants stated that it was easier to capture value in European or American markets owing to the similarities between the SA EE, and those ecosystems in terms of well-developed institutional foundations and infrastructure that is more similar to developed economies than developing economies.

In the digital age, Nambisan (2017) discussed that fluidity and flexibility of where entrepreneurial activities are carried out was a main characteristic of digital ecosystems. Song (2019) further elaborated that even though "global connectivity" allows global consumption without necessitating geographic limits, it must be emphasized that building the digital infrastructure and governance remains a national matter. A global cross-fertilization of efforts led by major stakeholders, such as large organisations and the government, are to be encouraged in order to accelerate overall ecosystem growth and unlock its benefits. Despite the red tape and regulations, the founders still believed in the opportunities in SA. These opportunities exist because the ecosystem is young, and the infrastructure is present to increase internet penetration with a younger population in relation to other global counterparts. However, SA's total addressable market is too small if digital products need to gain critical mass of users. This means that they need to solve local problems which have potential for global impact. They can then scale and produce leapfrog technologies which give them a competitive advantage over mature ecosystems who are otherwise more advanced in terms of technology production, talent, and funding. These entrepreneurs can escalate the overall local ecosystem growth by way of capitalizing on foreign opportunities, such as hiring international skilled labour to speed up venture growth. This may go against the job creation mandate of the country, but participant 9 highlighted that they were able to leverage an international operation with 10% employee base in the Netherlands, 20% in Mexico and 70% in SA. This shows that impact can still be created locally with the help of international resources. Digital startups are likely to birth and scale up in cities that help lever their development. They are more dependent on the presence of support services and presence of specialized human capital and financial capital to generate and diffuse knowledge (Thomas et al., 2020).

Another advantage mentioned was that high-growth entrepreneurs have the opportunity to reinvest in younger startups. Participant 12 opened their own startup Foundry while others contributed by sharing their knowledge through events and media publicity.

Participant 10 and 11 also introduced discount schemes for small business owners during the time affected by the pandemic. Levin (2017) mentioned that the presence of high-growth startups can lead to the "transformative effect" whereby high-growth startups can "make things seem like they are going faster than they are, and thereby actually make things go faster." The success of these high-growth startups can also lead to significant "spillover effects" which refers to the redeployment of knowledge, narratives, resources, human capital and competition that can ultimately benefit the development of other enterprises within and beyond the boundaries of the ecosystem (Audretsch et al., 2019; Stam, 2018)

A research conducted by Isenberg (2014) demonstrated that entrepreneurs identified three challenges: access to talent, excessive bureaucracy, and scarce early-stage capital. This study showcases that access to talent is a minor challenge while the other two can be considered major challenges. However, it can be speculated that for entrepreneurs with well-developed sensing capabilities, all three can be minimised. Once again, emphasis is placed on founder's risk appetite and sensing activities for startup growth. This means that firstly there is a need to promote and support entrepreneurship in an innovative way where young entrepreneurs are encouraged to seek out and partner with more experienced individuals. Secondly, individualised ecosystem strategies are required. This means that there should be a strategy tailored for startups led by young, inexperienced entrepreneurs and another strategy for startups led by older, more experienced entrepreneurs. Lastly, it was seen that corporates are positively driving initiatives independently of those led by the government. If collaborative initiatives were led by these stakeholders, then there would be a more significant impact on the ecosystem. At present, it appears to be primarily entrepreneur-led.

5.4 Conclusion

This study assessed the SA EE through the lived experiences of HGDS founders. The narratives from the first research question provided important insights into how founders identified, captured, and redeployed opportunities and resources within the SA EE. The second research question focused on the role of location, being South Africa, in shaping entrepreneurs' capabilities so that they could capitalize on opportunities and grow their ventures. Through the assessment of entrepreneur's dynamic capabilities, founders

identified six prominent stakeholders within the ecosystem. These were the SA market, institutions or large organisations, the government, financial providers, support organisations, and the talent available. These players are prevalent in all the studies of EEs identified in Chapter 2, such as Isenberg (2011) and Stam (2018). These players are prevalent in all the studies of EEs identified in Chapter 2, such as Isenberg (2011) and Stam (2018). The Roundy and Fayard's model of dynamic capabilities was reconstructed for this study to include risk, government, institutions, and corporates as these were found as significant to the SA EE (Figure 11).

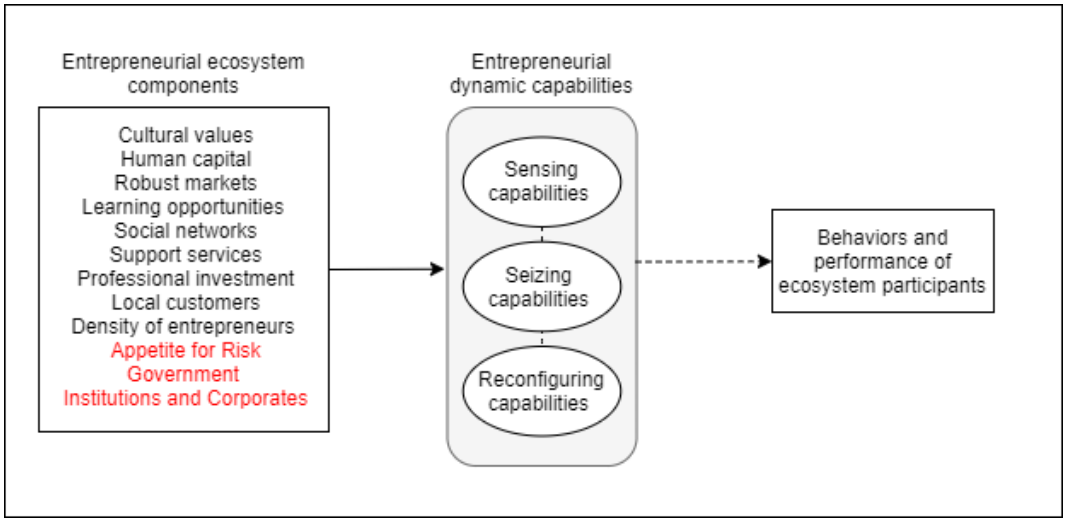


Figure 11: Revised conceptual model as adopted from Roundy & Fayard (2019)

The first major finding was that founders placed emphasis on the importance of building a functional MVP. They suggested that it was crucial to their advancement in the SA EE as this enabled them to reduce risks and attract the attention of major stakeholders. Building a successful venture was vastly dependent on their advanced sensing capabilities, which was a product of prior experiences and market knowledge. The better the sensing dynamic capabilities of founders, the easier their ability to navigate the ecosystem in terms of interactions with other stakeholders and how they attempted to scale their businesses in SA.

The second major finding was that having a robust risk appetite played an instrumental role in achieving scale. From the onset, the founders took personal and financial risk. In order to acquire support and financial capital, they built their products or services using their own funds. The founders' narratives highlighted that the SA EE is inherently risk-averse in terms of the broader entrepreneurial mindset, access to finance, support, and government interventions. However, this risk-averse nature is negatively affecting

young, early-stage entrepreneurs rather than more experienced entrepreneurs. One reason may be because the ecosystem is still under development. VCs or funders may not have enough information to take risks on young or inexperienced entrepreneurs with innovative ideas. Having prior professional experience in the industry as well as in the startup environment not only improved entrepreneur's capabilities to sense opportunities, but also helped them attract operational and financial support from various stakeholders in the SA EE.

According to this research, entrepreneurs are the main driving forces of the SA ecosystem. Unlike the international ecosystems, which are driven by multiple stakeholders on the ground, the SA ecosystem is predominantly driven by entrepreneurs. However, ecosystem growth can be leveraged if foreign opportunities are capitalized on strategically by policymakers. In SA, the two critical factors highlighted for successful scaleup were risk appetite and well-developed sensing dynamic capabilities.

Overall, in this study HGDS founders' narratives provided insights on the ecosystem readiness and interactions with key stakeholders who enabled their own venture creation and subsequent growth.

CHAPTER 6. CONCLUSIONS & RECOMMENDATIONS

6.1 Introduction

This chapter will summarise the findings of the research and offer recommendations to entrepreneurs with technology based digital startups who aspire to scale in South Africa. It also offers advice to relevant ecosystem stakeholders seeking to facilitate growth of the SA EE. Finally, suggestions for further research are proposed to contribute to the existing body of research in the field of digitalisation and entrepreneurship ecosystems in South Africa.

6.2 Conclusions of the study

An ecosystem guarantees a developmental pathway for digital startups through the network of specialized partners offering a wide array of knowledge and open innovations (Thomas et al., 2020). This study adopted an exploratory research approach which does not provide conclusive answers but rather a range of causal solutions to a specific problem (Dudovskiy, 2016). The proposed *dynamic capabilities* theoretical model was used as a guide to study how the SA EE enabled growth for digital startups. The study explored how HGDS founders created conditions for themselves based on the opportunities or challenges present in their ecosystem.

Findings from the study showed that entrepreneurs must develop their own social and financial capital as well as invest heavily in sensing activities within the SA EE. The ecosystem is nascent and primarily entrepreneur-led and thus prior experiences allow entrepreneurs to understand innovation driven by the marketplace. Furthermore, prior experiences also help entrepreneurs to navigate their relationships with corporates, other ecosystem stakeholders, and allow them to comply with regulation changes that create recognizable opportunities. The assessment of the entrepreneur's *dynamic capabilities* elicited interactions with ecosystem players such as the South African market, institutions or large organisations, the government, financial providers, support organisations and talent available.

The following conclusions were drawn from the data and literature review.

1. Narratives from the HGDS founders suggest that the SA EE has improved in terms of digital adoption as well as stakeholder support in the last two years which allowed them to experience significant growth. The majority of the founders were able to secure financial capital as well as organisational support after developing an MVP and gaining market traction for their product.
2. The majority of the founders highlighted that there was a lack of risk appetite which was ever-present in their interactions with the various ecosystem stakeholders. This meant that entrepreneurs needed to engage extensively in sensing activities to mitigate risk and achieve scale.

> *"In South Africa, we have plenty of growth capital, we have very little of seed. So, it is a chicken and egg situation where how are you going to get the growth, if you don't invest in your seed?"* - Participant 8

   Even though the majority of founders received funding in their first two years, they experienced this risk-averse nature of the ecosystem stakeholders at various stages of their venture. For example, participants 4, 8 and 11 said that their funding applications were repeatedly rejected at first for completely novel innovations in SA. Both participants 4 and 8 ended up only acquiring international capital. This meant that their investors lacked contextual market knowledge and so they had to find alternative sources of mentorship in SA. Participant 11 had to take enormous risk by self-funding at inception in order to refine their product and de-risk it. In all these cases, had they received risk capital at seed stage, their search for a product-to-market fit would have proceeded far more rapidly.
3. The SA EE has a well-designed foundation in place that can accelerate ecosystem growth but requires a collaborative approach to achieve its potential. Scholars note that often policies are driven with a focus on conventional or transactional incentives, and this does not offer sustained support to entrepreneurs (Mason & Brown, 2013). Instead, it was proposed that "newer forms of customised and collaborative business support is needed to help foster the entrepreneurial conduits – like large firms and funding institutes and interlinkages within ecosystems" (Mason & Brown, 2013, p.27). In SA, the government and private Section 12J fund is an example of a collaborative support mechanism that was instrumental in providing capital to five of the startups

interviewed. However, besides that, the founders benefited largely from the private sector and had minimal interactions with direct government bodies. This indicated that independent government initiatives might not be as effective as collaborative initiatives.

4. There is an increased focus on introducing government frameworks and national ecosystem strategies that can scale startups (Anwana & Anwana, 2020). However, founders noted that these changes will take time due to the stringent nature and bureaucratic systems set in place. In the meantime, founders in this study took advantage of current ecosystem conditions and combined these with international opportunity exchange. The HGDS founders capitalized on foreign opportunities such as applying for global accelerator programs to accepting international capital and opening up administrative offices in countries like the Netherlands and the UK. It was highlighted that these opportunities are driven by entrepreneurs and not by the ecosystem stakeholders. Anwana, (2020) proposed that policymakers need to develop policies that are more oriented towards global connectivity. An example of such an initiative is the Indo-Dutch #StartUpLink partnership between the Netherlands and the Indian government (#StartUpIndia, 2020). This is an online network that offers a knowledge exchange platform for entrepreneurs through their various stages of development. Policy reforms would be one way to speed the ecosystem growth. There is a need to create creative strategic partnerships with international hubs. Global networks are already underway; however, their impact is limited to entrepreneurs who are well connected and take initiative. For the overall ecosystem and for early-stage entrepreneurs, state-oriented initiatives could facilitate international partnerships.

All the participants highlighted that the initial startup phase is harder for younger and inexperienced entrepreneurs. Participant 2 summed it up by saying, *"And so, with regards to capital, what's funny is, as connected as I am, I consider it humbly, already being involved in Kaylon and already have a business behind me, it was still difficult to find capital. So, it will be difficult for guys who are first time entrepreneurs, who are not connected and have their own networks."*

SA ecosystem stakeholders are increasingly concerned about the high-failure rate of startups. This has been attributed to a lack of measured or sustainable support from the ecosystem stakeholders. But findings from this study indicate that perhaps there needs

to be differentiated entrepreneurship strategies for the *types of entrepreneurs* rather than the type of startups. A specific ecosystem strategy should be aligned solely towards attracting more experienced entrepreneurs who have industry experience and well-developed products. They should be provided risk capital and afforded the trust to implement novel innovations in SA. In addition, high-growth digital startups require tailoring programmes to support their needs, if these are unavailable in SA, then entrepreneurs will turn towards international ecosystems as was seen in the case of some of the startups in this study. The narratives demonstrated that founders are beginning to take advantage of global vibrant EEs to support their growth by entering into global competitions, applying for international accelerators, and lastly through international VC funding.

One of the participants also emphasized that the Covid-19 pandemic may affect the entrepreneurship landscape positively. This is because as the numbers of jobs decrease in the economy, there will be more individuals considering entrepreneurship. However, if risk appetite is not addressed, entrepreneurs may end up building business out of necessity and not innovation as that is not scalable in the short-term without risk capital and appropriate networks.

The findings contribute to prior research that is primarily focused on the physical characteristics and artifacts of EEs in SA such as the GEM SA (2019), GEDI (2017) and ANDE (2017) ecosystem reports. Having advanced sensing capabilities as well as personal and ecosystem level risk appetite were highlighted as the two critical factors for the success of digital startups attempting to achieve scale in the SA EE.

6.3 Recommendations

6.3.1 ***Recommendations for digital startup founders***

These are recommendations for digital startup founders trying to achieve growth in South Africa.

1. To attract and retain financial capital, founders of digital startups must create a minimum viable product with satisfactory features for early customers who can then provide feedback for future development. Based on the major findings that

founders invested their own financial capital at inception and they attracted VC capital within the first two years it can be suggested that building an MVP is crucial to obtaining support from ecosystem stakeholders. The majority of the founders created an MVP which was tested by the market and refined through continuous feedback. For early-stage entrepreneurs to achieve scale, they need to seek out investors after they have an MVP. This will increase their chances of obtaining capital as well as save them time in the short-term.

2. Based on the theme that prior experiences played a significant role in developing sensing capabilities of founders, it is suggested that before any financial or personal risk is taken, entrepreneurs must obtain work or industry experience as well as research to develop their ideas. Additionally, they must actively find cofounders who have the necessary skillset as well as expertise in the field they are interested in. Having an experienced team will not only make it easier to test product-to-market-fit but these experienced members will bring with them social networks that can be leveraged at a later stage.
3. One of the findings was that support organisations did play an instrumental role in enabling startups to grow in SA. However, these organisations were mainly private sector initiatives and more sustainable support was received from organisations that had a long-standing history and deep networks. Thus, it is suggested that entrepreneurs seeking growth should actively approach organisations that have an historical track record of support given as opposed to new organisations that may not provide sustainable support. They must look for organisations that can provide both expertise and networks for growth.

6.3.2 ***Recommendations for ecosystem stakeholders.***

Mason & Brown, (2013) emphasize that every ecosystem is different, despite having these common characteristics. Thus, it is important for stakeholder efforts to create or cultivate ecosystems with an individualised approach that works with a region's existing entrepreneurial assets.

These are recommendations for relevant ecosystem stakeholders trying to support venture growth within South Africa.

1. In the last few years, the SA government has focused on addressing the funding gap by increasing risk capital (Anwana & Anwana, 2020). These efforts were implemented through initiatives such as the 2014 amendment of the Section 12J of the Income Tax Act and the R1.4 billion SA-SME fund announced in March 2019 (Anwana & Anwana, 2020). Thus, even though the funding gap is being addressed by the government, these initiatives need to be supplemented with stakeholders or advisors who have the knowledge, skill, and experience related to the development of digital technological solutions who can then support the government in mitigating risk at the seed stage.
2. Many studies have indicated that support organisations do not play a sustainable role whereby there is a lack of monitoring and measurement. Five founders in this study were part of the Endeavor Organisation which not only facilitated their growth but has a historical track record of enabling high-impact entrepreneurship. Thus, one of the recommendations would be to provide support to pre-existing mature private organisations, for example through incentives to meet new entrepreneurship goals and help build entrepreneurship at seed stage, instead of establishing and promoting new support organisations.
3. One of the participants in the study discussed that the adverse effects of Covid-19 pandemic could have positive consequences for the state of entrepreneurship in the country. The Covid-19 global pandemic has had an exacerbating impact on the already dire unemployment crisis in South Africa. According to the Youth Employment Services (YES) survey on employer hiring needs post-pandemic, they found that between January to July 2020, 1.7 million people became newly unemployed and according to Q4 2020 stats the unemployment rate had expanded to 42.6% with over 11.1 million people unemployed (Ismail-Saville et al., 2021). Due to the increase in unemployment, innovative entrepreneurship or self-employment may become a favourable option for people. Thus, a recommendation for policymakers and government stakeholders would be to introduce differentiated strategies to facilitate this transition for SMEs and startups.
4. One of the unexpected findings was that recruitment may change post pandemic as entrepreneurs can access global talent, thereby building products faster. However, this could potentially raise concerns for local job creation. As participant

9 explained, this should not be viewed as a threat but an opportunity to leverage international talent and resources to promote and scale the production of innovations in South Africa. Therefore, initiatives geared towards promoting global connectivity can also focus on making it easier to employ global talent in order to take advantage of specialized capabilities and building global marketplaces.

6.4 Suggestions for further research

Further research can be conducted to extend this study:

1. This study adopted a limited sample size consisting of less than 15 startups and as such the findings could not be generalised and are subject to limitations. An improvement to the instrument would be to add a quantitative component to the study that would measure which stakeholders enabled the most significant impact for venture growth and rate the ease of forming relationships with them. This mixed-method approach may prove more useful to entrepreneurs.
2. The selection of the founders had been dependent on the high-growth startup criteria and convenience sampling. One consequence of this study was that the majority of the founders were white South Africans. An interesting perspective emerged from the founders with regards to black entrepreneurship in the country. There was a speculation that the BEE regulations set in place to address the structural disparities caused by apartheid is perhaps limiting black entrepreneurship. This is due to skilled labour being absorbed by large organisations to fill quotas that limits promising talent from pursuing innovative startup opportunities. Further research could perhaps conduct a similar examination of technology-based digital startups in relation to Black South Africans and previously disadvantaged communities.
3. All the founders were thirty years or older, and there was only one female participant. Another interesting approach would be to seek out startups founded by a younger population and or South African women who have either already scaled their startups or are in the process of scaling.
4. Risk emerged as an independent and explicit factor in the entrepreneurial process and as such it would be worth narrowing down the study to compare the two

prominent entrepreneurial hubs being Cape Town (considered more innovative) versus Johannesburg in SA (OC&C, 2018). Separately studying the hubs will allow insights into the risk appetite of the stakeholders in the different regions and the major cause of differences. This could lead to an investigation into how best practices for growth stimulation can be cross-fertilized between the two entrepreneurial hubs.

5. This study can also be replicated as a mixed method study with HGDS founders who were unsuccessful in their technology startup in SA in the last three years. Comparison of findings from this research can be investigated further to see whether there are similarities or differences in experiences of HGDS startup founders who failed during or post their growth stage.
6. Levin (2017) explained that the South African market is too small to accommodate *Unicorns* (startups valued at $1 billion) but there is an emergence of a new cluster of startups known as *Minicorns* (valued at $1 million) and *Soonicorns* (close to reaching the $1billion mark). Further research can focus on SA Minicorns and Soonicorn clusters and their impact on the SA EE (Chauhan, 2019).
7. Lastly, in order to extend this study through narratives, scholars could begin by identifying a variety of other ecosystem participants rather than just a single type of participants such as entrepreneurs. This would allow for a more diverse observations of the ecosystem that contain some agreement or disagreement across participants (Roundy, 2016).

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Appendix A: Additional Literature Review Information

Systemic Conditions

1. **Networks:** refers to the connectedness of businesses, experts, leaders in the field and entrepreneurs for new value creation including – innovative collaborations, market access, growth through marketing as well as local or international partnerships
2. **Leadership:** Guidance and direction for collective action Prevalence of economic and innovative leaders within the broader ecosystem and accessibility
3. **Finance:** refers to the availability and accessibility of finance, historical finance route – local or international investments from bootstrapping loans, Venture Capitalists (VCs)
4. **Talent:** Availability of required talent (locally or internationally), higher education trends and sourcing and managing of talent within the region
5. **Knowledge** Investments in new knowledge as they uncover new opportunities with potential and lead to prosperity. Spigel (2016) points to Universities being an excellent resource for start-up talent and their connection to the rest of the community as an important factor. This is crucial in terms of individual and collective Research and Design (R&D) capabilities, competencies, investments, and capacity. A great amount of research is required to develop technology and digital based solutions especially in that is compliant with regulation.
6. **Support Services:** refers to the percent of business services in the business population or a given location. It includes accessibility to intermediate business services that substantially lower barriers and increase value creation. The use of support structure services includes incubators or accelerators in pursuit of growth.

Framework Conditions

1. **Formal Institutions:** refers to the quality and efficiency of public services education, healthcare and law enforcement pertaining to corruption, rule of law, government effectiveness, voice, and accountability. This includes perceived corruption, regulatory frameworks and policies that inhibit startups, and create an environment that supports their growth.
2. **Culture:** reflects the degree to which entrepreneurial culture is valued in society, events and broader ecosystem initiatives. This also involves the prevalence of startups and how *common it is to start a business.*
3. **Physical infrastructure:** refers to the extent of accessibility within a specific region, via road, railroad, airports (number of passenger flights within 90 minutes' drive).
4. **Demand:** refers to market size**,** share within the territory. It involves understanding potential market demand (estimate of the GDP and population available within SA). It speaks to citizen lifestyle standards, purchasing power, income per capital and the overall population size

Ecosystem elements model – conditions (Stam, 2015)

Appendix B: Letter of Consent

The Graduate School of Business Administration
2 St David's Place, Parktown
Johannesburg, 2193
South Africa PO Box 98, WITS, 2050
Website:www.wbs.ac.za

Master of Management in Digital Business (MMDB FT) 2020- Research Report

Information sheet and consent form

Researcher Information:

I, Sabica Pardesi, am conducting this research for the purposes of completing my Master of Management at Wits Business School.

Research Information:
Title of research project: *Assessing the entrepreneurial ecosystem readiness to support high-growth digital startups in South Africa.*

I am conducting a qualitative study (interviews) to assess the quality of relationship that high-growth digital startups have with the various elements of the entrepreneurial ecosystem (for example, market, policies, support, culture, finance, human capital) in the context of South Africa. There is a lot of research material on what makes startups successful and other success stories but there is a lack of information available on *how startups are achieving growth in SA with locally focused challenges and opportunities in relation to other ecosystem actors.*

Your participation:

I am requesting your participation for a 60-minute semi-structured interview, which will be conducted online via ZOOM. This interview will be recorded and later transcribed into scripts. Your participation is voluntary, you are not obligated to participate, and you will not be affected in anyway should you not participate. If you do participate, you may choose to end the interview at any point without any penalties and you will not be prejudiced in anyway.

Your participation can add value in terms of understanding what challenges and opportunities exist for growth and build on other broader studies and existing narratives in this space.

Confidentiality and Anonymity:

Any information that you disclose to me will only be disclosed to people responsible for making sure that research is done properly, including my academic supervisor/s (i.e., the "Reviewers"). I, together with my Reviewers will –

- take all reasonable security precautions to maintain the confidentiality of such information.
- only use the information for the research project and not use any information for any other purpose try to reverse engineer the information for any commercial purpose, or for the purposes of creating any competing software or technology, or for the benefit of any competitor; and
- inform you immediately upon becoming aware, or suspecting, that an unauthorized person has become aware of the information.

As the researcher, I wish to seek your permission to be able to disclose your identity as well as the material gathered in relation to your experiences of the ecosystem. This will be pertinent to the objectives of the study which is to understand the SA landscape with a focus on startup growth. All study records can be destroyed (if this is what you as the participant requires) after the completion and marking of my thesis. Should you wish to retain your anonymity and confidentiality, then this will be respected. Data gathered will be reduced to "cases" and or "participant X" and discussed in terms of your broader location (e.g., Johannesburg)

Risks/discomforts:

At the present time, I do not see any risks in your participation. The risks associated with participation in this study are no greater than those encountered in daily life.

Benefits:

There are no immediate benefits to you from participating in this study. However, this study will be extremely helpful in understanding how your experience and navigation of the existing entrepreneurial ecosystem has enabled your digital startup to transition into a successful high-growth digital startup in South Africa.

Who to contact if you have been harmed or have any concerns:

This research has been approved by the Wits Business School. If you have any complaints about ethical aspects of the research or feel that you have been harmed in any way by participating in this study, please contact the Research coordinator at the Wits Business School, Kedibone Tyeda, Kedibone.Tyeda@wits.ac.za

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Consent

I hereby agree to participate in the research. I understand that I am participating freely and without being forced in any way to do so. I also understand that I can stop participating at any point should I not want to continue, and that this decision will not in any way affect me negatively. I understand that this is a research project that does not necessarily benefit me personally in the immediate or short term. I understand that my participation will remain confidential.

Founder/Participant Names:

Startup:

I hereby agree to have my identity and organization fully disclosed in the research paper:

☐Permission granted.

☐Permission not granted.

_____Signature of Participant 1 _____Date

_____Signature of Participant 2 _____Date

Appendix C: Research Instrument

General Information	• Name of the Participant • Name of the HGDS • Year Founded • Technology based digital offering
Demographic Profile	• What is your age? • What is your gender? • What is your race? • What is your highest level of qualification? • What is your position in the startup?
Founder Characteristics	• Initial motive for start-up? (Income, opportunity, problem, impact, skills, knowledge, exposure etc). • Years of work experience? • Work experience in the same field as the startup? • How many ventures did you found previously?
Research Question 1: What characterises successful transitioning from a basic startup to high-growth startup within the South African context?	
Sensing Activities	• How did you start, prior ventures/ work experience, meet your co-founders? • What were you visions, aspirations, expectations? • Did you face any challenges when *you first* started? (I.e., Registration, product testing)
Seizing Activities	• What were some major challenges and opportunities with regards to; physical and digital infrastructure, policies and regulations, availability of support from other business stakeholders - Govt, market adoption and demand as well as cultural perceptions? Have you contributed to influencing the entrepreneurship culture? • Has the government supported you in any way? If so in what way? • How much % have you grown annually in terms of employment in the last 5 years. • How long did it take for your startup to be at this stage? • Support services what kind of support did you have, was it easy to access, how did you go about finding it? • Finance providers: was it easily accessible, what were your primary channels of funding (Govt, private, grants). • Networks: What does the people and idea network look like for your field of work? Is there enough exposure, did you have and need mentors and the right network to succeed? • Human capital: Is the right talent available and accessible in SA? Do you employ international talent? How do you recruit? Did you have to train employees? • User adoption of technology: How has it changed in the last 5 years, what are the challenges? Has this changed due to Covid-19?
Reconfiguring Activities	• How has your business been affected by Covid-19 and did the pandemic influence your market growth/adoption? • How did you shift your business models in face of macro-environmental changes?
Research Question 2: How did the location shape HGDS founders' capabilities in South Africa?	

Local and International conditions for venture growth	• What were the three biggest obstacles to growth of your business in SA? Were these experienced internationally as well (if you expanded beyond SA). What opportunities are unique in the SA landscape? What would make the ecosystem more productive? • What benefits were acquired from international ecosystems?

Appendix D: Ethics Letter of Approval

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

SCHOOL OF GRADUATE SCHOOL OF BUSINESS ADMINISTRATION ETHICS COMMITTEE
CONSTITUTED UNDER THE UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)

CLEARANCE CERTIFICATE **PROTOCOL NUMBER: WBS/BA856386/917**

PROJECT TITLE	Assessing the entrepreneurial ecosystem readiness to support high-growth digital startups in South Africa
INVESTIGATOR	Mrs. Sabica Pardesi
SCHOOL/DEPARTMENT OF INVESTIGATOR	MM (Digital Business)
DATE CONSIDERED	20 July 2020
DECISION OF THE COMMITTEE	Approved unconditionally
RISK LEVEL	LOW RISK
EXPIRY DATE	30 JUNE 2021

ISSUE DATE OF CERTIFICATE 4 August 2020 **CHAIRPERSON** _____
(Dr MDJ Matshabaphala)

cc: Supervisor: Mr Beder

DECLARATION OF INVESTIGATOR

To be completed in duplicate and **ONE COPY** returned to the Chairperson of the School/Department ethics committee.

I fully understand the conditions under which I am are authorized to carry out the abovementioned research and I guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee.

Signature _____ **Date** 04/08/2020

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES