

**A SYSTEMS' THINKING APPROACH TO  
ENTREPRENEURIAL LEADERSHIP: AN ANALYSIS OF  
SMMES IN THE GAUTENG PROVINCE**

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at the Durban University of Technology

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**OCTOBER 2021**

Supervisor:

Date: 17 November 2021

## **Declaration of originality and statement by supervisor**

I certify that this thesis is the work of Thabisile Mhlongo.

Dr. Preeya Daya  
Research Supervisor

I declare that the work is a reflection of my own work and has not been submitted or published previously to any other institution.

Thabisile Mhlongo  
Student Signature

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## **ABSTRACT**

Despite the efforts of the South African Government to stimulate entrepreneurial opportunities through policies, strategies, and programmes, many Small, Medium and Micro Businesses remain unsustainable. However, SMMEs often experience various challenges and studies have shown that SMMEs in South Africa rarely survive in their first year of existence.

One problem SMMEs face in South Africa is poor leadership. Further, insufficient financial resources, lack of business knowledge and management, and inadequate institutional support thwart sustainable growth and have a negative effect on the overall performance of SMMEs. Thus, having an understanding and insight into the various leadership problems and dynamics encountered by the SMMEs could foster the development of strategies to improve the performance of SMMEs.

This study evaluated the application of entrepreneurial leadership capabilities to respond to uncertainty, challenges, and opportunities in the entrepreneurial system and understand how the systems thinking approach can be applied in entrepreneurial leadership to address the complex dynamics of the entrepreneurial ecosystems. Overall, the study identified the pathways to entrepreneurial leadership and deepened the current understanding of the concept of entrepreneurial leadership in selected SMMEs operating in the Gauteng province.

This study adopted a holism model underpinned by methodological pluralism and mixed-method strategy. It used a pragmatist philosophical approach and mixed-method case study to achieve its objectives. A three-tier research plan was used comprising semi-structured interviews, causal loop diagrams, and simulation modelling to address the research aim and the objectives.

## **ABBREVIATIONS AND ACRONYMS**

BI	Bounded Instability
BL	Balancing Loop
CAQDAS	Qualitative Data Analysis Software
CAS	Complex Adaptive System
CAWI	Computer-Assisted Web Interviewing
CLD	Causal Loop Diagrams
CLT	Complexity Leadership Theory
CSBD	Centre for Small Business Development
DSBD	Department of Small Organisation Development
DTI	Department of Trade and Industry
EB	Established Organisation
EE	Entrepreneurial Ecosystem
EEA	Entrepreneurial Employee Activity
EI	Explosive Instability
EL	Entrepreneurial Leadership
GCI	Global Competitiveness Index
GDP	Gross Domestic Products
GEI	Global Entrepreneurship Index
GEM	Global Entrepreneurship Monitor
GERA	Entrepreneurial Research Association
GLOBE	Global Leadership and Organisational Behaviour Effectiveness
ICSB	International Council of Small Organisation
NDP	National Development Plan
NYDA	National Youth Development Agency
OECD	Organisation for Economic Cooperation and Development
QLFS	Labour Force Survey
R&D	Research and Development
RL	Reinforcing Loop
RIA	Regulatory Impact Analysis

SBP	Small Business Project
SD	System Dynamics
SDM	System Dynamics Model
SDSM	Dynamics Modelling and Simulation Model
SDSM	system dynamics modelling and simulation model
SE	Stable Equilibrium
SFD	Stock-And-Flow Diagram
SMMEs	Small, Medium and Micro Business
SOEs	State-Owned Enterprise
SSM	Soft Systems Methodology
TEA	Total Early-Stage Entrepreneurial Activity
TIPS	Trade and Industrial Policy Strategies
UYF	Umsombovu Youth Fund
WEF	World Economic Forum

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# **Chapter One - Introduction And Background To Study**

## **1.1 Introduction**

Small, Medium and Micro Enterprises (SMMEs) have been acknowledged as significant in the economic growth and development in both developed and developing countries (Amra, Hlatshwayo and McMillan 2013:25-27). SMMEs play a significant role in developing countries in particular, for offering solutions to unemployment, poverty, and low-income challenges. SMMEs influence the national output, job creation, poverty reduction and elimination of income inequalities in several economies globally (Organisation for Economic Cooperation and Development, OECD 2018). The proper establishment, market entry and development of SMMEs have been acknowledged as a potentially sustainable solution for the reduction of low-income levels and inequality, through the creation of employment opportunities (Bhorat, Asmal, Lilenstein and Van der Zee 2018). It is no doubt that SMMEs contribute immensely to economies across the globe and are of importance to South Africa's economic growth. As a result of this contribution, countries across the globe have prioritised the creation of a conducive and enabling environment for SMME growth and development (Dlova 2017).

## **1.2 Background to the study**

Almost 90% of all businesses operating in South Africa are regarded as SMMEs and they account for approximately 80% of all employment in the economy and more than 50% of South Africa's Gross Domestic Product (GDP) (Petersen ,Bruwer and Mason 2020:110-119). Ndou (2014) observes that the South African government has acknowledged the importance of SMMEs to the South African economy. Bhorat *et al.* (2018) indicate that successful formation, market entry, and growth of SMMEs have been identified by the government as a potentially sustainable solution for the elimination of poverty, and the reduction of inequality through the creation of employment opportunities. Entrepreneurs

are an essential source of job creation with long-term positive externalities realised through increased employment growth rates and incomes earned.

In continued attempts to enhance SMME growth, the South African government has come up with a plethora of policy interventions and most relevant, is the National Development Plan. For instance, in 2014 the Department of Small Business Development (DSBD) was vital to the government's strategies to enhance the radical transformation of the economy through the promotion and development of sustainable and competitive entrepreneurs, small businesses and co-operatives to enhance economic growth (DSBD 2018). The DSBD promotes small businesses in navigating the legal and regulatory environment and enhances efficient access to markets and finances. Before the establishment of the DSBD, the government has been previously offering the necessary support to SMMEs in terms of capital funding and business incubations. Equally, the Department of Trade and Industry (DTI) formulated a series of steps aimed at encouraging SMMEs' growth via the provision of several organisational support and development processes/services.

The NDP highlights the significant role SMMEs play in economic growth, removal of inequalities and poverty reduction. The NDP commits the SMME sector to create approximately 11 million job opportunities required in South Africa by 2030 and equally decreases the unemployment rate by approximately 6% (DSBD 2018). But, the Small Business Institute (SBI) (2020) underscores that SMMEs in the country continue to face an inimical business environment, are not growing fast enough to meet the envisaged NDP targets and would have to grow at a rate of at least 20% a year to achieve the NDP goals.

With the increase in unemployment rates in South Africa, it is imperative to offer the necessary support to SMMEs to reduce unemployment (Bushe 2019). The growth and success of the SMMEs rely on the formation of job opportunities. The creation of job opportunities heavily relies on a conducive environment and culture of entrepreneurship which encourages growth and sustainability of SMMEs (SBI 2020)

### **1.2.1 The entrepreneurial system in South Africa**

Despite the efforts of the South African government to stimulate entrepreneurial opportunities through policies, strategies, and programmes, many SMMEs remain unsustainable (Cant and Wiid 2013:707-716). This is because SMMEs often experience various challenges which impact their sustainability. (Leboea 2017; Soni Cowden and Karodia 2015:15-93) states that SMMEs in the country rarely survive in the first few years of operations after being launched. Between 70% to 80% of South African SMMEs are believed to fail within rarely survive in their first year of existence (Bruwer and Van den Berg 2017:1-12; Lekhanya 2015:215-222; Fatoki 2014:270-274; Cant and Wiid 2013:707-716; Mutezo 2013:153-163; Moloi 2013). This reflects South Africa as one of the countries with the highest SMME failure rates in the world (Bruwer 2018:49-58). Such poor survival patterns have been documented by the GEM Report of 2020, which showed that the survival rates for local start-ups in South Africa is lower in comparison to global standards, with only three out of ten start-ups progressing into established businesses. The high failure rate of SMMEs paint a bleak picture of the SMME sector's potential to contribute meaningfully to economic growth, job creation, and poverty reduction (Mahadea, Darma and Irrshad 2018:203-226; Fatoki 2014:270-274).

Lekhanya (2015:215-222) and Cant and Wiid (2013:707-716) attribute the high failure rate of SMMEs to various challenges SMMEs face, including leadership. Singawaza (2013) groups these challenges to macro-economic (external) factors and micro-economic (internal) factors. The 2015 SMME Growth Index headline results indicate that external factors and challenges impeding small business growth include arduous regulations, harsh local economic conditions, high cost of labour, lack of finance, high municipal costs and poor service, and increased competition. While internal factors impacting on SMMEs include lack of skills in terms of leadership, business management remain as the secondary factor impeding small business growth, survival, and sustainability.

The lack of sustainability efforts in SMMEs can be linked to poor management skills attributed to inadequate training and education and lack of business sustainability skills (Leboea 2017; Phikiso and Tengeh 2017:1-14; Hogeferster 2014:241-250; Arham 2013:117-130). SMMEs are also said to lack the awareness, and manpower to action the required changes within their organisations (Singh, Wasdani and Poornima 2016). Kongolo (2010) indicates that lack of financial resources and inadequate institutional support influence sustainable growth and affects the performance of South African SMMEs. In the same vein, Van de Vrande, Jong, Jeroen, Vanhaverbeke and Maurice (2009:423-437) identify that SMMEs have weak ties with other organisations compared to larger businesses, which make it more difficult for them to access the knowledge required for sustainability purposes (Dodourova and Bevis 2014:252-271; Chimucheka 2013:157-168 ).

Studies have also revealed that the failure rate of SMMEs in South Africa is approximately 60% to 80% in the first and second years of trading and, is regarded as one of the highest failure rates compared to other developing countries (Leboea 2017; Mthabela 2015; Fatoki and Garwe 2010:131). Mazzarol (2015:1-79) and Hayton (2015) have shown that inadequate managerial experience and skills, low entrepreneurial culture, and obstacles to market access are some notable reasons responsible for the failure of SMMEs. These findings indicate the endless challenge and bottlenecks that SMMEs face daily, impacting their sustainability. Lampadarios (2015) and Nkonge (2013:194) note that the systemic and continued failure rate of SMMEs has an adverse effect on the economy in the short and long run.

### **1.2.2 Entrepreneurial leadership**

Lack of leadership skills has been cited as one of the major challenges facing SMMEs, in both managerial and technical expertise (Hossain 2015). Leadership, as an entrepreneurial behaviour, is important due to its potential in recognising one's value in the entrepreneurial process; thus, it is considered vital in fostering innovation and adapting to changing environments. However, as evident from the discussion above, constraints, complications,

and dynamics with the entrepreneurial system indicate that there is an urgent requirement for the entrepreneurs to come up with effective leadership approaches. These approaches need to respond to the ever-changing system and organisational dynamics to enhance development, continuity, and sustainability rates of their businesses (Germak and Robinson 2014:5-21). Entrepreneurial leadership, therefore, has been acknowledged as a crucial competency that entrepreneurs could adopt to enhance both their leadership development and competitive and sustainable growth for their businesses (Fernald, Solomon and Tarabishy 2005:1-10). In accentuating the importance of entrepreneurial leadership in sustaining the businesses' competitive advantage, Davids (2012) points out that the business environment in South Africa is very dynamic in nature and emphasises that the low entrepreneurial activity and high failure rate among SMMEs suggest a lack of entrepreneurial leadership capabilities and understanding of the business environment. Therefore, entrepreneurial leadership, from the perspective of the leadership role performed in entrepreneurial ventures, is emerging as a critical issue in our understanding of leadership within entrepreneurial contexts (Leitch, McMullan and Harrison 2013:347-36). Kuratko (2017:441-490) notes entrepreneurial leadership is becoming a global necessity. As such Leitch and Volery's (2017:147-156) calls, for exploring and understanding entrepreneurial leadership, for advancing the concept in the study of small businesses.

Entrepreneurial leadership has emerged as a distinctive approach, which takes into consideration the exercise of entrepreneurial leadership in high-velocity SMME contexts (Harrison, Leitch and McAdam 2015:693-713). The approach is often seen as a "new paradigm" and has been suggested as an essential component in which entrepreneurs can enhance their competitiveness whenever they encounter dynamic and ever-changing ecosystems (Fernald *et al.* 2005:1-10). Entrepreneurial leadership has been conceptualised as a convergence of the independent fields of entrepreneurship and leadership and the merging of concepts from both fields has led to the development of a new, universal construct referred as 'entrepreneurial leadership' (Fernald *et al.* 2005:1-10; Coglisier and Brigham 2004:771-799). Matthews (2017) emphasises that an eclectic approach to

entrepreneurial leadership that draws on the key processes of other perspectives presents a holistic view of its effectiveness.

Dzomonda, Fatoki and Oni (2017:104-113) and Pihie, Bagheri and Asimiran (2014: 825-843) define entrepreneurial leadership based on the patterns of behaviour and capabilities to stimulate innovation and development of new products and services using defined business models. This approach of defining entrepreneurial leadership derives from the school of thought which regards entrepreneurship based on the provision of new products and services in the relevant market with the motive of enhancing profit. This is contrary to other schools of thought, which regard entrepreneurship in terms of the capabilities to identify needs and convert such ideas into opportunities by providing appropriate solutions (Ayankoya 2016).

Darling, Keffe and Ross (2012:3), defines entrepreneurial leadership as a “process that creates value for organisational stakeholders by bringing together a unique innovation package of resources to respond to a recognised opportunity.” From an analogous standpoint, Pichie *et al.* (2014:1) define leadership in entrepreneurship as a distinct type of leadership that predominantly concentrates on dealing with challenges and complex matters and crises that exist in organisational settings. For them, the notion of entrepreneurship leadership thus stems from a process whereby people who pursue entrepreneurial intentions and opportunities work collaboratively with others, using different cognitive methods to understand and respond to systems.

Davids (2012:10) asserts that the success of entrepreneurial leadership is anchored on four key strategies; namely “attention through vision, meaning through communication, trust through positioning and confidence through respect.” These models are fundamentally linked to the goal of situational leadership, which aims to interconnect suitable leadership styles with suitable levels of development for each given individual for particular objectives (Ebere and Fragouli 2015:10-30).

Leitch and Volery (2017:147-156) and Renko, Tarabishy, Carsrud and Brännback (2015:54–74), identify three approaches on the entrepreneurial leadership theory. The first approach posits that entrepreneurial leadership is a development of the field of entrepreneurship, and therefore that entrepreneurial leadership is a process that an entrepreneur engages in (Leitch and Volery 2017:147-156). This approach regards an entrepreneurial leader as an entrepreneur, who acts in a volatile environment, and is able to take risks, realise opportunities, and unite followers (Leitch and Volery 2017:147-156).

The second view links entrepreneurial leadership to the field of leadership, and therefore considers an entrepreneurial leader to be a typical leader with entrepreneurial spirit and attitude, no matter what organisation he is working in, even if he is a part of large organisation (Leitch and Volery 2017:147-156; Renko *et al.* 2015:54–74 ).

The last approach regards entrepreneurial leadership at the nexus of entrepreneurship and leadership (Leitch and Volery 2017:147-156 ; Renko *et al.* 2015:54-74). The argument for this position includes notions that entrepreneurs are leaders by definition and that their leadership style is that of authentic leadership (Leitch, Volery 2017:147-156). Harrison *et al.* (2015:693-713) and Leitch *et al.* (2013:347-36) acknowledge that context in the study of entrepreneurial leadership, as models, concepts, frameworks of analysis that are appropriate and effective in one domain, may not be so in another.

While entrepreneurial leadership is still an embryonic concept, it has been employed as a mechanism for diagnosing management development, and growth-related issues within small businesses. It has been acknowledged as an evolving approach to leadership towards achieving strategic value creation (Gupta, MacMillan and Surie 2004:273–288). This view has been extended and emphasises the importance of recognising and exploiting entrepreneurial opportunities (Renko *et al.* 2015:54-74; Hejazi, Maleki, and Naeiji 2012:1-7). It emphasises taking a strategic approach to entrepreneurship so that the entrepreneurial initiatives can support the development of enhanced capabilities, leading to organisational performance. It is leadership that is pragmatic and focused on problem-solving and value



creation in the market (Surie and Ashley 2007:235–246). Entrepreneurial leadership can, therefore, be described as a style of leadership an entrepreneurial leader applies when engaging in business risk-taking, pro-activeness and innovative activities. The primary attributes possessed by entrepreneurial leaders include creativity, the motive of achievement, enthusiasm, reaction to opportunities, visionary and goal-oriented (Davids 2012).

For entrepreneurs to obtain functional competencies and personal competencies (Bagheri and Pihie 2012:539-562), entrepreneurial leadership may provide new light for SMMEs' development through its multidimensional approach to management and business development. This study aligns with Leitch and Volery's (2017:147-156) school of thought that entrepreneurial leadership is about role and behaviour defined by interactions in specific contexts. The emphasis is on the more dynamic view of entrepreneurial leadership, including leadership development (Leitch, McMullan and Harrison 2009:243-263). Entrepreneurial leadership benefits from the mutual cross-fertilisation between entrepreneurship and leadership (Carsrud, Renko-Dolan and Brännback 2018). Arguably, its multi-dimensional orientation can enable a business to enhance opportunity recognition and exploitation as entrepreneurs would be engaged in opportunity-focused behaviours, thus developing entrepreneurial leadership skills (Hatem 2018).

The entrepreneurial leadership skills provide entrepreneurs with personal competencies and skills to be cognisant of the changes taking place in the global and local business environment. To do this, entrepreneurs must understand their capabilities, competencies, and leadership styles, and what they desire to ultimately achieve. They must be proactive, creative, innovative, capitalise on opportunities and take risks when necessary. They should use their capabilities to the fullest to achieve growth and development for their businesses, whilst creating competitive advantage and sustainable businesses (Palalic 2017:211-236). Entrepreneurial leadership enable entrepreneurs to envision a successful future for their businesses; they can formulate innovative visions and identify opportunities.

On the other hand, the functional competencies of entrepreneurial leadership empower them to inspire and influence their team members to abandon conventional performance in carrying out their tasks and amplify their efforts in implementing innovation and entrepreneurial actions; this is achieved by transforming individuals' perceptions of their abilities and skills and maximising their self-efficacy by involving them in development and training programmes (Bagheri 2017:159-166). Entrepreneurial leadership encourages organisations to adopt processes that reinforce the culture of organisational innovation, by discovering and capitalising on opportunities to improve organisational performance, solve problems using creative methods, and utilise the resources of the organisation effectively and efficiently (Rae 2016:76-100 ).

Greenberg, McKone-Sweet and Wilson (2011) define entrepreneurial leaders as individuals who understand themselves and the contexts of the working environment and stand up to manipulate opportunities to create values for their organisations and stakeholders as well as for the whole society. The goal of entrepreneurial leadership is to empower individuals to identify and exploit profitable opportunities. In a similar vein, Strobl, Bauer and Matzler (2020) propose that entrepreneurial leadership includes both, opportunity recognition, which is related to an individual's perception, and exploitation of opportunities, which in turn is linked with action. Entrepreneurial leaders articulate a vivid and inspiring vision for their organisations that can garner the participation of individuals, thereby enhancing their awareness to act as an agent of the organisation in charge of innovation and future success.

Despite the growing interest and developing perspectives related to entrepreneurial leadership, empirical development of the concept has been hindered by the lack of focused research and the absence of adequate tools for assessing a leader's entrepreneurial characteristics and behaviours (Renko *et al.* 2015:54-74).

### **1.2.3 Systems thinking**

The SMMEs continue to be plagued by relatively high failure rates and poor performance levels caused by the highly complex and dynamic business environment. If a business is to achieve its desired outcomes and be sustainable in the long term, the dynamic complexity of the business environment has to be successfully understood and addressed. The complexity of the business environment is not only due to multi-stakeholder involvement, but also caused by the challenges from accelerating economic, technological, social, and environmental change, that require entrepreneurs to be equipped with systems thinking skills to effectively address these dynamic complexities. Effective business decision-making and learning in a world of growing dynamic complexity requires entrepreneurs to be equipped with systems thinking skills to understand how the structure of complex systems such as an entrepreneurial system, creates their behaviour and maintain the system.

The real world is complex and ambiguous and posing a myriad of challenges to entrepreneurs (Gregory and Miller 2011). The interdependence of people, ideas, and beliefs challenge managers as they ‘make sense’ of the reality around them. Entrepreneurs need to understand the complexity of the current environment and appreciate that there is no ‘simple’ solution to the problems they face (Caldwell, Parker Harris and Renko 2012:505-518). Gregory and Miller (2011:5) suggest that “the strategic models on which management decisions are based need to be more holistic than ever due to a tighter coupling among different components of the environment”.

Thus, this study advocates for an alternative or contemporary approach systems thinking that shifts the emphasis away from traditional static approaches, towards an approach that deals with complex and dynamic open systems. As demonstrated above, conventional approaches to managing leadership in entrepreneurial systems, founded on traditional science paradigm, linear and reductionist, are inadequate in dealing with the uncertainties, complexities, and dynamics inherent in such systems. Moving from the conventional kinds of thinking to contemporary thinking, necessitates alternative frameworks and theories to

guide the choice of an appropriate analytical focus and tools. The system thinking approach posits specific causal relationships among the essential system variables (McGinnis and Ostrom 2014:30). A systems-based approach is proposed as an alternative method of thinking since it is more suitable in dealing with the complex dynamics of the real world (Senge 1990; Sterman 2000). Following Rashed, Deluyi and Daud (2015: 125–131; Tofighi, Teymourzadeh and Ghanizadeh (2017:58–72) and Afzal, Siddiqui and Dutta (2018:25-44) entrepreneurial complexities are best viewed and discussed using dynamic approaches.

The systems thinking concept is based on the systems philosophy and states that any human activity is an open system affected by the environment and is based on the holism principle, i.e., a perception of the world as a whole (Ackoff 1999:20-25.; Sterman 2000). Systems thinking involves a broader view, looking at larger numbers of interactions and that creates a better understanding of the big picture (Ackoff 1999:20-25.). The usage of systems thinking in practice can be defined by Senge (1990) words: “it simplifies life by helping us see the deeper patterns lying behind the events and the details”. Gharajedhagi (2006) regards systems thinking as an interactive management model and describing systems thinking as “*a platform for designing business architecture*”.

The best way to understand the system is to construct it, to get a handle on emergent properties... we need to understand the processes that produce them... controlling, influencing, and appreciating the parameters affecting the system's existence (Gharajedaghi, 2006).

Senge (2006) claims that the systems thinking view is necessary to be “able to understand the dynamic complexity of social systems” such as the entrepreneurial system.

If the skills of the next generation of entrepreneurs are to be enhanced to think holistically to solve system problems, systems thinking need to be adopted to broaden the understanding of entrepreneurial leadership in entrepreneurial contexts. Recognising the

need to improve the systemic thinking of entrepreneurs, adopting learning and leadership skills development methods and problem-solving tools or techniques will enable entrepreneurs to view connections more holistically when analysing business situations (Gregory and Miller 2011). In entrepreneurial contexts, systems thinking moves entrepreneurs away from focusing primarily on the individual parts of their businesses, to viewing the whole business and entrepreneurial system as having its own set of unique characteristics, qualities and dynamics. Systemic thinking enables entrepreneurs to understand their business system and how decision-making influences the success or failure of the business (Henning and Chen 2012:470-483). The current study argues that the use of systems thinking is an effective tool to enhance the level of systemic thinking of entrepreneurs, increasing creative thinking and better decision making required to solve complex problems or situations in the system.

Balogun, Agumba and Ansary (2015:264-273) contend that South Africa needs to ensure an enabling environment and entrepreneurial system that allows entrepreneurs to thrive if the SMMEs are to generally increase their contribution to the country's economy and job creation. Therefore, studies that seek to develop the resilience of SMMEs and to develop their leadership capabilities such as entrepreneurial leadership are important if the sector is to realise its touted potential.

The rising failure rates of SMMEs described in the various literature may be drastically decreased through the systems thinking interventions and entrepreneurial leadership adoption by entrepreneurs. One of the biggest challenges that policymakers face is how to devise appropriate strategies and policies for SMMEs that could attain business sustainability in highly complex and dynamic entrepreneurial contexts. With the help of systems thinking, entrepreneurs may have the solution to the existing business challenges through engagement in holistic and non-reductionist thought processes. To ensure the survival and sustainable growth of small businesses in dynamic environments, understanding of the system dynamics and system thinking approach that should be applied in dealing with distinct factors attribute to entrepreneurs' leadership skills, remains central.

## **1.3 Statement of the problem**

### **1.3.1 The complex entrepreneurial system in South Africa**

The entrepreneurial systems in South Africa are sophisticated, complex and dynamic. Some notable challenges which affect the South African entrepreneurial system include but are not limited to legal and regulatory systems, limited access to markets, lack of finance, tax burdens, inaccessibility to technology and business management skills (South African Breweries Foundation and Allan Gray Orbis Foundation 2017). Davids (2012) points out that the business environment in South Africa is very dynamic in nature and emphasises that the low entrepreneurial activity and high failure rate among SMMEs suggest a lack of understanding of the business environment SMMEs operate in, in South Africa. Policy-academic driven knowledge about entrepreneurial environments in South Africa remains limited in the existing literature. Limitations in such knowledge make it difficult to form an evidence-based understanding of how complex and dynamic system factors affect entrepreneurs in their businesses (SAB Foundation and Allan Gray Orbis Foundation 2017).

### **1.3.2 Lack of entrepreneurial leadership skills**

Another major problem in business improvement initiatives, especially for SMMEs in South Africa, is the lack of understanding of factors that can encourage the sustainability and success rate of SMMEs. The 2015 SMMEs Growth Index report shows that inadequate skills, particularly in leadership and management skills are a barrier for small businesses to grow and survive in South Africa (SBP 2015). The DSBD (2018) points out that many small businesses cannot effectively address the various problems they encounter. Lower levels of entrepreneurial skills and expertise regarding financial and business management of SMMEs, defines the SMME environment in South Africa (DSBD 2018).

Despite this, there is an apparent dearth of research examining leadership in entrepreneurial businesses (Renko *et al* 2015:54-74). Similar limitations have been observed concerning the research on entrepreneurial leadership from a theoretical perspective. The current understanding of systems thinking and entrepreneurial leadership adoption and implementation of policy changes in South Africa is inadequate. Therefore, given the importance of entrepreneurship as an agent of economic growth and development, it is pertinent to understand entrepreneurial leadership in entrepreneurial contexts (Harrison and Leitch 2018:3-34).

This study offers insights on the emerging entrepreneurial leadership theory as a new paradigm in chapter 2 and how this emerging leadership theory can equally help start-ups, new and smaller businesses seeking to improve their businesses and continue to survive in a highly competitive environment with ever-changing environments. However, lower levels of entrepreneurial leadership skills characterise the SMMEs in South Africa and there is an apparent dearth of research examining leadership in entrepreneurial ventures (Renko *et al* 2015: 54-74; DSBD 2018).

### **1.3.3 Traditional and mechanistic methods do not address the complexities within the entrepreneurial system**

Having a better understanding and insight into the various leadership problems and dynamics encountered by SMMEs can allow entrepreneurs to develop systems thinking strategies and interventions that can enhance the performances and sustainability of their SMMEs. However, business interventions aimed at assisting entrepreneurs depend on traditional and mechanistic methods which are no longer adequate to enable entrepreneurs to cope with complexities within the entrepreneurial system (Reeves and Deimler 2011).

Subsequently, research by the OECD (2012; 2013) has shown that interventions geared towards SMME and leadership development, should incorporate holistic techniques which take into consideration environmental and socio-economic issues and their

interrelationships within the system. As a result, the processes to attain entrepreneurial leadership development necessary to foster business/SMME sustainability, need to depend on holistic systematic modelling techniques, all-inclusive decision-making mechanisms, and holistic problem-solving techniques. However, empirical evidence suggests that the majority of entrepreneurs do not have systems thinking skills. This is simply because our conventional education system, including schools and universities, has been focusing on teaching the traditional thinking skills of linear analysis.

Although systems thinking is treated as a valuable competence of a leader (Ellis, Gregory, Mears-Young and Ragsdell 1995), it has not been investigated enough in the context of leadership, and the role of systems thinking in leadership is not empirically tested. Another gap in the literature is that there are no methods and means proposed to evaluate, measure, and develop systems thinking in entrepreneurial contexts, such as system dynamics techniques. There are few empirical studies of systems thinking, while theoretical approaches to develop systems thinking are on the whole difficult to find (Ossimitz 2000:1-17). Summing up it can be concluded that systems thinking as competence is underexplored. The impact of systems thinking on entrepreneurial leadership has not been tested empirically. This study aims to close this gap.

## **1.4 Research aim**

This study aims to examine the entrepreneurial system concept and identify challenges in the entrepreneurial system that impact the SMMEs' s performance and sustainability in the Gauteng province. The study also intends to broaden the understanding of how a systems thinking approach can be applied in entrepreneurial leadership towards addressing the complex dynamics faced by entrepreneurs in the entrepreneurial system. It does this by exploring the use of entrepreneurial leadership in responding to the various uncertainties, problems, and opportunities within the entrepreneurial system using systems thinking.



Entrepreneurial leadership skills and the systems thinking approach can be used to enhance the SMME success rates and reinforce the efficiency of organisation support strategies. This research study aims to stimulate system dynamics in the entrepreneurial environment based on the systems thinking approach which entrepreneurs can apply in dealing with business challenges, dynamic conditions, and complexities that prevail in the small business entrepreneurial ecosystem.

## **1.5 Research questions**

Based on the research aim described above, the research questions include:

1. What constitutes an integrated conceptual system model that captures the systemic feedback loops, processes, and structures governing the system behaviour, and
2. What are the implications for current and future entrepreneurial leadership development?

## **1.6 Research objectives**

The primary objective of the study is to increase the understanding of the complexities of this entrepreneurial leadership in the entrepreneurial system. This will be done through building a system dynamics model which takes into consideration the systemic feedback loops, mechanisms, structures, and loops affecting the entrepreneurial leadership dynamics within the entrepreneurial system to devise several policy interventions for entrepreneurial growth and sustainability. Secondary objectives include the following:

1. To assess the concept of entrepreneurial leadership.
2. To evaluate how the leadership challenges and complexities interact with each other in an entrepreneurial system.

3. To develop an integrated conceptual system model that captures the systemic feedback loops, processes, and structures governing the system behaviour, and their implications for current and future entrepreneurial leadership development; and
4. To develop an entrepreneurial leadership adoption model and formulate several scenarios to enable different policy formulation.

## **1.7 Methodology**

This study adopted a holistic and pragmatic technique, based on a mixed-methods study research model comprising semi-structured interview and system dynamics modelling strategy. The selected population consisted of SMMEs in the Gauteng province - extracted from the database listing SMMEs (The Gauteng Business Propeller). These SMMEs belonged to different sectors, including agriculture, mining and quarrying, manufacturing, electricity, gas and water construction, retail and motor trade, repair services, wholesale trade, catering, accommodation and other trade, transport, storage and communications, finance and business services, community, and social and personal services.

The study incorporated interview data which was obtained with the help of purposive sampling to make sure that enough information was gathered. In this study, 46 entrepreneurs were chosen for the semi-structured interviews and interviews offered appropriate data, which was necessary for the creating of causal loop diagrams and finally model development and validation. This research employed systems dynamic modelling (Sterman 2000; Repenning2002; Warren 2005) to develop a more comprehensive approach and produced the identification of dynamics within the actual world and system setting.

## **1.8 Rationale for the study**

The organisation environment in which SMMEs operate in, is quite dynamic and complex, especially in South Africa (Davids 2012). Low entrepreneurial activity and a high failure rate among small and medium-sized businesses, suggest a dearth of entrepreneurial

leadership capabilities and a lack of understanding of the organisation environment. Therefore, this research seeks to trigger an understanding of systems thinking approach to enable entrepreneurs to deal with business problems, dynamic circumstances, and complexities within entrepreneurial contexts. In-depth insights into the various entrepreneurial leadership problems via the adoption and application of the system dynamics to entrepreneurial leadership development will be attained.

The research finding will assist entrepreneurs, scholars, and researchers to understand how the systems thinking approach can be utilised for entrepreneurial development. The entrepreneurs will have an overview and appreciation of how systems thinking is used for leadership development. This study could contribute uniquely to the current knowledge of entrepreneurial leadership development.

## **1.9 Contribution of the research**

Notably, this study will make a series of contributions to the current discourse as this research seeks to close the current knowledge gap regarding entrepreneurial leadership. As mentioned earlier, the entrepreneurs are confronted by a myriad of challenges and problems which are complex, yet they are currently being managed based on predominantly conventional, reductionist, and compartmentalised approaches. This research utilises a systems thinking technique, that offers the theoretical structure and the models that holistically examine, explore and capture entrepreneurial leadership behaviour. The study incorporated simulation tools as predictive processes. Their usage in this research correlates to social learning to improve an understanding of the entrepreneurial systems' behaviours and the entrepreneur's response to the ever-changing complex and dynamic entrepreneurial system.

## **1.10 Dissertation structure**

This Chapter presented an introduction and background to the study. The chapter covered the research problem, research aim, research objectives, research questions, the rationale for the study, and as well as a brief overview of the methodology that was employed in this study. To understand all the variables in the system, a comprehensive analysis needed to be done. This study comprises of two literature review chapters and are presented in Chapter 2 and Chapter 3.

Chapter 2 addresses the first objective of this study namely to assess the concept of entrepreneurial leadership) and how it is viewed as an emerging academic field and a leadership approach. The chapter also discusses the role of entrepreneurship in economic development within the emerging country context and unpacks the definitions of entrepreneurial leadership.

Chapter 3 addresses objective 2 of this study and explores leadership challenges within the entrepreneurial system in South Africa. It further evaluated how the leadership challenges and complexities interact with each other in an entrepreneurial ecosystem. This chapter examined the entrepreneurial system wherein entrepreneurs in South Africa operate, and to this end, the chapter engages with the following issues in the literature:

- (i) entrepreneurial system concept
- (ii) The influence of entrepreneurial ecosystem on entrepreneurship
- (iii) the components of the entrepreneurial system,
- (iv) the changing context and challenges in the contemporary entrepreneurial setting in SA and
- (v) entrepreneurial challenges in an entrepreneurial system in Gauteng.

Chapter 4 provides an in-depth analysis of the literature related to systems thinking and systems dynamics modelling approaches, providing context for objective 3. This chapter

presented the theoretical framework which comprised the concept of Systems Thinking, its origins, application, and methodology. The researcher further explained the use of Systems Thinking in conducting such an enquiry, and the limitations thereof.

Chapter 5 provides the methodological approach to the study. The chapter further discusses a range of data collection methods that are employed in this study. The sampling methods are explained before exploring a range of qualitative and quantitative data collection methods that this study employs. In addition, the chapter discusses the methodological approaches used to investigate the entrepreneurial system discussed in Chapter 3 using the systems thinking approach.

Chapter 6 presents the findings and analysis of the interviews conducted in this research. The chapter presented the findings and analysis and discussed the empirical data collected which was informed by the methodology adopted. The findings are presented, together with an analysis based on the study's objectives.

Chapter 7 presented the conceptualisation phase of the system dynamics. In this chapter, the researcher discussed the analysed findings which addressed the third objective of this study. This discussion is informed by a Systems Thinking approach, hence causal loops diagrams were constructed in the discussion to show the complexity, and eventually the inter-connectedness, of the findings.

Chapter 8 addressed objective 4 of this study. This chapter unpacks the system dynamics model that represents the dynamics described in the previous chapter. This chapter builds a system dynamics model to represent the dynamics described in the previous chapter to understand the most important leverage points to enable the adoption of entrepreneurial leadership by entrepreneurs, addressing objective 4. A dynamic hypothesis or qualitative conceptual model as causal loops of the system under study was developed and presented in Chapter 7. In this chapter, the dynamic hypothesis is translated into a formal simulation model, allowing alternative policy scenarios to be designed, analysed, and compared.

Chapter 9 is the final chapter and looks at the research holistically and synthesises the key findings of this thesis as they relate to the aim and objectives as outlined in Chapter 1. The theoretical and practical implications and the fundamental contribution of the research are also presented and discussed. Finally, the key limitations of the work and potential areas for further research were discussed.

### **1.11 Chapter summary**

The chapter presented the orientation and general overview of the thesis. The research problems, questions and objectives were outlined. Key concepts were clarified, the theoretical framework was explained and the rationale for conducting the study in systems thinking was discussed. This study advocates for an alternative or contemporary approach. Systems thinking shifts the emphasis away from traditional static approaches towards an approach that deals with complex and dynamic open systems such as the entrepreneurial systems. The next chapter addresses the second objective namely to assess the concept of entrepreneurial leadership. It presents an overview of entrepreneurial leadership and how it is viewed as an emerging academic field and a leadership approach.

## **Chapter Two - Literature Review: Entrepreneurial Leadership**

### **2.1 Introduction**

Chapters 2, 3 and 4 present an analysis of literature relevant to this study. This chapter addresses the second objective namely: To assess the concept of entrepreneurial leadership. It presents an overview of entrepreneurial leadership and how it is viewed as an emerging academic field and a leadership approach. Chapter 3 explores leadership challenges within the entrepreneurial system in South Africa. Chapter 4 reviews the Systems Thinking literature.

Mokhber, Tan, Vakilbashi, Zamil and Basiruddin (2016:415-421) consider entrepreneurial leadership as a leadership style distinct from other notable leadership styles in the sense that entrepreneurial leadership emphasises exploration of business opportunities. Given that entrepreneurial leadership is an integration of entrepreneurship and leadership, entrepreneurial behaviour and attributes are encouraged at every phase and structure of the organisation in an environment where entrepreneurs are encouraged to be creative and innovative.

The first theme (Section 2.2) begins with the discussion of the role of entrepreneurship in economic development within the emerging country context. In this section, the definition of an entrepreneur and entrepreneurship are provided, followed by a brief discussion on the significant role of entrepreneurship in economic growth and development. In the context of this study, emerging countries should develop favourable environmental conditions to increase entrepreneurship in the form of new start-ups and consequently contribute to economic growth and development.

The second theme in section 2.3 provides a brief overview of the definitions and theories of entrepreneurship through the lens of economic perspective. The review concentrates on the key perspectives that address entrepreneurial activity from an occupational, behavioural, or outcome point of view. In addition, emergent theories of entrepreneurship including contextual and institutional theories are also discussed. This review is necessary to make a clear distinction between different types of entrepreneurship that exist in the literature.

The third theme in section 2.4 discusses an overview of several traditional leadership theories including but not limited to situational, transactional leadership, complexity leadership theory, and innovation leadership theories. Recent leadership theories emphasise the need for more complex approaches that allow for better adaptation to the complex social nature of organisations. Complexity leadership introduces a new dimension to how leadership is perceived as it shifts focus from the individual leader to the context, a shift that influences the performance of the leader and on outcomes. Leadership complexity theory is based on the belief that outside influences, as well as the internal environment of organisations, should be considered and examined to understand the role of leadership.

Section 2.5 further discusses the entrepreneurial leadership concept and its significance for entrepreneurs. In a highly dynamic and competitive business environment, entrepreneurs play a critical role in the survival, success, and growth of their business by directing the innovation process-shifting from traditional entrepreneurs to entrepreneurial leaders. The literature on entrepreneurial leadership has acknowledged that entrepreneurial leaders not only create new ideas themselves, but also facilitate and encourage their employees to show their potential in solving complex issues and performing challenging tasks through innovative means.

The last theme in section 2.6 presents an overview of entrepreneurial leadership theories. In their attempts to define entrepreneurial leadership, the researchers applied three main approaches. Firstly, they focused on inherent traits that distinguish entrepreneurial leaders



from other leaders. Secondly, they examined the environmental and contextual factors that prompt organisational leaders to implement entrepreneurial principles and strategies in performing their tasks and roles. Thirdly, they explored the social processes through which entrepreneurial leaders influence a group of people to enact their vision. Additionally, there are various types of definitions for the construct which have looked at the similarities between entrepreneurship and leadership and defined entrepreneurial leadership as a type of leadership in complex and challenging contexts. Others have considered the differences between the two constructs and highlighted the competencies that enable leaders to behave as entrepreneurs and entrepreneurs to act as leaders, while other authors have provided an integrated definition of entrepreneurial leadership.

## **2.2 The significance of entrepreneurship**

This section examines the concepts of entrepreneurship and economic development within the emerging country context and emphasises the role of entrepreneurship in economic development within the South African context. In this chapter, relevant literature is presented under themes such as the definition of entrepreneurship and entrepreneurship as a research field. Traditional and emerging new theories of entrepreneurship and theoretical perspectives on entrepreneurship and economic development were found to be crucial themes in the development of the theoretical framework, forming part of the literature review in this study.

The role of entrepreneurship in stimulating economic growth is a topic of much discussion in existing literature based on seminal scholars like Schumpeter (1934), Kirzner (1973) and Cantillon (1755) highlight the undertakings of entrepreneurs as powerful drivers of economic activity (Ndofirepi 2020:1-20 ). The broad consensus among researchers is that entrepreneurship matters for economic development and growth and is regarded as an engine of economic growth (Chowdhury, Terjesen and Audretsch 2015:121-148; Platzeck and Pretorius 2020).

Nieman and Pretorius (2004) define an entrepreneur as an individual who sees an opportunity in the market, gathers resources, establishes and grows a business to fulfil the needs of the market. An entrepreneur is also regarded as an economic agent who can perceive market opportunities and assembles the needed factors of production to exploit specific opportunities (Van Aardt, Van Aardt, Bezuidenhout and Mumba 2008:4). According to Zimmerer and Scarborough (2008:5).

An entrepreneur is a person who creates a new business in the face of risk and uncertainty for the purpose of achieving growth and profit by identifying significant opportunities and assembling the necessary resources to capitalise on them.

It can thus be accepted that entrepreneurs do not only come up with ideas, but they also act on them. According to Nieman (2001:445-450) an entrepreneur usually endures the risks of the venture and reaps reward which is profit attained if the business succeeds. Lim and Fujimoto (2019) also concur that this paradigm accents the role of an innovative entrepreneur as someone willing to take risks by using new combinations of existing production factors to develop new products and goods. In this role, the entrepreneur destructs existing equilibria by causing instability as he innovates.

Hang (2019) asserts that the economists' approach to entrepreneurship is concerned primarily with the crucial function and role an entrepreneur plays in an economy. However, depending on whether the entrepreneur was perceived as a force of change or if the economist had in mind a static or dynamic view of the economy, resulted in different definitions of entrepreneurship. Entrepreneurship is generally described as the ability of an individual or a group of individuals to create or discover an opportunity and utilise it to the benefit of the society, which, in turn, will bring success to the innovators and their organisation. According to Röschke (2018) entrepreneurship involves the identification of both existing and new opportunities and changing the said opportunities into products and services which can be purchased by consumers or clients. As such, entrepreneurship

encompasses the formulation and creation of a new venture concept or idea and getting the necessary resources and identifying new entrepreneurial opportunities through assuming an economic risk with a view of obtaining profits.

The relationship between entrepreneurship and the economic growth of a country has increasingly gained interest from economists and policymakers over the years (Urbano, Audretsch, Aparicio and Nogueira 2020:1065-1099). The relationship between entrepreneurship and economic growth has become an increasingly attractive research topic. From the empirical, it can be concluded that the creation of new businesses and entrepreneurial activity are key factors in achieving productivity improvement and, therefore, generating economic growth. In the debate about the function of entrepreneurship in economic development, Cantner, Goethner and Silbereisen (2017:187-214) agrees that Schumpeter (1942) is one of the first scholars to highlight the significance of the entrepreneur in entrepreneurial activity. He argues that entrepreneurs fulfil the search, discovery, opportunity evaluation, mobilisation of the production factors for the business; making time-wise arrangements, taking obligation for administration and bring the unpredictability in the existence of market imperfections. Lim and Fujimoto (2019) emphasised the role of entrepreneurs in commercialising entrepreneurial opportunities and inventions. In this vein, Fritsch (2017:157-189) argues that the Schumpeterian entrepreneur impacts economic growth by transforming inventions and ideas into commercialised innovations.

Chowdhury *et al.*( 2015:121-148) asserts that entrepreneurship sets conditions for economic development through enhancing job creation, productivity, and the economy. As such, Omoruyi, Olamide, Gomolemo and Donath (2017:219) perceive entrepreneurship as a catalyst for expansion and promotion of productive activities in the economy. Platzek and Pretorius (2020) regard entrepreneurship as a panacea for empowerment, job creation, economic transformation, and poverty reduction, particularly in Africa. According to Sarkar (2014:6542-6547), entrepreneurship does not only drive economic development by introducing new combinations spreading through every aspect of economic growth, but it

also introduces incremental improvements that exert a large cumulative impact over time, leading to economic growth.

Literature attempting to show the existence of this positive relationship has been prolific. Acs, Estrin, and Mickiewicz (2018:501-514), identifies the positive relationship between entrepreneurship and economic growth and Arbaugh and Camp (2017:308-328.) provide a review on the relationship between entrepreneurship and economic growth. Arbaugh and Camp (2017:308-328.) for instance, identified a relationship between entrepreneurship, innovation, and economic growth in which all the variables exert positive effects on one another. The authors are of the view that improving one of the factors could induce a positive change in another. Pech (2016) asserted that innovation triggers a competitive edge in technology, design engineering and countries.

While entrepreneurship studies provide relevant insights into the field, researchers have suggested more elaboration and examination of the theory within the context of emerging countries (Hoskisson, Eden, Lau and Wright 2000:249-267; Ahlstrom, Bruton and Yeh 2008: 385–399; Bruton, Ahlstrom, Obloj and Krzysztof 2008:1-14; Bruton, Ahlstrom and Puky, 2009:762-778; Hoskisson, Covin, Volberda and Johnson 2011). Entrepreneurship in emerging countries has received increasing attention due to the significant role it plays in the economy. This is largely because in emerging markets, entrepreneurship is regarded as self-employment creating alternative income generation streams (Cesaroni, DeMartini and Paoloni 2017).

However, most studies on entrepreneurship have focused on developed countries which are often characterised by a mature and stable institutional environment (Estrin, Mickiewicz and Stephan 2013:479–504; Sambharya and Musteen 2014: 314-330; Castaño-Martínez *et al.* 2015:2073-2087). Emerging countries are different from developed economies in that they lack well-developed institutions, often resulting in lower entrepreneurial activity (Bruton *et al.* 2009:762-778; Ahlstrom *et al.* 2008:385-399; Bruton *et al.* 2008:1-14).

The context in which entrepreneurship in emerging markets is embedded differs vastly from developed countries. Thus, various authors have advocated contextual sensitivity recognition when conceptualising entrepreneurship in emerging countries. This is due to the fact that despite the growing entrepreneurship and economic development in emerging countries, institutional constraints pose challenges for entrepreneurs. Entrepreneurs in emerging countries face different institutional challenges when starting their businesses. These institutional obstacles are derived from immature or an absence of institutional infrastructures, which can discourage ambitious entrepreneurs from exploiting new opportunities in the market (Smallbone, Welter and Ateljevic 2014:113-116).

Thus, due to the above-mentioned institutional barriers and challenges, entrepreneurship in emerging markets is risky and uncertain (Omri 2020:277-290). Additional institutional constraints have been cited as hostile economic and political environments and corruption. All these constraints make entrepreneurship in emerging markets uncertain and risky (Cesaroni *et al.* 2017), but when overcome, these constraints can promote economic and structural transformation in a country. Omri (2020:277-290) states that structural changes result in increased innovation and technological changes, creating positive externalities.

The following section provides an overview of the theories and definitions that are related to the research of entrepreneurship. This review is crucial because it forms the starting point for the study regarding the historical context of entrepreneurship study, and therefore clarifies different underlying assumptions and definitions being used in this study.

### **2.3 An overview of entrepreneurship theories**

Several studies have suggested that the theories and definitions of entrepreneurship have been a matter of on-going discussion among different academic disciplines (Thurik and Wennekers, 1999:27-55; Ahmed and McQuoid 2005:6-30; Davis 2006; Parker 2014:887-898; Álvarez, Barney, McBride and Wuebker 2014). As an academic field and research

domain, research on entrepreneurship has flourished in recent years, evolving rapidly from an embryonic and fragmented state to a maturing field of study (Landström 2020).

Entrepreneurship is a multidimensional concept and has been studied and carried out within several other social sciences disciplines (Ram, Jones and Villares-Varela 2017:3-18). As such, Kuckertz and Prochotta (2018) cite that the entrepreneurship field has become a multiparadigmatic field, comprising fundamentally different theoretical perspectives on the definition of how entrepreneurial opportunities are formed and what determines the performance of new ventures. In addition, Diandra and Azmy (2020:2020-2383) suggest that the entrepreneurship phenomena can be predictably investigated from disciplines as varied as economics, psychology, sociology, and anthropology, each of which uses its concepts and operates with its terms of reference.

Despite its continuous advancement, the field still faces considerable definitional challenges. According to Diandra and Azmy (2020:2020-2383), entrepreneurship has meant different things to different people, the nature of the diverse definitions attached to entrepreneurship by diverse researchers in the field, resulting in the field being plagued by definitional challenges. On the surface, entrepreneurship would appear to have a simple definition, but it is complex to arrive at a consensus due to the variety of ways that entrepreneurship has been defined over the years, showing a lack of consistency (Sarango-Lalangui, Santos and Hormiga 2018:1-19).

Other challenges in the entrepreneurship field include the various paradigms and diversity of theoretical orientations (Karatas-Ozkan, Anderson, Fayolle, Howells, and Condor 2014:589-593; Landström and Harirchi 2018:650-662). Ireland, Hitt, Sirmon and Trahms (2011:57-75) and Ferreira, Reis, Miranda (2015:17) highlight the influence of other fields, such as strategic management which makes it more difficult to set the boundaries of the discipline of entrepreneurship. According to Davidson (2003), the variety of entrepreneurship definitions is linked to the multi-dimensionality of the concept of entrepreneurship. Some scholars have criticised the field, regarding it as a broad label under

which a ‘potpourri’ of research is housed. Landström and Harirchi (2018:650-662) agrees that other scholars concluded that the field was highly permeable, relied heavily on major management journals, and lacked boundaries and new theories.

Naudé (2011) identifies three theories of entrepreneurship namely, (1) an occupational, (2) a behavioural, and (3) an outcome perspective. From an occupational perspective, entrepreneurs are those who are business owners and/or self-employed (Naudé 2008, 2011). Occupational definitions are attributed to the notion that a person can either be in waged employment, self-employed, or unemployed (Naudé 2011). While the occupation concept of entrepreneurship is broadly used with economic development, this understanding of entrepreneurship has not managed to identify potential entrepreneurs or explain the variance in self-employment decisions across developing and developed countries (Levie and Autio 2011:1392-1419).

Whereas in the trait approach, the entrepreneur displays distinctive and unique traits in terms of their creativity, imagination, or need for achievement and propensity to take risks (Saiz-Alvarez 2020). In consequence, this approach takes the view that individuals who are most likely to start businesses are easy to identify based on their personality traits. Based on this approach, entrepreneurship scholars frequently contend that entrepreneurs display certain similar personality traits. However, the problem with this trait approach, is that most of the personality traits are static in nature, unable to explain entrepreneurial behaviour under different situations. It is also noted that many people possess certain personality traits, yet they are not entrepreneurs resulting from the criticism labelled against the trait approach in defining entrepreneurship. Researchers have focused on the behavioural approach and what the entrepreneur does instead of the traits of the entrepreneur.

The behavioural approach views the organisation as the primary level of analysis and the individual is viewed in terms of activities undertaken to enable the organisation to come into existence (Saiz-Alvarez 2020). According to this theory, an entrepreneur is an individual who employs strategic management practices to innovatively establish and

manage a business for the principal purpose of profit and growth and is characterised principally by innovative behaviour. This approach, therefore, looks at entrepreneurship from the perspective of creating an organisation or business. However, the creation of an organisation is a contextual event, and the outcome of many influences such as the development of new markets, economic change, and social change, distribution channels, and technology (Saiz-Alvarez 2020). Therefore, the entrepreneur is part of a complex contextual process by which new organisations come into existence, a business, therefore, is an outcome of entrepreneurship.

Over time the entrepreneurship research shifted emphasis to person-centric approaches, which attributed people's characteristics and psychological traits as predictors of entrepreneurship and entrepreneurial success. As the field evolved, it experienced a behavioural turn, which focused on what entrepreneurs do; particularly why and how they recognise, evaluate, and exploit entrepreneurial opportunities. Several new theoretical perspectives have emerged to explain the actions and logic that underlie entrepreneurial behaviour. These approaches, which contrast with the more traditional model of entrepreneurial behaviour, have broadly been referred to as the emerging theoretical perspectives for entrepreneurship research (Belz and Binder 2017).

Prior theories of entrepreneurship focused mainly on the role of the entrepreneur and the entrepreneurial opportunity, not on the entire entrepreneurial process, its components or segments, and their interrelationships. Ucbasaran, Westhead, and Wright (2009) observe that while opportunity recognition and information search are critical first steps in the entrepreneurial process, research in this area is limited, especially concerning how entrepreneurs use the knowledge they have acquired. Aldrich and Baker (1997:377-401) point out that, although there has been some progress in recent years, there is still not enough knowledge about the impact of environmental factors on entrepreneurs and their businesses. Connected to the identification and exploitation of opportunities is the need for a greater understanding of entrepreneurs' learning processes (Zayadin, Zucchella, Ameen and Duckworth 2020). As the number of entrepreneurs grow, learning processes become



even more important for understanding the behaviour of different types of entrepreneurs. Zayadin *et al.* (2020) are of the view that consideration of environmental factors is fundamental to an understanding of entrepreneurship and acting upon entrepreneurial opportunities. Environmental factors may also affect who is involved in entrepreneurial opportunity discovery.

The focus of research has turned to the entrepreneurial process, with special emphasis on the methods, practices, and styles of decision-making that persons use to act in an enterprising way. According to the different definitions, entrepreneurship is considered to be a process through which individuals within an organisation pursue opportunities without considering the resources they control at each moment of the process of identifying and exploiting opportunities (Belz and Binder 2017).

The entrepreneurial process involves the entrepreneur identifying an external opportunity; matching the entrepreneurial resources at hand with the opportunity to effectuate an entrepreneurial competence; acquiring external resources, if necessary; creating sustained value; and appropriating the entrepreneurial reward. Meanwhile, the network theory recognises the role of social networks in entrepreneurship studies as one of the key antecedents to opportunity recognition. Jayakar Pai and More (2018:215-233.) highlight that attempts have been made to set the foundations of a theory of entrepreneurship based on the network approach. The effects of the interaction within a network are now well recognised to play a significant role in the shaping and forming of entrepreneurial processes, practices, and outcomes (Jayakar Pai and More 2018:215-233.). Network relationships are known to enable, constrain and stimulate entrepreneurial activity, through providing connections and access to knowledge, information, physical and monetary assets. A network of relationships can be a powerful asset to facilitate change and the development of an organisation through activating their links. Through social networks, the entrepreneur gains access to support, information and assistance while revealing how individuals are connected.

Social network theory studies the connections between people and provides insights with regards to information flow and social mobility and how individuals interact and disseminate information. It is argued that an entrepreneur's social network is their most important source of knowledge and new ideas (Jayakar Pai *et al.* 2018).

As discussed above, scholars have highlighted the importance of entrepreneurship in economic growth and development. However, this relationship has not extended to viewing entrepreneurship within the institutional environment. Where institutions are effective, entrepreneurs are more likely to undertake new ventures and focus their energies on productive activities (Baumol 1996:3-22).

North (1990, 2005) stressed that entrepreneurs are the main agents of change. He further argued that many incentives that drive entrepreneurial behaviour are based on the quality of institutions. North (1990:3) defines institutions as the “rules of the game in a society, or more formally, the constraints that shape human interaction”. This definition has been widely appreciated and used in several studies related to entrepreneurship research (Acs *et al.* 2014:476-494, Urbano, Aparicio and Audretsch 2018:1-29). Building on this definition, entrepreneurs, who set up organisations, adjust their activities and strategies to fit the market opportunities and limitations provided by the institutional environment (North, 1990; Manolova, Eunni and Gyoshev 2008:203-218). Therefore, the institutional theory could be useful for understanding which institutional variables encourage entrepreneurial activity that contributes to economic growth in emerging countries (Veciana and Urbano 2008: 365-379.; Bruton, Ahlstrom and Li 2010:421-440).

This study adopts Naudé's (2011: 7) definition of entrepreneurship which defines entrepreneurs as “*opportunity-driven agents who drive economic change through innovative new firms*”. Naudé's (2011) definition leads to a more specific explanation of how the behaviour of “discovery and exploitation of opportunities” (Shane and Venkataraman 2000:218) has an impact on economic growth and development by exploiting opportunities through the creation of new business. Hence, the process of

entrepreneurship involves the behaviour of exploiting opportunities as well as the creation of new start-ups, whether successful or not (Levie and Autio 2011:1392-1419). The adopted definition in this study is also in line with other researchers such as Hart (2003:3), who described entrepreneurship as a “*process of starting and continuing to expand new businesses*”.

## **2.4 An overview of leadership theories**

In today’s business world, leadership has become increasingly important for businesses. A leader is one who seeks to come up with a way and or else initiate a model with a view that such a model will impact positively on his or her followers. This aspect magnifies the role of leadership as an influencer.

Abdelkafi and Täuscher (2015) describe leadership as an element and or mechanism which encourages employees and teams to attain a well-established goal. The primary theories examined in this section include situational leadership, transformational leadership, and transactional leadership (Dzomonda *et al.* 2017:104-113; McCleskey 2014:117-130). Leadership is generally defined as the process of influencing employees of an organisation to achieve organisational goals (Esmer and Dayi 2016). Leadership is the ability to influence others and to be able to put into action specific goals and targets (Sisman 2014:49-64). On the other hand, leadership is the ability to create support and confidence needed to achieve organisational goals among the people (Dubrin 2012). The success of the businesses depends on the effective leadership skills of the management. Entrepreneurial leadership is one of these effective leadership skills.

Recently, several leadership theories have come to play, including but not limited to situational, transactional leadership, and complexity leadership theory. Most importantly, entrepreneurial leadership is one of the innovative kinds of leadership which has been widely accepted in the current world. An exploration of this follows.

Situational leadership acknowledges that for managers to be efficient, there is an urgent need to clearly understand the scenarios and react effectively, contrary to the charismatic manager who has a huge team of followers (McCleskey 2014:117-130; Ghazzawi, Shoughari and Osta 2017:102-110). This theory focuses on the essence of a continuum and the association between the leader's focus on the needed duties and relation with their various followers and maturity of these subjects. Integration of manager's focus on needed tasks and the degree of follower's maturity indicates that situational leadership encompasses human behaviours of the leaders and followers. In a nutshell, the theory of situational leadership expounds the leader's behaviours as either being individual-focused and or goal-oriented and equally indicates how a manager engages a series of relationships and tasks.

Transactional leadership emphasises the interaction that happens between leaders and their subjects. Transactional theories, also known as management theories, focus on the role of supervision, organisation and group performance, and the exchanges that take place between leaders and followers. These theories base leadership on a system of rewards and punishments (Charry 2012). A leader's job is to create structures that make it abundantly clear what is expected of followers and the consequences (rewards and punishments) associated with meeting or not meeting expectations (Lamb 2013). When employees are successful, they are rewarded and when they fail, they are reprimanded or punished (Charry 2012). The managerial or transactional theory is often linked to the concept and practice of management and continues to be an extremely common component of many leadership models and organisational structures (Lamb 2013). Notably, the transactional leadership theory put more emphasis on coordinating the behaviour of followers in a certain way to achieve an organisational efficiency, while at the same time enable the followers to fulfil their interest. Since transactional leadership focuses on the interaction between the leader and his followers it is possible to maximise the overall gains.

Transformational leadership focuses on the connections formed between leaders and followers (Lamb 2013). Robbins and Judge (2017:395) define transformational leaders as

*“leaders who inspire followers to transcend their own self-interests and who are capable of having a profound and extraordinary effect on followers”*. Transformational leadership involves a leadership mechanism in which the leaders improve on the levels of their subject’s consciousness regarding the importance and values of the projected result, and techniques of reaching out to such suggested outcomes (McCleskey 2014:117-130.). Transformational leaders can encourage their subjects to rise above self-interest to achieve the organisational goals or objectives (Robbins and Judge 2017). In essence, transformational theory combines the aspects of idealised influence, intellectual stimulation, inspirational motivation, and personal consideration (McCleskey 2014:117-130.). The inspirational motivation element encompasses a leader’s capability to encourage their followers by allowing them to have a shared meaning and equally ensure that they work on it. Inspiration motivation comprises two elements which include: enthusiasm and optimism. In this scenario, the leaders of an organisation enhance intellectual stimulation by forming a suitable environment that offers opportunities to openness with positive criticism and solutions to problems (McCleskey 2014:117-130.).

Recent leadership theories emphasise the need for more complex approaches that allow for better adaptation to the complex social nature of organisations. Complexity leadership theory recognises the dynamic interactions that take place within organisations as they change, create innovation, and evolve with a focus on complex relationships and network interaction rather than controlling, standardising, and autocracy (Uhl-Bien and Marion 2009:631-650). Complexity leadership theory proposes that adaptability occurs in the everyday interactions of individuals responding to triggers in the work environment (Uhl-Bien and Marion 2009:631-650). These interactions connect to produce strong emergent phenomena (Lichtenstein and Plowman 2009:6587-6596).

Complexity leadership introduces a new dimension to how leadership is perceived as it shifts focus from the individual leader to the context, a shift that influences the performance of the leader and on outcomes. Leadership complexity theory is based on the belief that

outside influences, as well as the internal environment of organisations, should be considered and examined to understand the role of leadership.

The complexity leadership theory proposes that adaptability, which encourages performance and innovation, happens during day-to-day interactions. This approach helps entrepreneurs to respond to the ever-rising pressure and opportunities presented by complex environments (Arena and Uhl-Bien 2016:23-27). Such interactions are hard to attain and realise due to existing bureaucratic organisational structures which form barriers to interconnectivity. As such, leaders need to formulate and offer solutions to address problems arising due to complexity to enhance. As such leaders need to acknowledge two key systems: operational and entrepreneurial systems (Arena and Uhl-Bien 2016:23-27). These two systems function concurrently, with one system considering the organisational performance while the other emphasises the entrepreneurial system which encourages innovation, thus resulting in extensive growth and learning. In the complexity theory, the leader is charged with the responsibility of managing arising conflicts or tension between the operational and entrepreneurial system. Arena and Uhl-Bien (2016:23-27) argue that efficient management of tensions decreases ineffectiveness and is a key component when it comes to innovation and adaptability within the organisation. The underlying basis of the complexity leadership theory is that an adaptive organisation retains distinct benefits that were previously unacknowledged.

In examining the impact of leadership on the organisation's performance, Luthra and Dahlya (2015:43-48) stressed that innovative leadership is vital just like other styles in the business organisation, given that it drives entrepreneurial successes (Bindah 2017:1-25). Innovative leadership is described as the capability to think innovatively, impact other individuals to formulate new and enhanced concepts, work in an efficient and appropriate mechanism and generate the required outcomes. Innovative leadership needs the entrepreneurs to critically think and formulate an environment where concepts can be assessed and examined to enhance the overall performance of the organisation or company (Musambayi 2018:1-12).

It is important to note that innovative leaders are visionary and encourage their followers via leading by example and enhancing collaborative network systems. In a bid for innovation leadership to work efficiently, entrepreneurial behaviour and leadership styles require one to be effectively aligned and controlled appropriately through establishing a balance between individual-oriented leadership and control-leadership (Bindah 2017:1-25).

Kempster and Cope (2010:5-34) and Vecchio (2003:303-327) cite that researchers from both fields have begun to acknowledge that leadership and entrepreneurship are concepts with many commonalities. According to Coglisier and Brigham (2004:771-799) the two fields “converge and have traversed historically” a similar path and can therefore learn from each other. As a result, leadership researchers have started incorporating entrepreneurial qualities in organisational leadership research and simultaneously, entrepreneurship researchers are increasingly drawing on leadership studies (Gupta *et al.* 2004:241-260). Entrepreneurial leadership is the new paradigm based on the merging of the two fields. McGrath and Macmillan (2000) an advocate of entrepreneurial leadership, conceptualised that the increased uncertainty and competitive pressures in the globalised dynamic market require a new form of leader, an entrepreneurial leader.

Literature suggests that the performance of SMMEs is essentially related to the leadership of the leaders (Spinelli 2006:11-19). As Avolio and Yammarino (2013) point out, the activities of the SMMEs’ leaders relate to leadership as the significant driving force of the organisation. Leadership is needed to move an organisation forward in a changing, competitive landscape by imagining, motivating, organising, managing, and leading employees to a higher level of performance.

A plethora of research has argued that SMMEs also have to be more entrepreneurial to increase the performance, capacity for adaptation, and continued existence. Some research studies indicate that entrepreneurial behaviour in established businesses is associated with superior performance and is sustainable (Zahra and Covin 1995:43-58). As a result, there has been the belief in adopting entrepreneurial leadership to improve the performance of the organisation or businesses (Mohtar and Rahim 2014:184-190).

In highlighting the significance of entrepreneurial leadership, Surie and Ashley (2007:235-246) assert that an entrepreneurial leader is needed to cope with the dynamic, complex, and uncertain competitive environments through providing leadership capable of sustaining innovation and adaptation in high velocity and uncertain environments. To face the challenges of today's complex business environment, entrepreneurs need to become more entrepreneurial so that business opportunities are perceived and exploited. Entrepreneurial leadership can make a significant difference to entrepreneurs' ability to compete. It can be used to improve competitive positioning and transform businesses, their markets, and industries when opportunities for value-creating innovations are developed and exploited.

## **2.5 Entrepreneurial leadership**

In the last two decades, entrepreneurial leadership (EL), along with other leadership styles, has gained scholarly attention in the entrepreneurship and leadership domain. However, focusing on organisational context, further studies of entrepreneurial leadership in a wide range of entrepreneurial and SMME contexts is needed. Arguably, there is a clear difference between traditional leadership and entrepreneurial leadership. Entrepreneurial leadership aims to attain a certain set of objectives, while traditional leadership offers a scenario in which managers take along with them several followers intending to develop them and allow them to align with their views or opinions. The progressive entrepreneurial leader does not wholly rely on the availability of other parties. An entrepreneur can attain their goals single-handedly while traditional leadership success is determined by the



capability of individuals around you and prompt them to heed to your style of authority and influence.

In a highly dynamic and competitive business environment, leaders play a critical role in the survival, success, and growth of their business by directing the innovation process. The literature on entrepreneurial leadership has acknowledged that entrepreneurial leaders not only create new ideas themselves but also facilitate and encourage their employees to show their potential in solving complex issues and performing challenging tasks through innovative means.

The field of entrepreneurial leadership is '*in the very early stages of conceptual and theoretical development*' (Bagheri and Pihie 2011:449), similarly argued in Leitch *et al.* (2013:347-36) and Coglisier and Brigham (2004:771-799). Entrepreneurial leadership is still considered by most a concept rather than a theory (Aldrich and Baker 1997:377-401) and research is limited (Esmer and Dayi 2016). In literature, entrepreneurship and leadership are often employed as interlinked terms, and consequently, entrepreneurial leadership is formulated. When it comes to entrepreneurial leadership, the leader also needs to have entrepreneurial attributes (Gunduz 2010:212-222). As examined by Gunduz (2010:212-222) entrepreneurial leaders are individuals who are in a better position to get the entrepreneurial opportunities and information to exploit these opportunities.

Reviewing the development of the concept of entrepreneurial leadership from the different perspectives of entrepreneurship, leadership and strategic management reveals a common thread: entrepreneurial leadership is a dynamic strategy applied to a business by an individual who bears a behavioural profile that encourages initiatives via an opportunity driven behaviour and supports the enhancement of the business's potential for continuously creating value and forming the basis for competitive advantage. Scholars have tended towards both behavioural explanations, identifying the personality or characteristics of the entrepreneurial leader (Schumpeter 1942; McGrath and MacMillan 2000; Ireland, Hitt and Sirmon 2003; Gupta *et al.* 2004:273-288; Vecchio 2003:303-327; Coglisier and Brigham

2004:771-799; Fernald *et al.* 2005:1-10), as well as structural explanations, analysing entrepreneurial leadership as strategic resource management towards change, novelty and value creation (Hitt and Ireland. 2002:3-14; Yukl 2002:6-16).

Entrepreneurial leadership is quite distinct from other known leadership theories in the sense that it is an intersectional domain that emanates from the aspects of entrepreneurship and leadership, which are approaches linked to the phases of a business's life cycle. Luthra and Dahlya (2015:43-48) note that the development of entrepreneurial leadership is founded on four essential strategies which include: attention via vision, implying through communication, confidence via positioning, and trust via respect. These models are essentially related to the objectives of situational leadership, which seeks to interconnect necessary leadership styles with appropriate levels of development for each person for a given objective (Ebere and Fragouli 2015:10-30). On this note, entrepreneurial leadership emanates from a group of selected distinct traditional theories of entrepreneurship and leadership.

The availability of diverse perspectives and analysis on the aspect of entrepreneurship correlates to several views regarding the general practice of leadership in entrepreneurship. Ayankoya (2016), Pihie, Bagheri and Asimiran (2014:825-843.) and Dzomonda *et al.* (2017:104-113) describe entrepreneurial leadership as patterns of behaviour and abilities to enhance innovation and development of new products and services with the help of organisational models. This approach of describing entrepreneurial leadership emanates from the idea which considers entrepreneurship reliant on offering new products and services which are relevant in the market, unlike other concepts which consider entrepreneurship in terms of abilities to examine needs and converting those needs into opportunities through the provision of relevant solutions (Ayankoya 2016).

In their attempts to define entrepreneurial leadership, the researchers applied three main approaches. Firstly, they focused on inherent traits that distinguish entrepreneurial leaders from other leaders. Secondly, they examined the environmental and contextual factors that

prompt organisational leaders to implement entrepreneurial principles and strategies in performing their tasks and roles. Thirdly, they explored the social processes through which entrepreneurial leaders influence a group of people to enact their vision (Gupta *et al.* 2004:273-288; Kempster and Cope 2010:5-34; ). Additionally, there are various types of definitions for the construct (Roomi and Harrison 2011:2).

While some scholars have looked at the similarities between entrepreneurship and leadership and defined entrepreneurship as a type of leadership in complex and challenging contexts (Fernald *et al.* 2005:1-10; Cogliser and Brigham 2004:771-799), others have considered the differences between the two constructs and highlighted the competencies that enable leaders to behave as entrepreneurs and entrepreneurs to act as leaders (Gupta *et al.* 2004:273-288 ; Vecchio 2003:303-327; Swiercz and Lydon 2002:380-389).

Through an integrating approach to leadership and entrepreneurship, Roomi and Harrison (2011:2) have defined entrepreneurial leadership as "having and communicating the vision to engage teams to identify, develop and take advantage of opportunity to gain competitive advantage". Practising entrepreneurial competencies by leaders and leadership principles by entrepreneurs have one common goal, i.e. dealing with the challenges and crises of current organisational settings and ultimately improving the effectiveness of the leaders (Cogliser and Brigham 2004:771-799; Vecchio 2003:303-327).

Despite the debates on the definition of entrepreneurial leadership, there has been a relative consensus among researchers on the distinctive competencies that motivate and enable entrepreneurial leaders to lead an organisation successfully (Nicholson 1998:529-539). These competencies are a combination of personal characteristics, skills, and knowledge that have long-lasting and influential effects on entrepreneurial leaders' organisational performance (Man, Lau and Chan 2002). Swiercz and Lydon (2002:380-389) identified two types of competencies for entrepreneurial leaders, which are personal competencies and functional competencies. These competencies are explained in the following sections.

Research studies undertaken by Leitch *et al.* (2013:347-36); Kempster and Cope (2010:5-34); Prabhu (1999), and Swiercz and Lydon (2002:380-389) define entrepreneurial leadership as a kind of leadership conducted in an entrepreneurial context. Prabhu (1999) notes that entrepreneurial management is established on leadership studies where he described entrepreneurial management as leadership conducted in an entrepreneurial business context (Leitch *et al.* 2013:347-36; Kempster and Cope 2010:5-34; Swiercz and Lydon 2002:380-389). Entrepreneurial management is dependent on various leadership styles and whatever the kind of leadership employed in an entrepreneurial business largely relies on the business owner's vision (Li *et al.* 2013). . In addition, showing distinct leadership styles also implies that there are several missions among organisational owners (Ruvio, Rosenblatt and Hertz-Lazarowitz 2010:3).

From the analysis of Fatoki (2014:270-274), entrepreneurial leadership is an approach that creates value for organisational stakeholders by putting together special innovation of resources to react to notable opportunities within the entrepreneurial system. From an analogous perspective, Fatoki and Garwe (2010: 131)) describe leadership in entrepreneurship as a well-defined kind of leadership that dominantly focuses on dealing with problems and complex issues that occur in organisational settings.

This idea of entrepreneurship thus comes from a perspective where the individuals who pursue entrepreneurial intentions operates concurrently with others employing cognitive techniques to acquire knowledge and respond to such systems. Notably, creative mechanisms are strengthened via creative and imaginative qualities. Entrepreneurship leadership thus can be defined as a kind of leadership an entrepreneur uses when he or she engages in organisational risk-taking and innovative activities. The primary attributes of entrepreneurial leaders comprise creativity, the rationale of achievement, enthusiasm, response to opportunities and goal-oriented (Davids 2012).

Nonetheless, Mokhber *et al.* (2016:415-421) consider entrepreneurial leadership as a leadership style quite distinct from other notable leadership styles in the sense that

entrepreneurial leadership emphasised opportunity recognition and exploration of business opportunities. Given that entrepreneurial leadership is an integration of entrepreneurship and leadership, entrepreneurial behaviour and attributes are encouraged at every phase and structure of the organisation in an environment where entrepreneurs are encouraged to be creative and innovative.

The main problem faced in entrepreneurial leadership is the problem of establishing a condition of likely opportunities to alter an existing condition, and the problem to persuade stakeholders that specific goals of the given condition are attainable by employing suitable resources (Mokhber *et al.* 2016:415-421). Three perspectives can be used to describe entrepreneurial leadership. These are presented in Figure 2.1. The first perspective concerns entrepreneur management as a kind of leadership: it considers an entrepreneur as a person who exercises leadership.

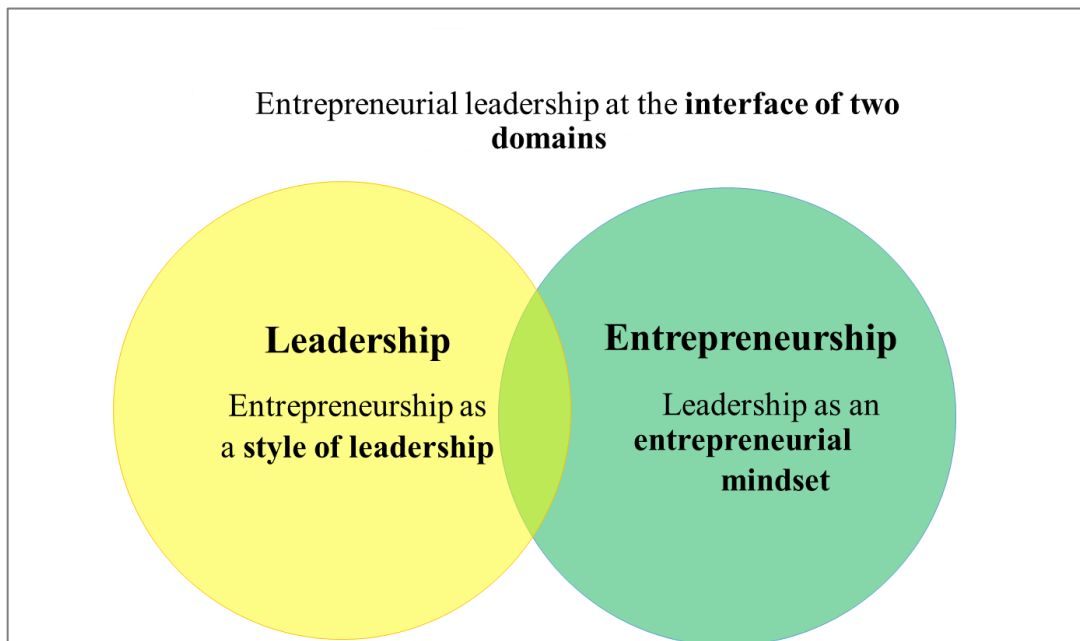


Figure 2.1: The perspectives of EL  
Source Röschke (2018)

Entrepreneurship is considered as a kind of leadership that happens in a setting with certain circumstances as in small and uprisng businesses. This perspective concerns the transfer of ideas from the aspect of leadership to entrepreneurship.

The second perspective takes into consideration entrepreneurial leadership as having an entrepreneurial thought-process, concerning entrepreneurship as the importance of leadership. This perspective notes that leadership needs to be an element of entrepreneurship on the rationale that “an entrepreneurial mind-set and behaviours are vital for efficient leadership, which therefore makes entrepreneurship being the importance of leadership” (Harrison *et al.* 2015:694). Based on this analysis, entrepreneurial leaders are neither entrepreneurs nor determined to be working in entrepreneurial entities and echo the ideologies of entrepreneurship and corporate entrepreneurship.

The third aspect puts entrepreneurial leaders at the intersection of two domains and considers entrepreneurs leaders as separate entities from entrepreneurs. Entrepreneurial management is therefore featured from the intersection of the entrepreneurial management and leadership domains.

## 2.6 An overview of entrepreneurial leadership studies

This section presents an overview of the studies on entrepreneurial leadership and table 2.1 provides an overview of entrepreneurial studies.

Citation	Research/study	Outcomes
Yang,Pu, Guan and Zhenzhong (2019)	The link between EL and turnover intentions of workers within an organisation/business organisation.	EL may lead to a reduction in the employee turnover intentions, and the effect is via job embeddedness, job satisfaction, and affective commitment, in a trend.

<b>Citation</b>	<b>Research/study</b>	<b>Outcomes</b>
Bagheri (2017: 159-166)	Evaluated the EL's newly established behaviour in high (SMMEs) in Iran and the possible implications on worker acknowledgments of opportunities.	Outcomes show that the EL's new organisation behaviours and the latter affect the high-tech SMME workers on opportunity acknowledgment.
Amer (2017)	EL comprises four factors which include: entrepreneurship, contextual factors, leadership, and control factors.	A proper balance of these factors gives rise to effective EL.
Feit (2016)	Searched on EL to the educational experts, assessing the link between principal autonomy, a principal's entrepreneurial alignment, school culture, and school performance.	A considerable positive indirect link occurs between a principal's entrepreneurial alignment and an institution's performance, with the institution's traditions as a neutral variable.
Rahim Abidin, Mohtar and Ramli (2015:193-200)	Assessed the link between entrepreneurial management and organisational progress, especially in Malaysia.	The outcome is that EL is positively linked to possible influence on a business's performance.
Zijlstra (2014)	Examined the distinction between entrepreneurial management, leadership.	Confirmed that EL is an aspect that is related to autonomy, creativity, productivity, and taking of necessary risks.
Jagdal and Bhola (2014)	Evaluated the possible impacts on entrepreneur management and organisational progress and small-entities manufacturers working in the Pune district in India.	A considerable association between EL and organisational performance.

Citation	Research/study	Outcomes
Karmarkar Chabra, and Deshpande (2014)	Assessed the EL of taxonomic given its contribution to entrepreneurial studies.	The phenomenon assists the entrepreneurship world, to understand entrepreneurship in the future.
Yilmaz and Gormus (2012)	The link between strategic entrepreneurial, perceived organisation support, and organisational educations and skills.	Strategic entrepreneurship is strongly linked with perceived organisational support and organisational education variables positively.
Davids (2012)	EL and its necessity within SMMEs in South Africa.	SMME managers and owners see EL as important.
Greenberg et al. (2011)	Explored the interconnection between the self and social awareness factors, cognitive ambidexterity, and social, economic, environmental, and sustainability factors.	An entrepreneurial leader understands how each of the three facets affect one another and how to strike a balance between the three for the success of the organisation.
Ruvio <i>et al.</i> (2010)	Assessed the role of EL vision.	There are considerable distinctions in terms of objectives in necessary trials to undertake the process.
Gupta <i>et al.</i> (2004)	Developed a five-role model of EL in organisational settings.	The ability and performance of the entrepreneurial leaders can only be best understood by understanding the challenges that the leaders undergo, and their role in promoting the success of the business.

Table 2.1: An overview of the entrepreneurial studies

Source: Researcher's compilation

Gupta *et al.* (2004:273-288) developed a five-role model of entrepreneurial leadership in organisational settings. They clarified the concept and validated its effectiveness using data



originally collected for the GLOBE project (Global Leadership and Organisational Behaviour Effectiveness). Under this framework, the ability and performance of the entrepreneurial leaders can only be best understood by understanding the challenges that the leaders undergo, and their role in promoting the success of the business. According to Gupta *et al.* (2004: 273-288), the leadership roles must be well aligned with the socio-political and economic dynamics and must aid the organisation in taking advantage of the presented opportunities in the market, by leveraging on the available resources. Gupta *et al.* (2014:273-288 ) point out two main challenges, which include mobilisation of the resources and developing the commitment. To overcome these two broad challenges, an entrepreneurial leader must carry out various roles, which include framing the challenges, specifying the limits, building commitment, path clearing, and absorbing uncertainty.

Ruvio *et al.* (2010:144-158) researched the role of leadership vision on the general progress of business organisations. Different entrepreneurs have distinct visions and approaches when it comes to the management and leadership of various businesses. Besides, the researcher found the importance of shared vision in improving the general success rates of the new statuses. Owing to the essence of entrepreneurial leadership on the success of the business organisation, various models have been developed by prior researchers. For instance, the Greenberg model developed by Greenberg *et al.* (2011) focuses on the interconnection between the self and social awareness factors, cognitive ambidexterity, and social, economic, environmental, and sustainability factors. As such, an entrepreneurial leader understands how each of the three facets affect one another and how to strike a balance between the three for the success of the businesses. Greenberg *et al.* (2011) model is an abstract model that has been adopted, modified, or amplified by other researchers. On the other hand, Davids (2012) examined the general feeling of entrepreneurs concerning leadership importance and relevance of SMMEs in South Africa. The author found that all the selected entrepreneurs had a feeling that strategic leadership was an essential factor, and which Yilmaz and Gormus (2012) established to be organisationally linked to perceived organisational support and learning.

A correlation between organisational performance and entrepreneurial leadership has been equally examined. Karmarkar, Chabra and Deshpande (2014:156-189) connected poor entrepreneurial leadership with poor organisational performance in small-scale manufacturing working in the Pune district in India, and in turn decreased workers morale, non-suitable working environment, and inadequate resources among other challenges. These outcomes were in line with Rahim, Abidin, Mohtar and Ramli (2015:193-200) who found a positive link between SMMEs financial performance and entrepreneurial leadership. In examining the aspect of leadership within the SMMEs, Zijlstra (2014) argues that the entrepreneurial leadership aspect is linked with autonomy, productivity, and risky businesses. Nonetheless, the integration of entrepreneurial and leadership skills puts a person in a better position as far as the long-term success of a given organisation is concerned (Zijlstra 2014).

Feit (2016) evaluated organisational leadership within the institutions of learning; and examined the impacts of principal autonomy, a principal's entrepreneurial orientation on general institution's culture, and school performance. The scholar established that entrepreneurial alignment by the school head has positive impacts on the general school academic performance. His findings corresponded with Yang, Pu, Guan and Zhenzhong (2019) research which found that entrepreneurial leadership may decrease employee turnover intentions and the effects are heavily contributed by factors such as job satisfaction and commitments, among others.

Amer (2017) takes a more simplified approach and asserts that entrepreneurial leadership comprises four factors, which include entrepreneurship, contextual factors, leadership, and control factors. According to the author, a proper balance of these factors gives rise to effective entrepreneurial leadership (Amer 2017). Gupta *et al.* (2004) denote that entrepreneurial leadership can be best understood by focusing on the leadership challenges, leadership roles, and leadership attributes. Amer's (2017) model of entrepreneurial leadership fuses contextual factors and entrepreneurial characteristics arising from the

integration of the concepts of entrepreneurship, entrepreneurial orientation, and entrepreneurial management with leadership.

## **2.7 Chapter summary**

This chapter addressed the second objective of the study and discussed an overview of entrepreneurial leadership and how it is viewed as an emerging academic field and a leadership approach.

In summarising the discussion on the role of entrepreneurship in economic development within the emerging countries, it is evident that SMMEs play a crucial role in economic development. Thus, entrepreneurship is regarded as a panacea for empowerment, job creation, economic transformation, and poverty reduction, particularly in emerging markets. However, in the context in which entrepreneurship in emerging markets is embedded differs vastly from developed countries. Emerging countries lack well-developed institutions, as a result entrepreneurs encounter various institutional challenges when starting their businesses, often resulting in lower entrepreneurial activity. All these constraints make entrepreneurship in emerging markets uncertain and risky.

The second and third themes in this chapter explored the historical evolution of entrepreneurship and leadership theories. The areas of leadership and entrepreneurship provide critical insights into the way in which entrepreneurs and businesses function and perform across complex entrepreneurial environments. While both fields are typically viewed as independent areas, a number of scholars have drawn parallels between the domains both historically and conceptually. Subsequently, entrepreneurial leadership has developed as a new paradigm directly located at the nexus of entrepreneurship and leadership and relates to the attributes of leadership.

Lastly, in developing leadership in entrepreneurial contexts with respect to competitive environment, there is consensus on the ineffectiveness of most traditional leadership

theories, thus highlighting the need for entrepreneurial leadership to be explored within the entrepreneurial context. The approach is seen as an essential component in which entrepreneurs can enhance their competitiveness whenever they encounter dynamic and ever-changing ecosystems. Despite the growing interest and developing perspectives related to entrepreneurial leadership, empirical development of the concept has been hindered by the lack of focused research and the absence of adequate tools for assessing a leader's entrepreneurial characteristics and behaviours.

The next chapter will evaluate how the leadership challenges and complexities interact with each other in an entrepreneurial ecosystem.

## **Chapter Three - Literature Review: Context and Challenges of An Entrepreneurial System in South Africa**

### **3.1 Introduction**

The previous chapter discussed the role of entrepreneurship in economic development within the emerging country context. The chapter addresses the second objective of the study and evaluates how the leadership challenges and complexities interact with each other in an entrepreneurial ecosystem. This chapter examines the environment wherein entrepreneurs in South Africa operate and to this end, the chapter portrays and engages with the following issues in the literature: Section 3.2 explores the entrepreneurial system concept, section 3.3 looks at the components of the entrepreneurial system, section 3.4 discusses the entrepreneurial system in South Africa, section 3.5 explores the models of assessment of the entrepreneurial system and section 3.6 examines the entrepreneurial challenges in the entrepreneurial system in Gauteng. The summary of the literature reviewed is given in section 3.7 to facilitate the analysis of key aspects.

In this section, the definition of an entrepreneur and entrepreneurship is provided, followed by a brief discussion on the significant role of entrepreneurship in economic growth and development. The entrepreneurial leadership concept was discussed by describing leadership and entrepreneurship as distinct domains, and the interlink between the two domains to establish entrepreneurial leadership.

Entrepreneurship has been regarded as a conduit and driving force for economic growth through job creation, reduction of employment, and poverty elimination. Hence, entrepreneurial activities seem to have a positive relationship with economic growth. In literature, entrepreneurship is a critical mechanism for alleviating poverty especially in developing and emerging countries (Bruton, Khavul, Siegel and Wright 2015:9-26; Sutton, Bruton and Chen 2019:197-214).

Traditional entrepreneurship studies have focused on entrepreneurs as individuals and their intrinsic characteristics (Borissenko and Boschma 2016), however, criticism of emphasising individual traits has resulted in an increased focus on the impact of attention on the wider socio-economic environment that the entrepreneurial activities are undertaken within (Spigel and Harrison 2017). According to Mason and Brown (2014) and Stam (2015:1759-1769), there has been a shift from individual to a more systemic context in the field, entrepreneurship literature has seen an increase in studies considering the role of regional resources and conditions in supporting entrepreneurs and entrepreneurial activities (Mason and Brown 2014; Stam 2015:1759-1769). This emphasis on locality and regions is reinforced in entrepreneurial ecosystem studies (Mason and Brown 2014). Christopherson, Michie and Tyler (2010:3-10) cite that the long-term sustainability of a region may be seen to depend on its ability to respond and adapt to changes and shocks. The term ecosystem often demonstrates a network of dependent structures and flows of resources with specific goals to create shared values (Overholm 2014:39-40). Entrepreneurship is at the core of the entrepreneurship ecosystem (Isenberg 2010:41-49; Mason and Brown 2014).

### **3.2 The entrepreneurial system concept**

Entrepreneurship has been considered a vital organ that drives the economic growth of many countries (Audretsch and Belitski 2017:1030-1051). Fostering entrepreneurial ecosystems comes as a strategy to nurture a country's economy by promoting entrepreneurial processes and activities that ultimately support the growth of small businesses. Isenberg (2010:41-49) referred to an entrepreneurial ecosystem as a set of interconnected entrepreneurial support elements such as leadership, culture, capital, markets, human skills, and support. These elements in turn create a platform for smooth entrepreneurship development that promotes economic growth and social welfare (Acs *et al.* 2018:501-514).

Contrary to the clusters, districts, and innovation systems studies, the emphasis of the ecosystem studies is on the entrepreneurs and the start-up rather than bigger, more developed companies and slower-growing small businesses. Hence, the entrepreneurial system concept differs from other systems such as clusters and innovation systems in that the entrepreneur, rather than the organisation, is the focal point of analysis. Additionally, understanding the socio-cultural aspects of entrepreneurial activities, academics have arguably shifted their focus from research on managers and businesses to the development of entrepreneurial ecosystem (EE). The idea of an entrepreneurial ecosystem has become popular in recent years. This is due to the advancing belief from the entrepreneurial leaders and policymakers that, a region and its culture have a significant impact on the entrepreneurship process. The words ecosystem and system are used interchangeably in this study.

As examined by Spigel (2017:49-72), the entrepreneurial ecosystem constitutes social, economic, and political environments that surround the entrepreneurial process. Studies have tried to characterise the entrepreneurial ecosystem concept (Spigel 2017:49-72; Cohen 2006:1-14; Spilling 1996:91-103). An entrepreneurial ecosystem is defined as groups of elements, institutions, social frameworks, and cultural values that generate and maintain the entrepreneurial activities (Ács *et al.* 2017; Auerswald 2015:54-83; Stam 2015:1759-1769). According to Mason and Brown (2014), the entrepreneurship ecosystem consist of a set of interconnected entrepreneurial actors, institutions and entrepreneurial processes and the degree of entrepreneurial ambition which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment. Okonga (2011:1-14) defines entrepreneurship ecosystem as the individuals, organisations, or institutions outside the individual entrepreneur that are conducive to or inhibit the choice of a person to become an entrepreneur, and the probabilities of his or her success following the launch. Farr (2012) adds that entrepreneurship ecosystems result in identifying areas and individuals that can make a high-impact entrepreneurial change and putting the correct systems and support structures in place to make them successful.

The entrepreneurial ecosystem concept presents an understanding of societal, organisational, and individual factors that are relevant to enhancing and supporting entrepreneurs (Audretsch and Belitski 2017:1030-1051; Morris, Neumeier and Kuratko 2017:441-490; Spilling 1996:91-103). The entrepreneurial ecosystem approach emphasises that entrepreneurship takes place in a community of interdependent actors (Feld 2012; Isenberg 2010 41-49; Cohen 2006:1-14). Their research contributed to understanding the concept among the entrepreneurs and policymakers that the community and the culture of a region, can have a considerable effect on entrepreneurship (Spigel 2017:49-72; Stam and Spigel 2016; Feld 2012). In particular, the literature on entrepreneurial ecosystems focuses on the role of the social context in allowing or restricting entrepreneurship. Based on this assertion, entrepreneurial development lies on the business, but also focuses on the interconnection of both the economic and social perspectives around the business processes and systems including their dynamics (Frenken and Schor 2017:3-10). Although the definitions of the entrepreneurial ecosystem are varied, four key properties can still be derived from the concept namely:

- (i) there are various actors and resources involved in the ecosystem such as markets, entrepreneurs, customers, organisations/businesses, universities, and culture
- (ii) system actors are crucial actors within the ecosystem to maintain continuous healthy and dynamic interaction.
- (iii) the ecosystem needs to be productive, with productivity potentially realised in the form of revenue and employment growth.
- (iv) there is an aspect of locality/spatiality in ecosystems' s influence of entrepreneurial ecosystem on entrepreneurship

Tsvetkova (2015:299-316) and Fritsch (2013:249-364), in their studies have revealed that an effective entrepreneurial system encourages business growth at both the district and regional levels. As such, the entrepreneurial ecosystem has been associated with the territorial capacity to create a system of interconnected actors and resources that enhance



the formation and development of innovative businesses/ventures (Audretsch and Belitski 2017:1030-1051). Isenberg (2010:41-49) referred to a set of interrelated and coordinated factors that enables entrepreneurship. As per Figure 3.1, these factors include finance, human capital, culture, support infrastructures, policy, and the presence of these factors creates conducive and quality entrepreneurial ecosystems that foster productive entrepreneurship



Figure 3.1: Isenberg's model of an entrepreneurship ecosystem

Source: Isenberg (2011:1-13)

Finance in the form of financial capital is related to funds sourced from different internal and external sources, is crucial to both start-up businesses and SMMES. Kelly and Kim (2016) identify the availability of reliable financial systems with entrepreneur-friendly debt finance and venture and angel capitals.

Whereas policy comprises government regulations, rules, regulations, and supporting structures, the regulatory and legal frameworks act as rules and can be incentives or disincentives to entrepreneurs. Cohen (2006:1-14) identified some of these regulations and regulations as business-friendly policies, ease of doing business, and tax incentives.

Markets refer to market accessibility which includes reliable revenue-paying customers (Isenberg 2010:41-49), which is another contributing factor for sustainable entrepreneurship in an ecosystem. A well-developed entrepreneurial market has fewer barriers in terms of market entry and exit for new businesses (Kuratko 2017:441-490). In support, Nicotra, Romano, Del Giudice and Schillaci (2018:640-673) recommend that a supportive market needs to be large with a variety of demand and dynamic enough to stimulate new start-ups.

Human capital is associated with human capital availability and development as a source of knowledge in an entrepreneurial ecosystem. Knowledge in ecosystems implies the technical knowledge requires the exploration of new products, services, and technological advancements and the required skills to understand which creative products will be successful in the markets when launched. This knowledge is essential in an ecosystem and includes knowledge about the problems, how to formulate plans and develop concepts for stakeholders and venture capitalists, and how to surpass the liability of innovativeness when operating with potential customers and wholesalers. Therefore, mentoring and linkages between entrepreneurs are crucial to share business skills and the necessary expertise within the system.

Additionally, Nicotra *et al.* (2018:640-673) refer to support structures as public or private organisations that support the formation and growth of entrepreneurial businesses, via the provision of necessary resources and services such as infrastructures, working spaces, professional services and networking, coaching, and mentorship. Studies further support that quality of supporting institutions can explain entrepreneurial disparities among countries and regions (Mack and Mayer 2015).

Lastly, social support in the form of cultural support and networking determines and shapes the entrepreneurial decisions of entrepreneurs in the ecosystem (Vahid, Pouria, Saeed and Mousa 2019). Social interactions create platforms for entrepreneurial opportunities such as

access to information, skills, resources, and potential markets. The culture that embraces entrepreneurial success and failure stories develops entrepreneurial aspirations among its members and enables entrepreneurs in gaining legitimacy for their activities.

### **3.3 Components of entrepreneurial system**

Studies on the entrepreneurial ecosystems are focused on the key stakeholders of the ecosystem, namely, entrepreneurial leaders/managers (Field 2012). Literature identifies factors that are essential for the success of the entrepreneurial system. Feld (2012) links the ecosystem's success to the communication between the entrepreneurs within the system and access to all forms of necessary funds with an allowing mandate of the authority in the perspective.

As examined by Isenberg (2011:1-13) every entrepreneurial ecosystem is unique and comprises of series of unique components. An ecosystem comprises elements that emerge from socio-cultural interactions, for example, institutional support and economic forces. Isenberg (2011:1-13) notes that the entrepreneurial ecosystem can be considered as comprising of six main domains: suitable culture, enabling regulations and leadership, enough finance/funding, improved human resources funds, entity-friendly markets for items, and a wide range of institutional and infrastructural initiatives. This arguably surpasses the previously nine features and the eight pillars identified and differentiated by the WEF (2013). These attributes also emphasise that existing resources such as human resources capital, funding, services, formal and informal institutions enable entrepreneurship, and lastly access to the clients in both the domestic and international markets.

Some of the identified elements of the entrepreneurial ecosystem include entrepreneurial stakeholders, entrepreneurial service resource providers, entrepreneurial linkage, and entrepreneurial cultures as shown in Figure 3.2.

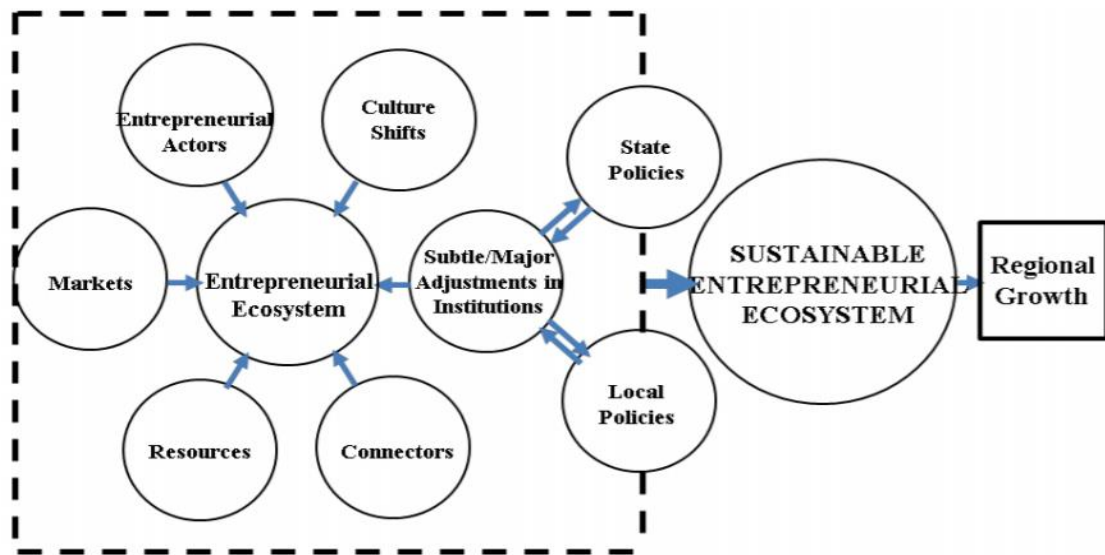


Figure 3.2: A diagram underlying the dynamics of a sustainable EE  
Source: Grigore and Dragan (2020:6061.)

Figure 3.2 captures the underlying dynamics of a sustainable ecosystem, the culture of a region, especially the openness to entrepreneurship, and easy access to markets and resources and entrepreneurial opportunities that will foster entrepreneurship. The connectors support and establish networks crucial to the functioning of the ecosystem, whereas the government and regulatory policies and institutions will favour the survival and growth of entrepreneurial systems. These structures, in turn, will support the entrepreneurial system to generate added value creating a sustainable entrepreneurial ecosystem.

### 3.3.1 Entrepreneurial ecosystem actors

Entrepreneurship and entrepreneurial actors are at the core of the ecosystem concepts (Stam 2015; Mason and Brown 2014; Isenberg 2010:41-49). Notably, an entrepreneurial ecosystem offers a foundation for several factors that can influence the suitability of a region for successful entrepreneurship. This explains the reason that most of the ecosystem

mapping approaches view the actors and their mandate within the ecosystem. It is essential to understand which actors can limit or encourage entrepreneurial activities and whether there are any missing links. Some actors include business founders/investors, established businesses, institutions, and banks which offer a stable trend of behaviours that control human behaviours like values, family and or traditions.

### **3.3.2 Entrepreneurial resource providers**

Entrepreneurial resource providers are also essential actors within the entrepreneurial ecosystems. These are the elements of the entrepreneurial landscape that offer a basis for the operations and functioning of the entrepreneurial ecosystems and allows the shifting of resources into growing companies. It is important to note that ecosystem resources are those resources with a reasonable presence within a region. This presence may be a physical locality like a university, formalised regulations such as entrepreneurial policies, and markets. There are four kinds of material attributes, including universities, support services, facilities, policy and government, and open markets. Universities offer two major resources to an entrepreneurial ecosystem and Lawton-Smith, Chapman, Wood, Barnes, and Romeo (2014:341-359) argue that universities develop new technologies which can create entrepreneurial opportunities.

Support services and facilities offer unique and specialised help for start-ups businesses constituting services like accountants, human resources advisory, patent advocates who are familiar with problems that small businesses encounter and how to provide services, which are focused on early businesses, like equity funding arrangements (Patton and Kenney 2005). Support institutions enable the start-ups to access capabilities they do not have internally, while in turn, support companies benefit from a huge number of local customers. Incubation, acceleration, and co-working components also offer vital services for new businesses by redesigning the office space for start-ups along with providing necessary advice and networking supporting mechanisms.

Finance is an essential resource necessary for start-up and particularly those businesses which are growth-innovative oriented (Lee, Sameen and Cowling 2015; Cassar 2004:261-283; Lerner 2010) such as financing providers including banks, business angels, and venture capital organisations. Alternative funding like peer-to-peer loaning services and equally crowdfunding have positive impacts on entrepreneurial developments (Bruton *et al.* 2015:9-26). The requirement for an established system funding mechanism to assist companies' transition between different kinds of funding sources is vital to allow companies to develop considerably (North, Baldock and Ullah 2013:237-260; Schreiber and Pinelli 2013). The existing local market is an essential component in offering opportunities within the entrepreneurial ecosystems. The availability of local clients with unique needs and requirements creates opportunities for the possibility of establishing new innovative businesses and enhances entrepreneurial spinoffs (WEF 2013; Spilling 1996:91-103). This implies that entrepreneurs are in a better position to identify opportunities in the local markets because they interact more with local clients and can analyse new offerings within the system. This provides small businesses with an opportunity to make sales and develop their capabilities for expansions (Feldman 2001:861-891). These markets usually act as the catalyst for the growth of the various entrepreneurial ecosystems.

### **3.3.3 Entrepreneurial connectors**

The essence of social networks and social capital to the entrepreneurial mechanism is articulated effectively (Stuart and Sorenson 2005:233-251; Nijkamp 2003:395-405). The social networks act as a channel for innovative knowledge and existing opportunities presented by the new technologies and allow new businesses to gain access to the various financing options and equal access to entrepreneurial knowledge. The capability of new businesses to take advantage of networks need pre-existing linkages among the entrepreneurs and investors, among other entrepreneurial stakeholders. Some social features of the entrepreneurial ecosystem include network systems, capital invested, mentors and brokers, and individual talents (Kwon, Heflin and Ruef 2013:980-1008). Arguably, networks are essential for businesses and, dynamic entrepreneurial systems have

strong informal and formal network systems which can assist to eliminate resource deficiencies within the start-ups and enhance the tactical sharing of knowledge and or skills (Sullivan and Ford 2014:551-574). Advanced ecosystems characterise a myriad of distinct networks for entities such as business clubs, mentoring opportunities, and start-up networks that act as a collective structure within the ecosystem that develops a region's social capitals (Malecki 2012).

### **3.3.4 Entrepreneurial culture**

Cultural features are the existing beliefs and outlook regarding entrepreneurship within a particular place. There are two major cultural features of the entrepreneurial ecosystem, namely cultural attitudes, and the historical perspective of entrepreneurship. Several studies and research have tested the effects of local culture on the greater entrepreneurship processes (Stuetzer, Obschonka, Brixy, Sternberg and Cantner 2014:221-244). Regional cultures affect entrepreneurial activities by re-arranging entrepreneurial policies and practices. The culture and community norms and attitudes towards entrepreneurship have been established as an essential element of the entrepreneurial ecosystem (Isenberg 2010:41-49).

Entrepreneurial aspirations are frowned upon in communities where the social activities of entrepreneurs are considered irrelevant and where the societal status of entrepreneurs is relatively low, and on most occasions, failure is viewed from a negative perspective (Isenberg 2010:41-49). Both views of eligibility of business and the level of entrepreneurial activity which are estimated in the GEM assessments are relatively stable over a certain period (Fritsch and Storey 2014:939-954). Even though several initiatives and strategies have been put in place to change the attitudes towards entrepreneurship via education and campaigns, many of those strategies and initiatives have been unsuccessful (O'Conner 2013:546-563).

The business environment and the investment climate create a legal and administrative framework in which the stakeholders in the ecosystem communicate with each other. Culture, and attitude, continuously echo the ideas within the business and investment climate and the communication of the various actors. Understanding the ecosystem from these different perspectives allows one to identify the problems that entrepreneurs encounter and the potential market entry points necessary for interventions.

### **3.3.5 Functions of government policy**

Government policy is the underlying principle and or regulation that is employed by government entities for the decision-making process. In South Africa, the government has essential policies concerning business and particularly SMMEs. Isenberg (2011:1-13), argues that government policy needs to prioritise the opening of more opportunities for small businesses start-up, thus decreasing the existing challenges and, removing the economic inequalities that favour certain businesses, and discouraging others. Eniola and Entebang (2015) established a positive correlation between SMMEs' performance and defining government in which uncooperative and hostile government policy led to a decline in performance and decreased competitiveness of the Nigerian SMMEs.

For most developing countries, government regulations enhance the development of innovative solutions with the help of technologies that enhance autonomy and business development. In South Africa, the Small Business Act of the Republic of South Africa (1996) has been at the forefront in offering necessary support to SMMEs, including their launch and survival process. The Act Small Business Act 1996 defines and describes:

*“A unique entity including cooperative businesses and NGO’s management by a single person or more, including its branches and or subsidiaries is dominantly undertaken in any sectors as previously described within the schedule of size standards and can be categorised as SMMEs by meeting the criterion within the schedules of size standards”.*



Government has put in place strategies and initiatives to encourage SMMEs, however, these seem to have a considerably high failure rate, an aspect that shows the need for more comprehensive initiatives. Cassar (2004:261-283) argues that government regulation needs to encourage access to various funding institutions such as banks, other than providing subsidies among other advantages. However, Eniola and Entebang (2015) argue that stringent government policy, characterised by bureaucratic processes, and requirements impede entrepreneurial growth and development.

### **3.3.6 Policy focusing on entrepreneurial actors within the entrepreneurial system**

Every nation has a wide range of regulations to enhance the creation and development of new businesses. The major forms of support are in the form of information and necessary advice to new entrepreneurs and these regulations rarely distinguish between the various forms of start-ups. The major support approaches include helping the entrepreneurs at the pre-start-up phase, start-up, and early post-start-up phase through offering intensive support and mentoring initiatives (Miller and Bound 2011). In addition, private sector business accelerator programmes are set up to assist the growing business entities. Embedded within this policy, is the idea that businesses are required to be in a better position than those linked to other entrepreneurial actors, such as business angels, and mentors. Most public-sector incubators equally encompass colleges since connections to the colleges are often seen as an essential component of knowledge and skills for companies to explore.

The policy emphasises businesses and companies in the ecosystem which offer resources to entrepreneurs. These companies constitute finance and banking institutions and venture capital, among others. A major concern for entrepreneurs is improving access to finance by improving the supply of financing options. As a result, the policy has been heavily involved with establishing additional sources of venture capital (Murray 2007:113-151). This comprises the formation of regional funding capital finance programmes, normally taking control of private and public sector funds.

Policy regulations have been set up to enhance connections between the distinct elements within the entrepreneurial ecosystem. The policy has sought to cover the gap between the different entrepreneurial actors via the formation of communities of practice and or entrepreneurial structures. These can come in several forms, which include but are not limited to entrepreneurial clubs, professional collaborations, professional collaboration organisations, and network linkages, among others. These may be formal organisations that function under policies, regulations, and membership criteria.

### **3.4 Entrepreneurship landscape in South Africa**

This section presents an overview of the context of SMME in South Africa and SMME profiles against global rankings. The description of SMMEs varies across different nations and geographical locations and or borders. The parameters with which the SMMEs are described are as follows: the number of workers within the organisation/company, general profits generated by the business, and total asset values of the organisation. In South Africa, SMMEs are usually described by the number of workers a given business holds, its turnover, and indicated within the National Small Business Act, 1996 [No. 102 of 1996] - G 17612. The National Small Business Act, 1996 [No. 102 of 1996] allows variation in descriptions in line with the industry and sector. In line with the Section of the Act, as changed by the National Small Business Amendment Acts of 2003 and 2004, a small business is described as follows:

A separate and different business entity, comprising co-operative organisations and NGOs, which are managed by an individual, including its sublets if any, is arguably carried on in any sector or sub-sector of the economy as described in Column I of the schedule.

The National Small Business Act, 1996 [No. 102 of 1996] - G 17612, equally divides small businesses into discrete categories, which constitutes survivalist, micro, very small, and

medium. The Act considers a small business entity as one with less than 50 workers with an annual turnover of approximately R25 million and below and a gross asset amounting to about R2 million and R4.5 million, taking into consideration the various aspects within the industry. Furthermore, an organisation entity is considered as a medium if it has less than about 100 to 200 workers and a yearly turnover of below R5 million with a gross asset (not considering fixed assets) of less than between R2 million to R17 million considering the overall sector. Generally, the SMMEs descriptions utilise the number of workers per entity size classification, taking into consideration the annual turnover thresholds and gross assets as indicated in Table 3.1.

Size	Number of workers	Yearly turnover	Gross assets* (excluding fixed proprietary)
Micro	≤5	≤ R150 000	≤ R100 000
Very small	≤10 to 20	≤ R200 000 to R500 000	≤ R150 000 to R500 000
Small	≤50	≤ R2 million to R25 million	≤ 2 million to R4.5 million
Medium	≤ 100 - 200	≤ R4 million to R50 million	≤ R2 million to R18 million
*(excluding fixed proprietary)			

Table 3.1: Broad definitions of SMMEs in the National Small Business Act 1996 [No. 102 of 1996]

*(Extracted from **TIPS (2018)** and the National Small Business Act No. 102 of 1996)*

The National Small Business Act 1996 [No. 102 of 1996] further categorizes businesses in distinct sub-sections, which is indicated in Table 3.2.

<b>Sub-category</b>	<b>Definition</b>
<b>Survivalist businesses</b>	Businesses whose generated revenues are about the revenues/incomes the poverty line, thus the businesses are regarded as pre-entrepreneur; they include vendors, hawkers, and subsistence business owners.
<b>Micro-businesses</b>	Businesses whose turnovers are less than the value-added tax (VAT) registration limit existing in the given financial year. The businesses are commonly not recognised by authorities, they include spaza shops and minibus taxis which do not exceed five hired employees.
<b>Very small businesses</b>	Businesses that do not exceed ten employees, except construction, manufacturing sectors where businesses do not exceed 20 workers.
<b>Small businesses</b>	Businesses with a maximum of fifty employees and are more established relative to very small businesses. The businesses comparatively have more complicated organisation practices than very few businesses.
<b>Medium businesses</b>	Businesses whose maximum number of workers ranges between 100 and 200 for drilling, electricity, infrastructure, and civil works' sectors.

Table 3.2: Categorisation of businesses in distinct sub-sections

(Retrieved from TIPS(2018) and National Small Business Act No 1996)

### 3.4.1 SMME profiles in South Africa

It is crucial to understand that SMMEs in South Africa are defined in the following sections: type of ownership, owners by age, businesses/organisation' age, organisation location, the occupation of the entrepreneur, and industry, among others. The profiles data shown are for the comparative times between 2017 (quarter 1) and 2018 (quarter 1) respectively, which comprise of the current data existing at the time when the study was undertaken.

### 3.4.1.1 Number of SMMEs by type of ownership

Figure 3.3a indicates the numbers of SMMEs characterised by the type of ownership in South Africa. Figure 3.3(a) shows that between 2017 (quarter 1) and 2018 (quarter 1) the total number of SMMEs declined by 35 714 SMMEs (-1.4%) from 2 478 877 SMMEs in 2017 (quarter 1) to 2 443 163. In terms of SMMEs by type of ownership, there was a largest of 107 967 (-11.4%) employer SMMEs, while own account worker SMMEs increased by 72 253 SMMEs (4.7%) from 1 527 657 SMMEs in 2017 (quarter 1) to 1 599 910 SMMEs in 2018 (quarter 1).

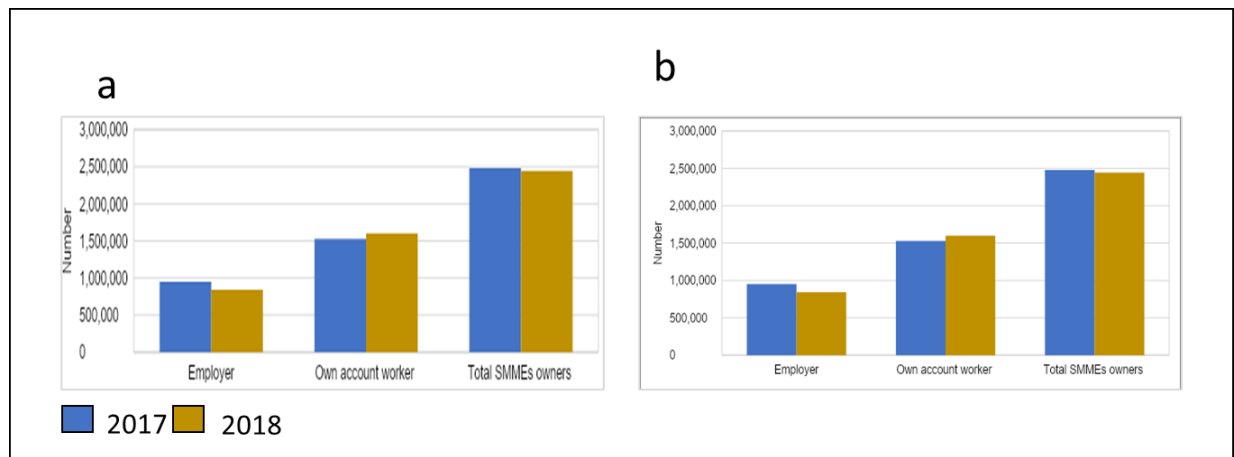


Figure 3.3(a): SMMEs characterised by ownership (b) Total Number of SMMEs

Source: Small Business Development Agency (2018)

The decrease in the number of employers SMMEs and the total number of SMMEs in the country generally suggest low survival rates of SMMEs in South Africa. Low survival rates also suggest reduced employment and income-earning prospects in the South African SMME sector. The contraction in the number of SMMEs during the period under review (Figure 3.3b) was largely attributed to broader tough economic and general operating and market conditions (SEDA 2018).

### 3.4.1.2 SMME owners by age

Figure 2.3 presents categorical age profiles of SMME owners for the periods 2017 (quarter 1) and 2018 (quarter 1) based on the Statistics South Africa Quarterly Labour Force Surveys (QLFS) data. The SMME age profiles between 2017 (quarter 1) and 2018 (quarter 1) are shown in Figure 3.4.

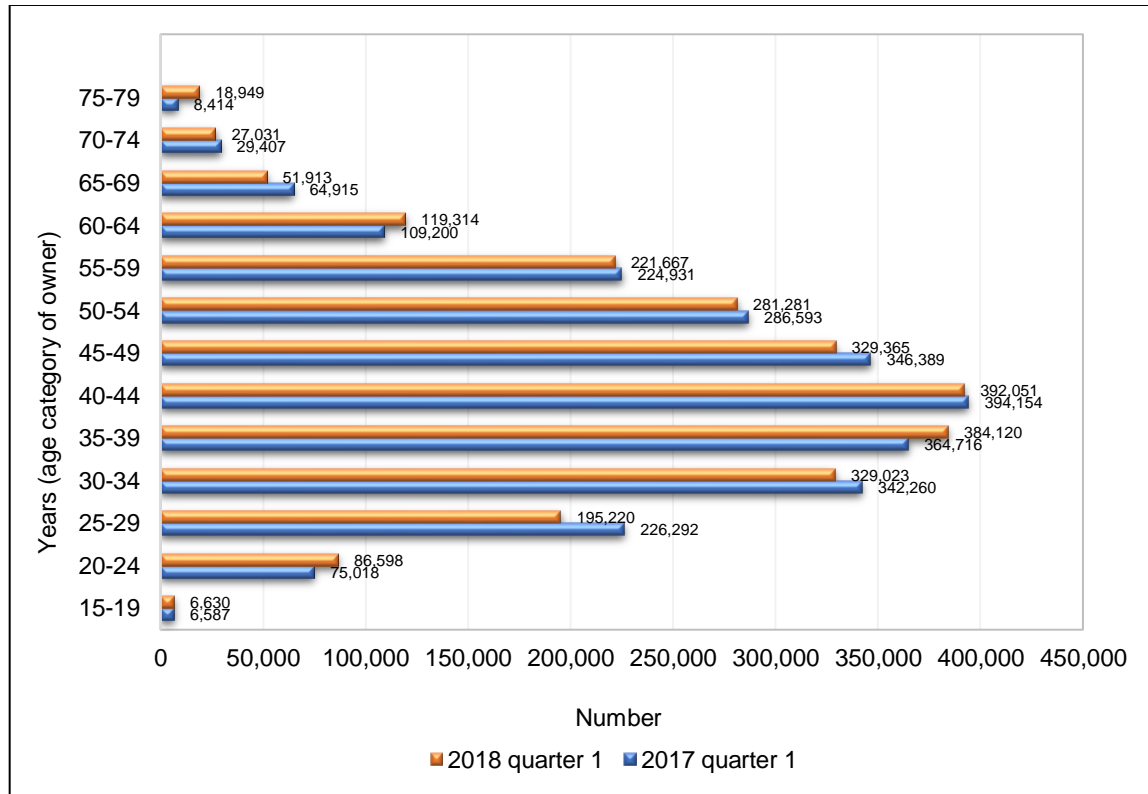


Figure 3.4: SMME owners by age category

Source: Small Enterprise Business Development Agency (2018: 13) and Statistics South Africa (2018: Q1)

Figure 3.4 depicts the total number of SMME owners contracted by 35 714 owners (-1.4%) from 2 478 877 owners in 2017 (quarter 1) to 2 443 163 owners in 2018 (quarter 1). Most of the SMME owners were aged 40 years and above (59% -1 464 003 out of 2 478 877

owners in 2017 (quarter 1) and 1 441 571 owners out of 2 443 163 owners in 2018 (quarter 1).

The age group 25-34 years, the age category where most owners of SMMEs start engaging in business (SEDA2018:13) recorded the largest contraction of 44 309 SMME owners (-17.6%) from 568 552 owners in 2017 (quarter 1) to 524 243 owners in 2018 (quarter 1). The respective trajectory indicates the existence of a higher failure rate of new businesses due to several dynamic conditions in South Africa (SEDA 2018).

#### **3.4.1.3 The SMME age profiles between 2017 and 2018**

Figure 3.5 shows that there has been a remarkable increase of 14.3% of SMMEs that have been in operation for a 0 to 1 year from 97 673 small businesses in 2017 (quarter 1) to 111 611 SMMEs in 2018 (quarter 1).

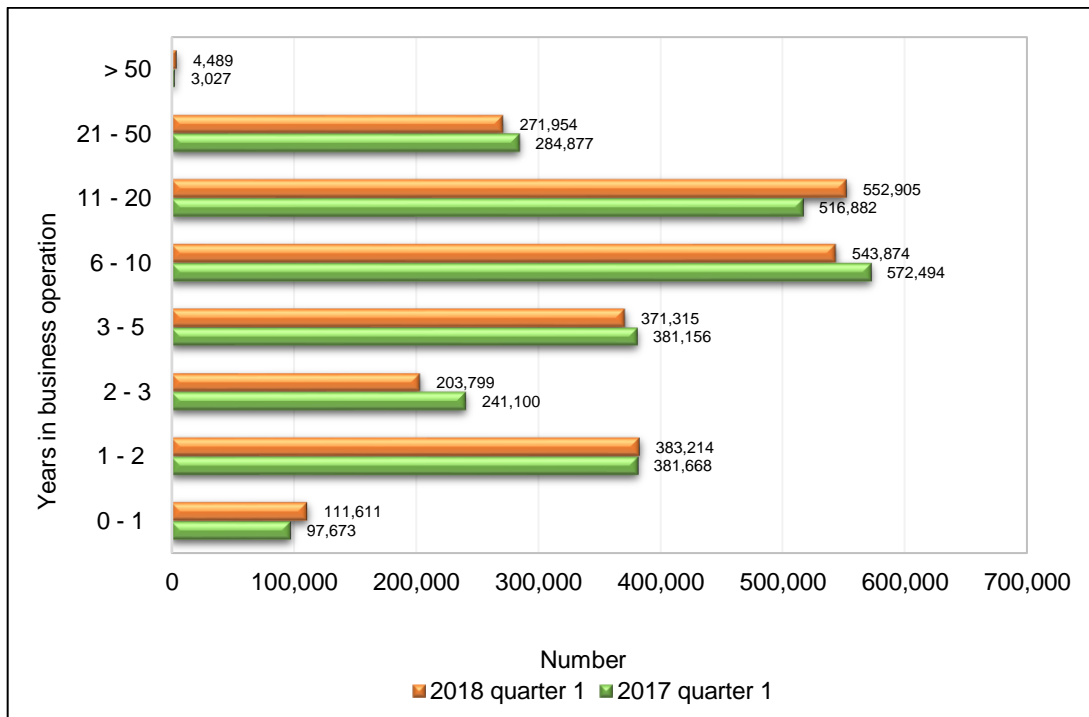


Figure 3.5: SMME age profiles

Source: Small Business Development Agency (2018:14) and StatsSA (2018:Q1).

The increase in the number of SMMEs aged 0 to 1 year shows that there is a significant increase in the numbers of new SMMEs that enter the market in South Africa. However, the largest proportion of SMMEs exited the market in their third year of being in operation, which marks the third year in operation as the watershed age (SEDA 2018). South Africa's SMME sector experienced a 15.5% decline in the number of SMMEs in the third year of operation (watershed age) from 241 100 small businesses in 2017 (quarter 1) to 203 799 SMMEs in 2018 (quarter 1). The number of SMMEs that have been in operation for 6 to 10 years also declined by 15% from 572 494 SMMEs in 2017 (quarter 1) to 543 874 SMMEs in 2018 (quarter 1) (SEDA 2018:14).

#### 3.4.1.4 The classification of SMMEs by sector

The classification of SMMEs by sector as of the 2018 (quarter 1) period is shown in Figure 3.6.



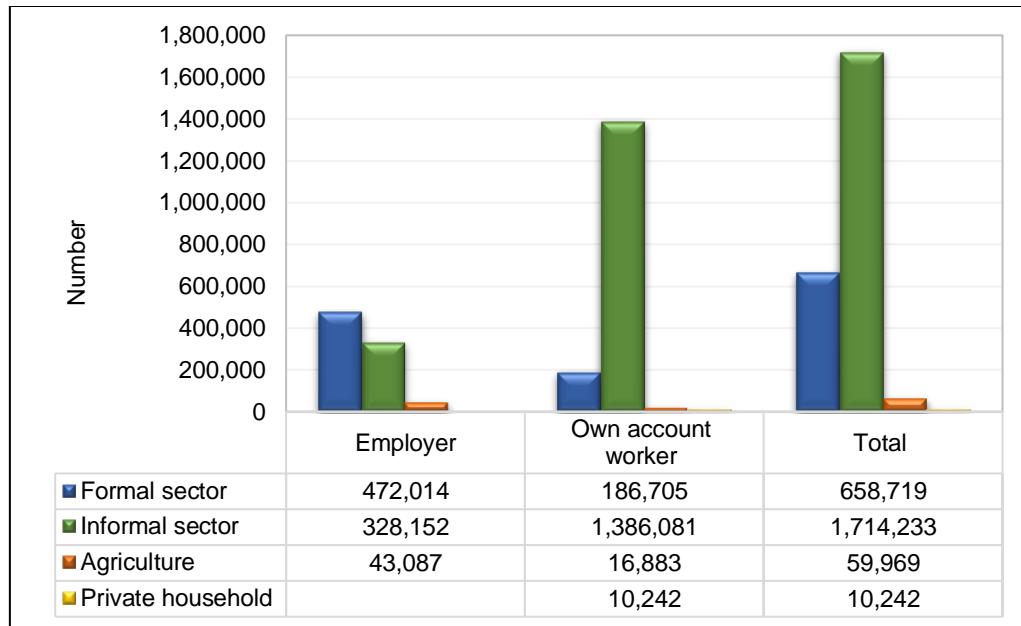


Figure 3.6: SMMEs by sector for the period 2018 quarter 1

Source: Small Enterprise Development Agency (2018: 14) and StatsSA (2018: Q1)

Figure 3.6 reveals that from the 2 443 163 SMMEs in South Africa as of 2018 (quarter 1) the largest proportion of 70.2% (1 714 233 SMMEs) are in the informal sector, while 27% (658 719 SMMEs) are in the formal sector, 2.5% (59 969 SMMEs) in agriculture and 0.4% (10 242 SMMEs) are private households. Correspondingly, 65.5% (1 599 910 SMMEs) are own-account workers, while the remaining 34.5% (843 253 SMMEs) are employers. The statistics reveal that an estimated two in every three SMMEs operate in the developing sector in South Africa, out of which nearly a third are own-account workers, while slightly above a quarter of SMMEs employ other people.

#### 3.4.1.5 The distribution of SMMEs by industry

The distribution of SMMEs by industry between 2017 (quarter 1) and 2018 (quarter 1) is shown in Figure 3.7.

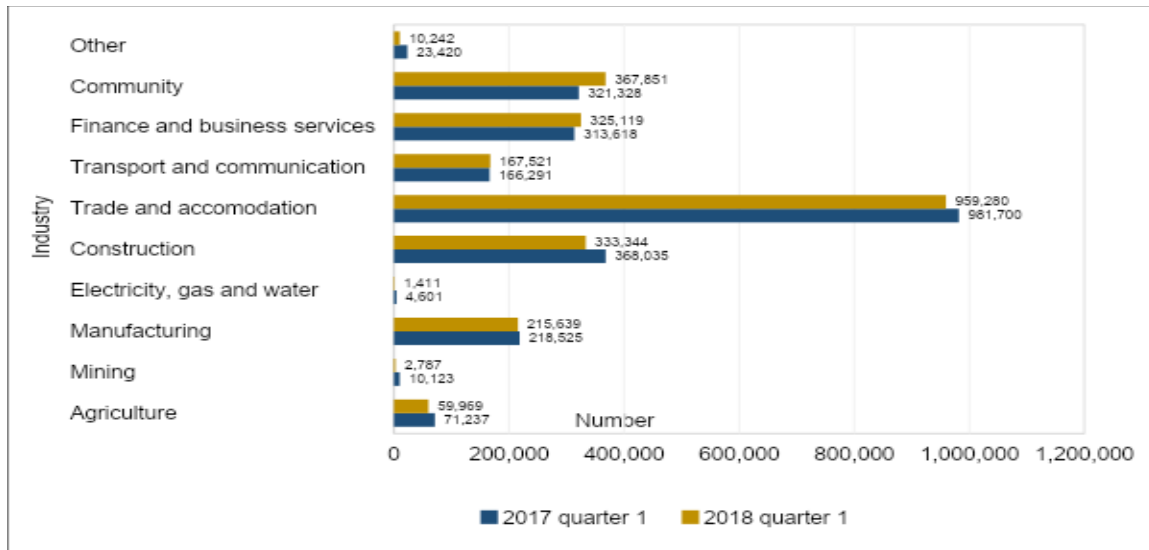


Figure 3.7: Distribution of SMMEs by industry

Source: Small Business Development Agency (2018:16) and StatsSA (2018:Q1).

Figure 3.7 shows that in the financial year period 2017 (quarter 1) to 2018 (quarter 1) there are only three industry sectors out of the ten industry sectors, which recorded increases in the number of SMMEs. The largest proportion of a 14.5% increase in SMMEs occurred in the community sector, where SMMEs increased from 321 328 businesses in 2017 (quarter 1) to 367 851 businesses in 2018 (quarter 1). The finance and business services SMMEs marginally increased by 3.7% from 313 618 SMMEs in 2017 (quarter 1) to 325 119 small businesses in 2018 (quarter 1), while SMMEs in the transport and communication sector insignificantly increased by 0.7% from 166 291 small businesses in 2017 (quarter 1) to 167 521 SMMEs in 2018 (quarter 1).

In relative terms, the largest decline of 72.5% occurred in the mining sector, from 10 123 small businesses in 2017 (quarter 1) to 2 787 SMMEs in 2018 (quarter 1). The electricity, gas, and water sector recorded a decline of 69.3% in the number of SMMEs from 4 601 SMMEs in 2017 (quarter 1) to 1 411 SMMEs in 2018 (quarter 1). In absolute terms, the construction sector recorded the largest decline of 34 690 SMMEs, followed by the trade

and accommodation sector which recorded a contraction of 22 420 SMMEs between 2017 (quarter 1) and 2018 (quarter 1). Overall, the number of SMMEs in all sectors contracted by 35 714 (1.4%) from 2 478 877 SMMEs in 2017 (quarter 1) to 2 443 163 SMMEs in 2018 (quarter 1).

### 3.4.1.6 SMME's distribution by province

The distribution of SMMEs per province between 2017 (quarter 1) and 2018 (quarter 1) is shown in Figure 3.8.

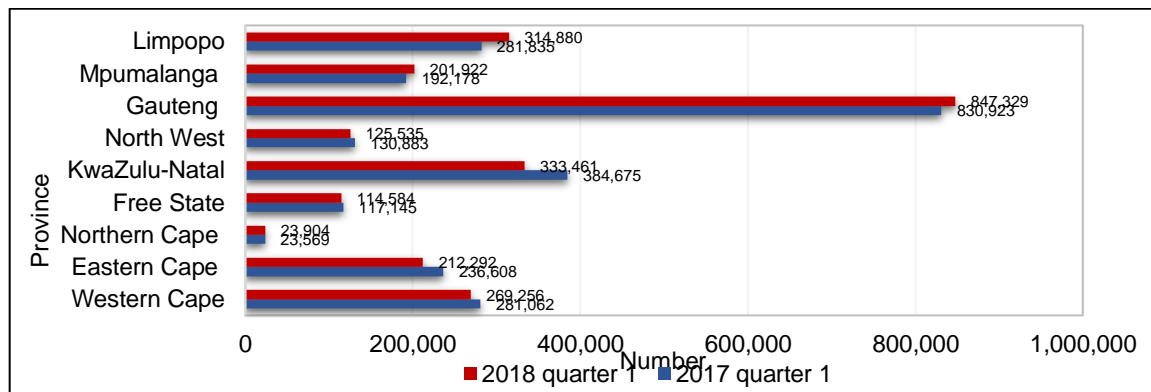


Figure 3.8: SMMEs distribution by province

Source: Small Business Development Agency (2018:17) and Stats SA (2018: Q1).

Figure 3.8 indicates that Gauteng had the largest proportions of approximately 34% (830 923 SMMEs out of 2 478 877 SMMEs) in 2017 (quarter 1) and 35% (847 329 SMMEs out of 2 443 163 SMMEs) in 2018 (quarter 1). The Western Cape remained in the second position of provinces with the largest proportion of SMMEs, with a consistent 11% in 2017 (quarter 1) and 2018 (quarter 1). Between 2017 (quarter 1) and 2018 (quarter 1), KwaZulu-Natal recorded the largest decline in the proportion of SMMEs of about 13% (51 214 SMMEs) from 384 675 SMMEs in 2017 (quarter 1) to 333 461 SMMEs in 2018 (quarter 1).

The Eastern Cape occupied the second position with regards to a contraction in the proportion of SMMEs, where SMMEs declined by about 10% (24 316 SMMEs) from 236 608 SMMEs in 2017 (quarter 1) to 212 292 SMMEs in 2018 (quarter 1). The largest increase of about 12% (33 045 SMMEs) in the distribution of SMMEs was recorded in Limpopo, where SMMEs increased from 281 835 SMMEs in 2017 (quarter 1) to 314 880 SMMEs in 2018 (quarter 1).

### 3.4.1.7 SMME owners by educational qualification

The changes in educational qualifications of SMME owners between 2017 (quarter 1) and 2018 (quarter 1) are depicted in Figure 3.9.

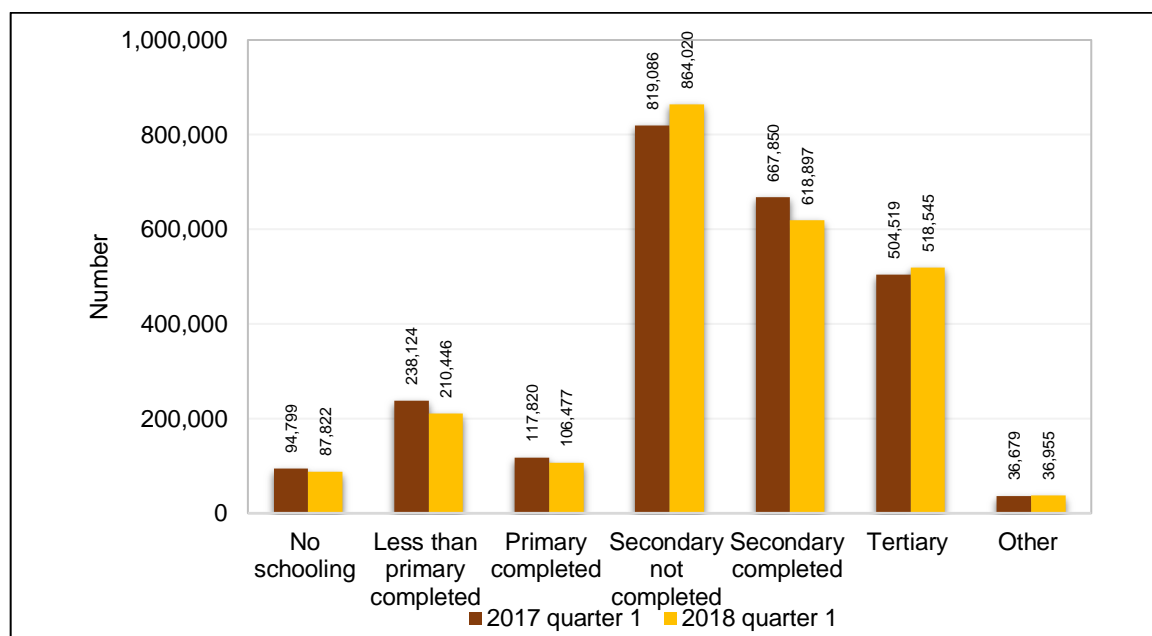


Figure 3.9: SMME owners by educational attainment

Source: Small Business Development Agency (2018:20) and Stats SA (2018:Q1).

Figure 3.9 reveals that about 51% (1 269 829 SMME owners) from the total 2 478 877 SMME owners in 2017 (quarter 1) had less than a secondary education qualification. The same outlook was observed in 2018 (quarter 1) in which 52% (1 268 765 SMMEs owners) from the total 2 443 163 SMME owners had less than a secondary education qualification. SMME owners that had secondary education qualifications were about 27% (667 850

SMMEs owners) in 2017 (quarter 1) and about 25% (618 897 SMME owners) in 2018 (quarter 1). The proportions of SMME owners that had tertiary qualifications improved marginally by 0.7% (14 027 SMME owners) from 20.4% (504 519 owners) in 2017 (quarter 1) to 21.2% (518 545 owners) in 2018 (quarter 1). The educational qualifications profile of SMME owners described herein shows that educational attainment by a majority of SMME owners deteriorated slightly over the period 2017 to 2018.

### **3.5 A global perspective on entrepreneurship in South Africa**

This section seeks to provide a contextual analysis of the general state of entrepreneurship in South Africa based on data collected and findings made by Global Competitiveness Surveys (GCS), Global Entrepreneurship Monitor (GEM), and Global Entrepreneurship Index (GEI). The GEM and GEI conduct longitudinal studies and provide comprehensive analysis on the state of the entrepreneurial ecosystem in a given country. The GEM collects data annually using two standardised surveys. The GEI uses data to score the quality of entrepreneurship and the extent and depth of the supporting ecosystem in each country. The studies acknowledge that national entrepreneurial ecosystems are influenced by a range of factors, including, government policy, legislative environment, entrepreneurship finance, education, research and development transfer and social and cultural realities. These factors are accessed to indicate the health of entrepreneurship in a given country.

#### **3.5.1 Global competitiveness survey**

Annually, World Economic Forum generates reports on Global Competitiveness. Essentially, this report lists the various nation's competitiveness positions that are dependent on the Global Competitiveness Index (GCI). The GCI comprises approximately 89 indicators obtained from the dataset collected from various established international organisations and the WEF's Executive Opinion Survey which support nations in evaluating necessary policies and practices. These indicators are often categorised into 12

pillars in the GCI which show the gravity and degree of complexity of factors of productivity and competitive environments. These pillars constitute institutions, ICT sectors, market size, organisation dynamics, and innovation ability. In line with the degree to which rapid technological changes are getting attention within the global economy, the survey reports focus on the role productivity plays when it comes to income and job opportunities, reduction of poverty rates/levels. The GCI 4.0 benchmarking employs a new development score that ranges between 0 to 100, in which 100 represents the full achievement of the policy target for each indicator. Consequently, the score shows the recent progress of indicators against frontiers, therefore, a nation should seek to capitalise on the score it achieves on each indicator.

In most occasions, the business dynamic pillar is determined by eight indicators which are categorised within sub-pillars as follows: administrative requirements and entrepreneurial culture, administrative requirements estimates the length/degree to which the regulatory structure encourages creativity by making it relatively easier to obtain and collapse businesses, where entrepreneurial culture estimates the country's willingness to take up risk and equally encourage damaging concepts (WEF 2018). Some of the indicators obtained within the administrative sub-pillars consist of costs of organisation establishments, period to begin the organisation operations, insolvency recovery rate, and insolvency regulatory frameworks. Arguably, the indicators obtained through entrepreneurial culture sub-pillars are usually perceptions towards the entrepreneurial risks, ability to delegate power, development of innovative businesses, and organisations encouraging disruptive concepts/ideas.

From the Global Competitiveness Survey Report, South Africa was ranked 67th across the world, with a score of approximately 60%, and achieved the 2nd position in Sub-Saharan Africa, whereas in terms of business dynamics pillar it was positioned 35th. The country's global competitiveness overall ranking has consistently worsened over the past three consecutive years from 47th position in 2016 down to 61st position in 2017 and further

down to 67th position in 2018. (Department of Higher Education 2018; WEF 2018). Figure 3.10 depicts the global ranking of business dynamism indicators during 2018.

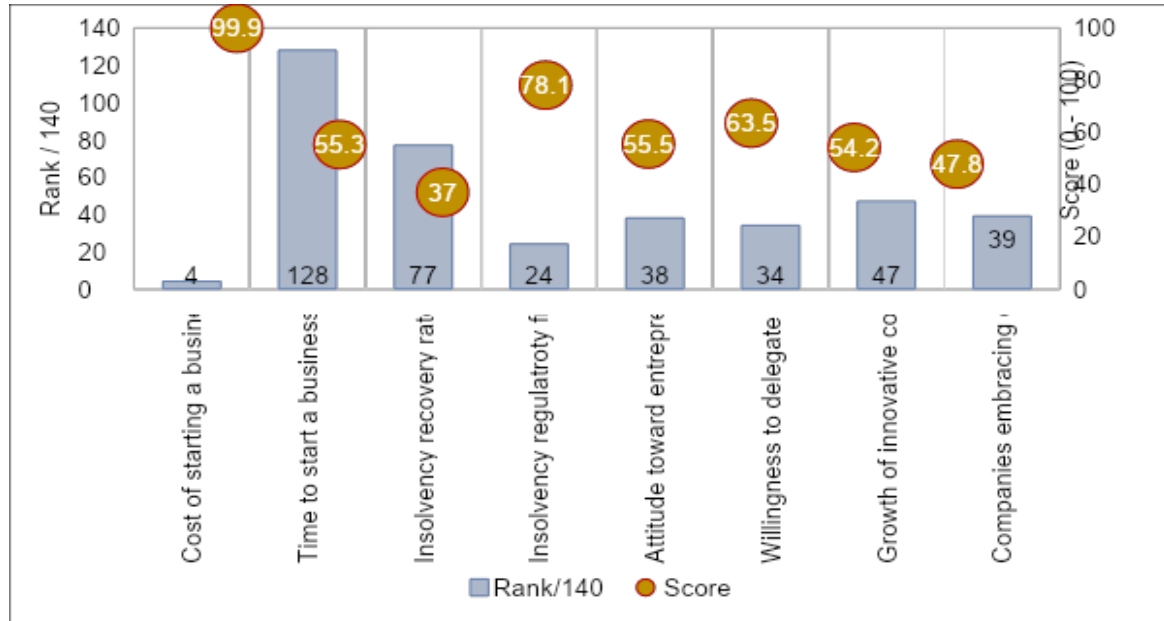


Figure 3.10: Global ranking of business dynamism indicators during 2018

Source: Global Competitiveness Index Report (2018)

Furthermore, the worst-performing indicators are characterised by several reasons which included: corruption and increased crime rates, among others. South Africa's weaknesses in terms of competitive performance are on the health pillar which ranks 125th; ICT adoption which ranks 85th; and the skills pillar which ranks 84th. (WEF 2018, Department of Higher Education 2018).

As per Figure 3.10, South Africa's overall global competitiveness has consistently declined over the previous three successive years between 2016 and 2018. The financing for SMMEs declines from 72 to 96/141 as well as the attitudes towards entrepreneurship. South Africa's competitiveness is being held back by relatively low business dynamism which is inhibited by administrative burdens to start a business, insolvency regulation, and a persistently insufficient labour market flexibility. These findings are particularly concerning in a period

of slow GDP growth, and continued emphasis placed on the development of entrepreneurship, and to increase support for SMME development. The next section discusses South African entrepreneurship surveys.

## Global Entrepreneurship Monitor (GEM)

The GEM undertaken by the Global Entrepreneurial Research Association (GERA) is one of the globally leading research associations when it comes to entrepreneurial dynamics. The monitors are the most reliable source of information for entrepreneurship for strategic international organisations like the Organisation for Economic Cooperation and Development (OECD) UN, WB, and WEF.

### GEM Indicators Annual Trends, 2001 to 2017

This section shows and defines South Africa's GEM indicators annual pattern on societal view, opinions, individual features for potential business owners, and entrepreneurial activity indicators between the periods of 2001 to 2017 as per Figure 3.11.

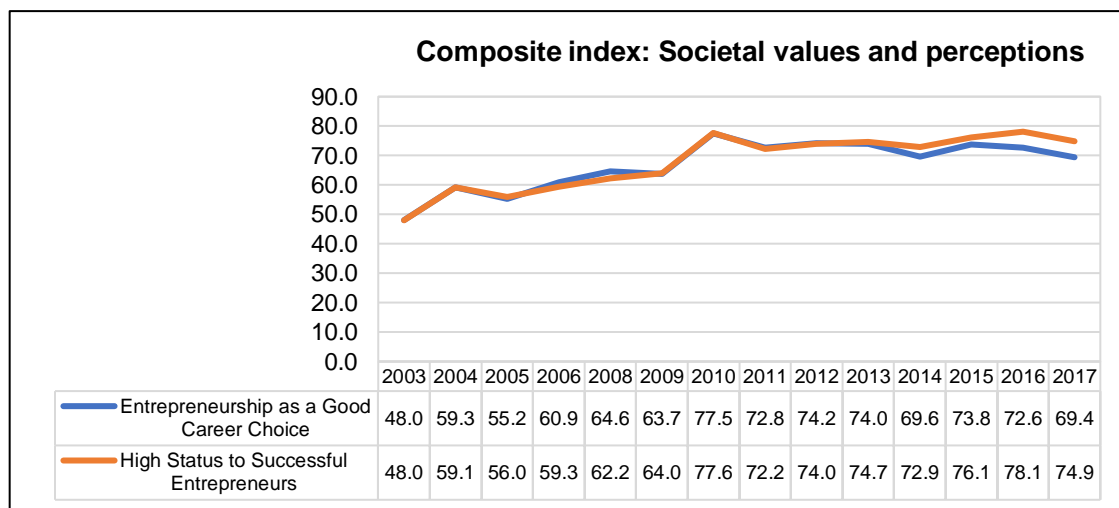


Figure 3.11 Societal values about entrepreneurship indicator trends (2017)

Source: Herrington *et al.* (2017)



Figure 3.12 depicts the self-perceptions about entrepreneurship indicators trends

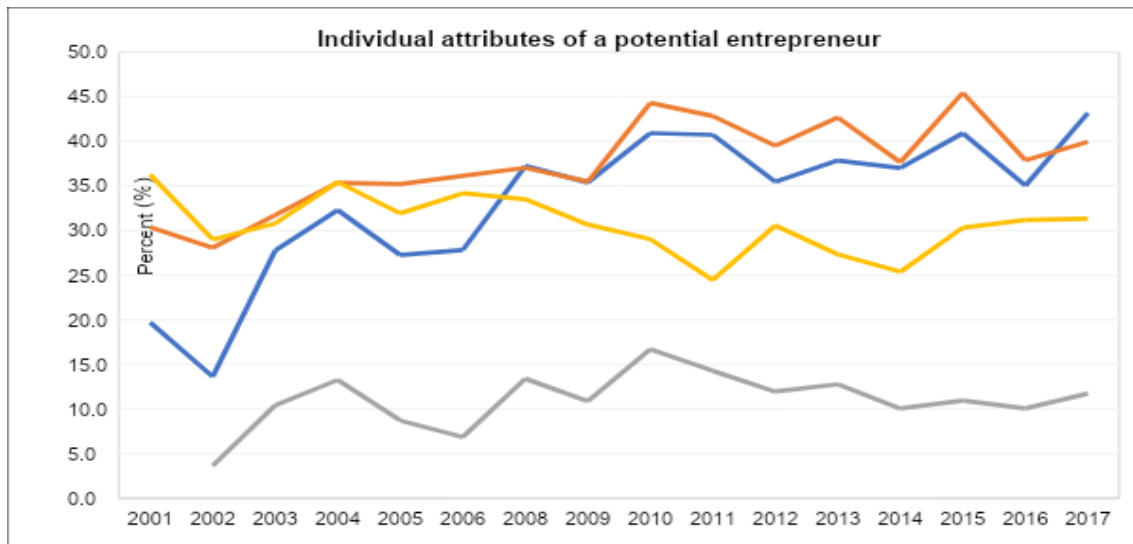


Figure 3.12: Self-perceptions about entrepreneurship indicators trends  
Source: Herrington *et al.* (2017)

Figure 3.12 indicates the respective share of the adult population who consider entrepreneurship as a better choice constantly raised over the years: 48% in 2003 to 74% in 2012. Notably, the respective share decreased by 0.2% points to 74% and varied between a low score of 69% in 2017 and a high score of about 73% between 2014 and 2017. On the other hand, the share of the adult population that sees entrepreneurship as a better choice constantly reduced by 4.4% points over the last three subsequent years from 73% (2015) to 69.2% in 2017. Simultaneously, the share of the adult population who agree that high-ranking status is arguably dependent on successful entrepreneurs generally expanded over the years between 2003 to 2017. The respective share significantly improved by 26% from 48% in 2003 to 74% in 2017, despite variations in the share that happened over the years of the sample timeframe under analysis.

As indicated in Figure 3.13 below, the share of the population who are latent organisation owners and in establishing a business within the first three years significantly varied from

a low of 3.6% in 2002 to a high of approximately 16% in 2010. The respective share arguably decreased from 14.2% in 2011 to 11.7% in 2017.

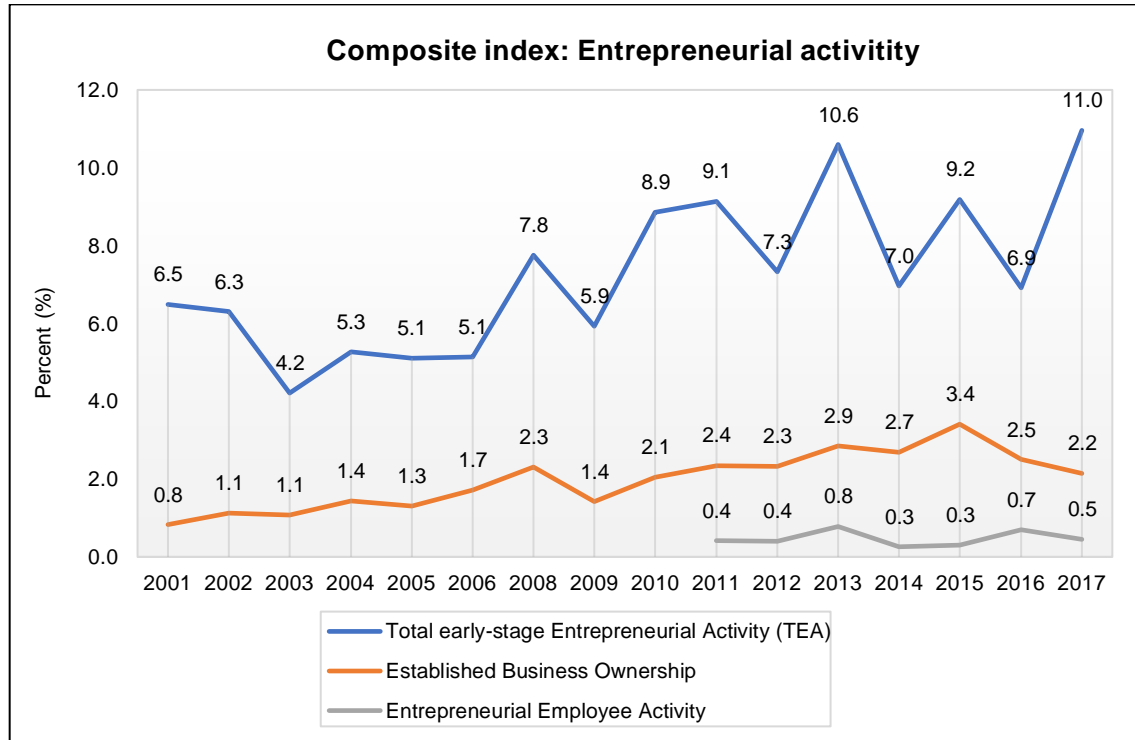


Figure 3.13: Entrepreneurial activity indicator trends

Source: Herrington *et al.* (2017)

The share of those who saw entrepreneurial intentions remained largely less over the years concerning perceived abilities and opportunities. Regardless of significant variations, the rates of fear of organisation failure have been largely on a declining pattern from 36.2% in 2001 to 25.4% in 2014 and raised to 30.3% in 2015 and marginally to 31.3% in 2017. Considerable increases happened in the rate of observable opportunities from 13.5% in 2002 to 43.2% in 2017, therefore a 29.5% improvement over the stated timeframe. Average variation happened in the rate of perceived abilities, which averagely increased from 30.9% in 2001 to 39.9% in 2017. Generally, the rate of perceived entrepreneurial abilities was

higher between 2009 and 2015, whereas the rate of perceived opportunities was the 2<sup>nd</sup> in ranking in 2017.

Depending on the conceptual structure of the GEM, entrepreneurial activity is estimated with the help of three indicators, which include: total early-stage entrepreneurial activity (TEA) relative to the established businesses (EB) among the participants/subjects and entrepreneurial employee activity (EEA). That said, Figure 3.13 indicated the patterns on total early-stage entrepreneurial activity and relative of established businesses between 2001 and 2017, and equally entrepreneurial employee activity between 2011 and 2017.

Figure 3.14 indicates the rate of total-early-stage entrepreneurial activity has been on the rise, regardless of significant variations observed. With the whole sample timeframe 2001 to 2011, the rates of TEA varied between a low of 4.2% in 2003 and a high of 11.0% in 2017.

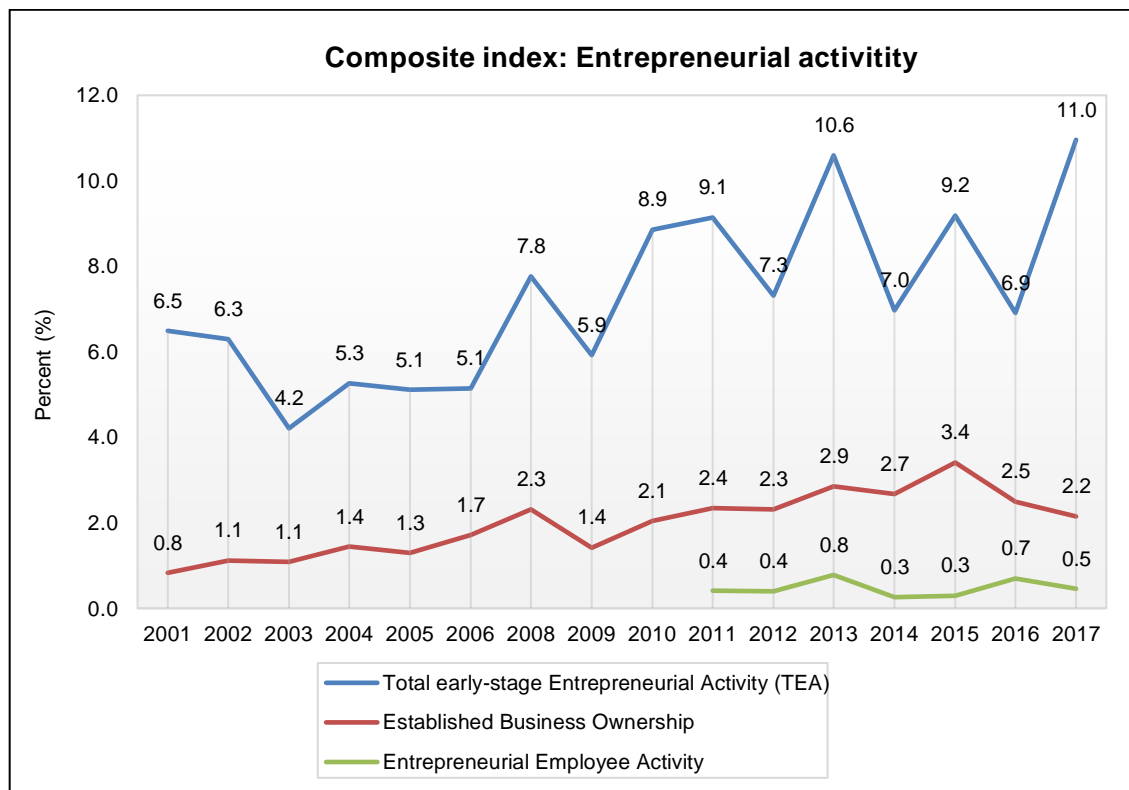


Figure 3.14: Entrepreneurial activity indicator trends

Source: Herrington *et al.* (2017)

Throughout the time under analysis, the TEA rate constantly remained about twice above the rate of organisations' executives. The rate of developed organisations has generally been on a rising pattern between 2001 and 2015, ranging from a low of 0.8% in 2001 to a high of approximately 3.4%, 2.5%, and 2.3% in the subsequent years. The entrepreneurial employee activity is essential when it comes to sustainable business, given that it introduces innovative products and the establishment of new businesses (Global Entrepreneurship Research Association, 2018). Besides, the EEA rates have been very low and have varied from 2014 and 2015, 0.3% and 0.8% respectively.

Herrington *et al* 2017 in the GEM Report (2016/2017) depicts an alarming picture of the rate of business continuation in South Africa. The investment in entrepreneurship in South Africa appears not to be producing any significant results. Based on the GEM Adult

Population Survey, South Africans generally have a positive attitude towards entrepreneurship. Some 72.6% of South African adults in 2016 regarded entrepreneurship as a good career choice. Despite the evidence of positive attitudes towards entrepreneurship, only 35.0% of South African adults in 2016 perceived good entrepreneurial opportunities in their area. Furthermore, the Total Early-stage Entrepreneurial Activity (TEA) rate for South Africa for 2016 is 6.9% (Herrington, Kew and Mwanga 2017). This is a 25% drop in the 2015 figures for the country. The current TEA rate places South Africa 46th out of the 65 countries participating in the research in 2017. According to Cassim (2018:171-191) relative to South Africa's GDP per capita, the country's TEA rate should be in the order of 20% -nearly 3 times the current rate. In addition, the high discontinuance rate and the low levels of established business rates suggest that any gains from new enterprises are cancelled by exits as reported in the GEM Report 2016/2017.

According to the GEM Report (2016/2017), the established business rate in South Africa has shown a steady decline in recent years. In 2016, 2.5% of entrepreneurs owned established businesses. This reflected a 23% decline from 2015 and the lowest rate since 2011 (Herrington *et al.* 2017). This implies that early-stage entrepreneurs face serious problems with sustaining their start-ups resulting in the ownership of fewer established businesses and a high level of business discontinuance. The rate of business discontinuance is an important indicator of the sustainability of entrepreneurship in an economy. The GEM Report (2016/2017) shows that the business discontinuance rate among South African businesses is markedly greater than the established business rate. Two-third of businesses in 2016 (67%) closed due to financial reasons because they were not profitable or they encountered a problem in accessing financing to sustain the business (Herrington *et al.* 2017).

## Global Entrepreneurship Index

The Global Entrepreneurship Index (GEI) yearly estimated by GEDI, is annual indexes that estimate the general health and dynamics of the entrepreneurship environment of a nation at both domestic and international level. The index lists the performance of each of the assessed countries and offers a clear picture of how each country performs locally and across the globe. The technique, adopted by the European Commission, gathers information of entrepreneurial attitude, capabilities, and well as desires of each nation's citizens, and assesses such information against the existing social and economic infrastructure. There exist 14 elements/pillars that have been drivers of health and quality standards within the entrepreneurial environment. The pillar and what they estimate are shown in Table 3.3.

Component	What the pillar estimates
P1 – Opportunity perception	The population's capability to examine opportunities to begin an organisation and whether the surrounding factors make it possible to act on such opportunities.
P2 – Start-up skills	Whether the population knows necessary to commencing an organisation based on their perceptions and existing tertiary education.
P3 – Risk acceptance	People are willing to take the risk of beginning an organisation/business organisation, based on whether the surrounding has a relatively low risk and whether unstable businesses add additional risk to organisation establishments.
P4 – Networking	Entrepreneurs' skills of each other and the geographical concentration of their frameworks.
P5 – Cultural support	How the nation sees entrepreneurship and the ease to select entrepreneurship, and whether corruption makes entrepreneurship challenging relative to other career networks.

P6- Opportunity perception	Business owners' motivation by opportunity rather than a necessity, and whether the existing authority chooses to be an organisation owner is easy.
P7- Technology absorption	Whether the technology industry is big enough and organisation capacity to quickly adjust to the new technology.
P8 – Human capital	Entrepreneurs' knowledge and skills in organisation and the capability to move freely in the labour market.
P9 – Competition	Creation of unique items and services, the capability to enter the market with such items and services.
P10 – Product innovation	Nation's ability to come up with new items and combine new technology.
P11 – Process innovation	The degree to which businesses employ new technology and businesses' capability to have access to high-quality human capital in STEM frameworks.
P12 – High growth	Organizations' intention to develop and have the strategic capacity to attain the projected growth levels.
P13 – Internationalisation	Entrepreneurs' desires to enter international markets and how complex the economy is to generate concepts that are valuable internationally.
P14 – Risk capital	Capital existing from both personal and institutional investors.

Table 3.3: Components of entrepreneurship system

Source: Global Entrepreneurship and Development Institute (2018)

According to the 2018 edition of the (GEI) report, South Africa was internationally listed in 57<sup>th</sup> position out of the possible 137 nations that were examined. It has been demonstrated that in Sub-Saharan Africa, South Africa and Botswana have indicated a potential for considerable growth and development in entrepreneurial environments. Most importantly, the 14 pillars of entrepreneurial dynamics of the organisation rate of GEI defined in Table 3.3 summarise various dynamics involved in market entry, which includes but is not limited to entry rate and job opportunities.

The 2018 GEI for South Africa is described in Figures 3.15 and shows the general GEI score and individual score for various entrepreneurial attributes of individuals in the entrepreneurial environment, and the quality of institutions which does support them.

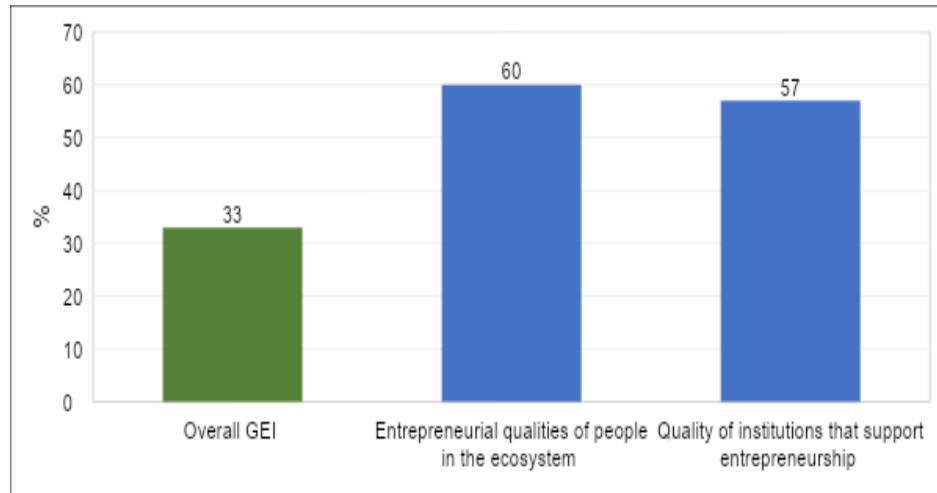


Figure 3.15: Overall GEI score and scores for entrepreneurial attributes and quality of institutions during 2018

Source: Global Entrepreneurship and Development Institute (2018)

As per Figure 3.16, South Africa was ranked 57<sup>th</sup> and an overall score of 33% by the end of 2018. Entrepreneurial attributes of individuals in the environment had a score of approximately 60 and attributes of the institutions that promote entrepreneurship in the nation had a score of 57%.



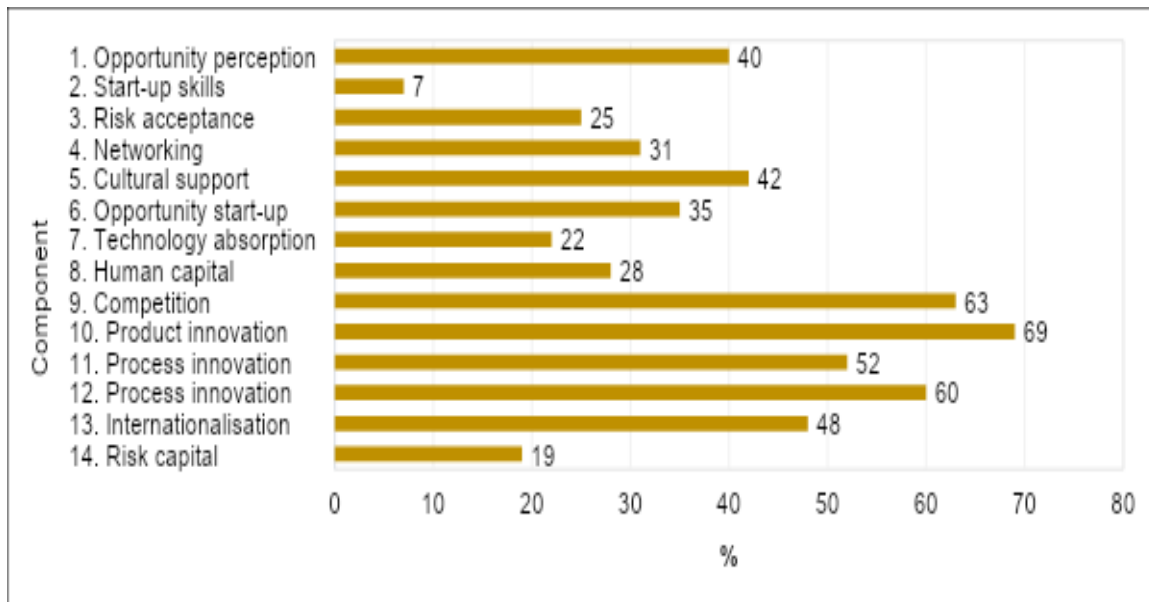


Figure 3.16: GEI scores for individual components of the entrepreneurial system during 2018

Source: Global Entrepreneurship and Development Institute (2018)

Data collected by the Global Entrepreneurship Index found that opportunity perception in South Africa had risen to 40% in 2018. The low perception of good entrepreneurial opportunities affects overall entrepreneurial intentions. South Africa shows a persistent trend of low entrepreneurial intention. Very few people show the intention to start a business, only 10.1% of South African adults in 2016 had entrepreneurial intentions. This is significantly lower than for the African region as a whole which averages at 41.6%. The data collected by the GEM seems to indicate that the entrepreneurial ecosystem fails to encourage entrepreneurial intention although a large percentage of South Africans have a strongly positive attitude towards entrepreneurship.

### **3.6 Challenges in the South African entrepreneurial system**

According to Spilling (1996:91-103), the entrepreneurial system comprises of several interactions of actors, roles, and diverse activities; the communications and interactions; such interaction influences the short- and long-term performance of start-up businesses. To address emerging issues in the entrepreneurial system and development, there is a need for entrepreneurs to balance between the several actions and understand how to access the existing information. The launch of a new business occurs within the structure of the social, political, and economic frameworks, which typically influence its operations and progress. To improve the opportunities and equally overcome the problems presented by the structural challenges, Dada and Watson (2013) emphasise the importance of the entrepreneurs having a long-term perspective and equally planning for the prospects and the various environmental aspects that affect the stability of the business organisation. To comprehensively understand the entrepreneurial ecosystem, it is essential to acknowledge the existing policy model and problems within such a system, including environmental factors.

The South African government has been incapable of solving socio-economic issues such as the high youth unemployment and reduction of poverty levels given the existing barriers which impede entrepreneurship development (Statistics South Africa, 2020). According to Pooe, Mafini, and Makhubele (2015: 67-78), the South African government after attaining democracy, has been implementing changes to address the socio-economic imbalances which were because of years of apartheid. Agbenyegah (2013) argues that the South African economy could not develop enough employment opportunities, as indicated by the rising unemployment rates.

Entrepreneurship serves an important role in economic growth and development in South Africa. The relevance of entrepreneurship has made the South African government appreciate the crucial role of entrepreneurship in economic progress and development. To attain this, the government has acknowledged the relevance and advantages of offering an

enabling environment for SMMEs to grow and create employment. This resulted in the establishment of several policies and programmes to encourage entrepreneurship, grow the ecosystems and enhance entrepreneurial thought-processes beginning at the educational level (Khan 2014). The elaborate efforts initiated by the government have resulted in the development of key programmes and support plans which include the regulations to help and offer the necessary support to improve SMMEs' s profitability and sustainability.

This section discusses several challenges faced by entrepreneurs in South Africa posed by both external (macro-economic) and internal factors (micro-economic). In their study, Bruwer and Van den Berg (2017:1-12) concluded that the South African economic environment has been adversely influenced by a range of both macro and micro economic factors which ultimately affect the growth and sustainability of SMEs in South Africa.

### **3.6.1 External environmental elements**

The external environment plays a significant role in SA SMMEs. The external environmental factors are significant determinants of an environment conducive to SMME development and sustainable growth. Research and studies have indicated that most SMMEs are often faced with several challenges ranging from environmental, legislation, competitive markets, inadequate funding, uncertainty, and inadequacy in supply chain network systems (Jaiswal 2014:101-112).

#### **3.6.1.1 Globalisation**

Small businesses cannot regard themselves to be purely local businesses in the international competitive system. For businesses across the universe, being international is a major need (Scarborough, Wilson and Zimmerer 2009:9). Failure to acclimatise to the international markets may be very costly for the current organisations, irrespective of their size. In the modern world, small businesses must compete effectively in the international market. To

be successful, an organisation needs to think beyond the local business and aim to operate in other nations - which could be difficult for small businesses (Scarborough *et al.* 2009:9).

#### **3.6.1.2 Macroeconomic factors**

Macroeconomic factors are identified as a major issue affecting the operations of SMMEs in South Africa. Some of these factors include inflation rates, and unemployment levels among others (Van Eeden, Viviers and Venter 2003:13-23). South African economy is characterised by relatively weak and higher inflation rate levels, and global recessions are perhaps the reason behind the nation's slow economic growth (Maswanganyi 2014).

#### **3.6.1.3 Business regulation**

Monitoring the underlying and regulatory requirements across the various departments and levels of government and inadequacies in government departments result in entrepreneurs spending a considerable amount of time working on regulatory requirements (Statistics South Africa 2020). Musara and Gwaindepi (2014:109-112) argue that business policies are an essential element, but could have a negative impact on the creation and growth of businesses due to their complex nature. SMMEs cannot attain their objectives given complex barriers such as red tape and higher taxation. Research undertaken by Abor and Quartey (2010:215-228) on the business regulatory environment affecting the entrepreneurship activities in South Africa, showed that approximately 80% of new entrepreneurs acknowledged that corruption and bureaucracy are major factors affecting business. Zwane (2009) noted that the cost of establishing businesses in South Africa is costly compared to other nations across the world. Besides the high licensing fees and long registration process, most businesses in South Africa are burdened. Compliance with government regulations and policies is quite a burden to small businesses unlike established businesses, and such policies are barriers to the creation of business and the formation of job opportunities (Abor and Quartey 2010). Notably, the high cost of start-up, comprising

licencing and registration requirements, has a negative burden on the small business (Kamara 2017; Abor and Quartey 2010:215-228).

South Africa's country rating in terms of government regulations indicates that instead of encouraging entrepreneurial activity, the government is a barrier to the development of SMMEs in the country. This comes as a disappointment given that the government has been at the forefront in recognising the role that SMMEs play in economic growth and development, especially for the creation of job opportunities. From the analysis, the government initiatives and strategies do not support SMMEs.

#### **3.6.1.4 Accessible markets**

Access to markets is vital for business development and growth. Market access provides clients ready and more than willing to purchase the items that are crucial for any company that is planning to make profits. Markets comprise both domestic and foreign clients. The domestic market is composed of the public, SMMEs, and established businesses. As a result, most businesses are required to access local and international markets to sell their products/items. Getting into the markets is one impediment that affects 25% of the growth and development of SMMEs in South Africa ( Musara and Gwaindepi 2014:109-112; Van Scheers 2011: 5048-5056.).

Nieman (2006) established that marketing skills allow entrepreneurs to attract clients and offer them the necessary expertise on how to present the items or services that are more likely to attract potential customers. The reasons that SMMEs find it challenging to access both the local and international markets are: failure to meet the needed industry policies and standards, inability to access necessary credit and tools to enhance product quality and make the items more competitive within the market as far as exploiting of market opportunities are concerned (SEDA 2012). Competition from established businesses also affect SMMEs negatively.

### **3.6.1.5 Criminal activities and corruption**

Corruption is another element that is negatively affecting the growth and development of SMMEs in the country. According to the Transparency International Global Report, corruption is the abuse of authority for self-gains. Corruption both in the public and private sectors is on the rise in South Africa. The rise of corruption cases among the SMMEs in South Africa is because of challenges in regulatory frameworks and levels of bureaucracy (Jasra *et al.* 2011:274-280.). Fatoki (2014:270-274) noted that corruption raises operational costs and decreases business competitiveness, and the result is lower sales. It also prevents other businesses from gaining access to the existing markets and a barrier to growth and development. It results in huge financial losses among businesses.

The previous sections discussed some external challenges encountered by SMMEs towards their development such as globalisation, stringent regulation, lack of markets, criminal activities, and corruption which impend SMMEs sustainability and success. This section continues to look at some of the internal challenges affecting SMMEs growth and decision-making in South Africa.

### **3.6.2 Internal environmental factors**

Volcheck, Henttonen, and Edelmann (2013:1-34) noted that South African businesses are characterised by high borrowing rates, complexity in taxes, and high bureaucracy levels.

#### **3.6.2.1 Availability and access to financing**

Other than stringent regulations, getting the necessary access to finance from organisations has been identified as a serious challenge by SMMEs (Booyens 2011:67-78). Entrepreneurs who operate small businesses/companies usually cite that they cannot access loans and credit because of lower collateral and higher debt-to-equity standards. Most entrepreneurs note that access to finance is quite challenging, due to the lengthy processes and procedures

involved in getting a loan. Funds are not readily available to business owners, and much of the capital is relatively expensive. This bottleneck impedes the business entities and companies. Given that they cannot access the finances to boost their business, most entrepreneurs may opt out of the business. SMMEs need finances to undertake their day-to-day activities; however, the problem of SMMEs getting access to funds negatively affect their survival rates in South Africa. SMMEs' failure to develop a business proposal that can attract potential banking institutions, is a challenge in accessing local and international markets.

### **3.6.2.2 Conducive culture and social environment**

Mentoring is important for entrepreneurs and small business owners to develop sustainable businesses that create jobs (Herrington and Kew 2015; Botha and Esterhuyzen 2012:12101-12113). The unavailability of qualified mentors within the ecosystem is perhaps one of the network bottlenecks, followed by structural inequality. Most entrepreneurs do not have the required skills and expertise to formulate and employ networks of other business owners. It has been established that there has been enhanced access to several support networks by South African business owners. They comprise business incubators, mentorship programmes/initiatives, entrepreneurial sessions, and corporate interactions and engagements with the start-up business. The above-mentioned support framework is an encouragement to entrepreneurial activities, especially in terms of business incubators, as they are regarded by local entrepreneurs as the most crucial mechanism for improving future entrepreneurs in South Africa. Characteristics of network-linked components of coordinated support like clubs, groupings, and small business management, in which only a few entrepreneurs acknowledged improvements, are equally not promising at all (TWB 2013). Botha and Esterhuyzen (2012:12101-12113) suggest using keen, skilled small business owners as mentors to increase the existing number of mentors that can help emerging entrepreneurs to grow successful businesses.

### **3.6.2.3 Support systems**

The other crucial factor is that a progressive entrepreneurship system is linked to appropriate support systems. Despite the government's commitment to improving small business entities, the awareness and adoption of support services have been relatively low (Finmark 2010). From the analysis of the 2010 Small Business Survey, many of the entrepreneurs (about 70%) did not recognise the existing support businesses. The uppermost BSM segments seemed to know the existence of support businesses compared to the fewer segments. Awareness for BSM 7 was approximately 70%, BSM 6 was about 56% and BSM 5 was about 38%. High levels of awareness were seen in the Free State (64%), Gauteng (61%), Western Cape (60%) and Northern Cape (57%). For those SMMEs who know the existence of support programmes, the majority do not understand how the programmes work, which shows inadequate advertisements (Mago and Toro 2013:19-28).

### **3.6.2.4 Business Incubation**

Business incubation is a mechanism to assist entrepreneurs in the early phase of their business development and growth by offering them a suitable environment. Through this process, these business organisations are in a better position to decrease the general costs associated with starting a business. Ideally, the process assists entrepreneurs to bring their concepts to the markets. Many nations have fully developed incubators, as a solution for the less-advantaged that small businesses and start-ups experience (Aggarwal 2014:74-78.). Moos (2014) examined business mentors and business incubators as prospects of various organisational support services which could assist entrepreneurs to establish and function progressively in a sustainable business environment. Researchers have acknowledged that government intervention programmes were inefficient, thanks to the poor management framework, implementation policies, and lack of monitoring (Herrington Kew, Simrie and Turton 2011).



### **3.6.2.5 Human capital**

The management skills necessary for business growth, focus on the implementation of employee and labour regulations and initiatives, necessary for the growth of their businesses and the consequent changing of these regulations into a managerial function. Business management skills such as financial management and advertising skills play a key role in advancing business development and growth particularly in small businesses (Dobbs and Hamilton 2007:296-322; Nkosi 2013; Kusi, Opata and Narh 2015).

Oyelana and Fiseha (2014) in their research on the effects of SMMEs on the socio-economic development of Alice in the Eastern Cape, noted managerial skills like financial human resources, were not available in most SMMEs. Similar observations were reported by Musara and Gwaindepi (2014:109-112) who investigated the factors affecting entrepreneurial activity in South Africa. Abor and Quartey (2010:215-228) notes that although SMMEs attract motivated executives, they rarely compete with established companies, this regardless of the various government and private sector institutions offering various capacity-building and training programmes.

### **3.6.2.6 Education and training**

No business can grow without the skills and training. Business training allows entrepreneurs to adopt effective approaches that could ensure their survival. A healthy ecosystem improves entrepreneurial activities. Egelsner and Rena (2013) argue that a business owner's educational level affects the success of their businesses. It has been established that there is a positive relationship between the early phase of business operation and the educational levels achieved (Turton and Herrington 2012). South Africa's weak education system is a major concern to the development of entrepreneurial activities. The latest report from the WEF Global Competitiveness, the South African education system, is insufficient for harnessing entrepreneurial skills. This is perhaps one of the most challenging issues as far as entrepreneurial activities are concerned. South Africa ranked

132nd for quality primary education and 143rd for science and mathematics-related education (WEF 2019).

### **3.6.2.7 SMME support programmes**

SMMEs have always been considered essential for job opportunities and economic growth; they are the main catalyst of any nation's economy. The World Bank (2013) considers the sector, as significant in the general economy. Dalberg (2011) argues that the economic growth of most developing countries is attributed to the progress of SMMEs. The South African government has focussed on the SMMEs via institutional and government support strategies like the White Paper on National Strategy on the Development and Promotion of Small Business in South Africa in 1995.

Further studies and evidence show the importance of SMMEs for national economic development and planning. Under the New Growth Path, the main guiding economic initiative and policy report of the Department of Trade and Industry (DTI), the local economic development government ministry charged with improving the economy and with a role in business development, continued focus is required to ensure the effectiveness of the SMMEs for the overall economy. Within the National Development Plan (NDP), which provides the vision for 2031, a focus on the relevance and importance of advancing the SMMEs economy is reorganised (National Planning Commission 2011). Typically, regarding Vision 2030, the NDP has established an aspiring target of producing approximately 10 million new employment opportunities in South Africa, out of which 90% are estimated to be formed within the SMME economy. Oosthuizen (2010) argues that the private and public sectors have been involved intensively in several initiatives which are important for entrepreneurial activities. While there is a rising consensus concerning the importance of entrepreneurship to progressive economies, desired outcomes of these strategies have not been attained.

Some notable support and funding programmes for SMMEs in South Africa include Khula Business Finance, Ntsika Business Promotion Agency, and SEDA, among others. Ntsika Business Promotion Agency helps develop the business services, and Khula business provides the necessary funding for businesses. Typically, the other support programmes are as follows: The Centre for Small Business Development (CSBD), SEDA, the Industrial Development Corporation (IDC), the National Empowerment Fund, National Youth Development Agency (YDA), the Umsombovu Youth Fund (UYF), and the South African Microfinance Apex Fund. The inadequate sustainability of businesses in South Africa when linked to other nations in the GEM sample also indicates the requirement for policy initiatives geared towards improving and equally encouraging entrepreneurs through mentorship programmes/initiatives (Herrington, Reeves and Oliver 2014). It may trail these problems to lower levels of business-related knowledge, and innovation, among others. Other aspects are lack of education because of challenges within the education system and over-traded industries dominated by low-profit margin business organisations, amidst other challenges.

In summary, bottlenecks in the South African ecosystem have been explored. These include external and internal factors that impend on the SMME development and sustainability in South Africa. An underlined impact of the bottlenecks is that it is difficult to start and sustain a business in South Africa. The South African economy has remained at a standstill, making it challenging for entrepreneurs to sustain their businesses.

Inadequate capital and available finance limit the growth and development of business and equally deters others from establishing other businesses. As a result, entrepreneurs will look out for measures to get finance, including the sale of their properties/assets and loans. The stressed state of the economy prevents investors from offering necessary financial assistance to SMMEs. The traditional approaches employed by suppliers, financiers, and incubators do not take into consideration the requirements for each given business organisation. The other effect of the bottleneck is business failure. The global recession and inadequate finance make it challenging for companies to operate. The inadequate

entrepreneurial preparations in universities will lead to the failure of most businesses, because of a lack of skills and knowledge. Equally, they have limited skills of the effective channels to use when operating a business organisation.

The other factor is that few people consider starting a business that is heavily dependent on the government. Besides, there is vast stress to import items that SMMEs can produce locally. Creativity suffers in this environment and keeps entrepreneurs from attaining high growth for their companies. Inadequate infrastructure limits the growth, development, and progress of new businesses and decreases the creativity levels attained in the economy.

### **3.7 Chapter summary**

The chapter addressed the second objective of the study and evaluates how the leadership challenges and complexities interact with each other in an entrepreneurial ecosystem. Traditional entrepreneurship literature has focused heavily on the economic function of an entrepreneur, while little attention has been spent on studying the systemic nature of entrepreneurship. Entrepreneurship research has tended to neglect the role of context in promoting or hindering entrepreneurship. The contextual approach to entrepreneurship promotes the understanding of entrepreneurship in broader settings, such as their regional, temporal and social contexts, focusing on the systemic nature of entrepreneurial activity.

Additionally, the ecosystem approach reveals that interactions among different actors can influence entrepreneurial dynamics and how entrepreneurial dynamics can be governed. As such, entrepreneurial ecosystems are evolving, socially interactive and non-linear systems and is considered as a system that is complex, dynamic and adaptive. Identifying and understanding the main sub-systems of an entrepreneurial system and, accordingly, studying their interactions, is potentially a promising avenue for policy makers.

An examination of the general state of entrepreneurship reveals that despite the efforts of the South African government to stimulate entrepreneurial opportunities through policies,

strategies, and programmes, many SMMEs remain unsustainable. Between 70% to 80% of South African SMMEs are believed to fail within a period of 42 months after starting operations. This reflects South Africa as one of the countries with the highest SMME failure rate in the world. In addition, South Africa shows a persistent trend of low entrepreneurial intention and very few people show the intention to start a businesses, only 10.1% of South African adults in 2016 had entrepreneurial intentions. This is significantly lower than for the African region as a whole. All these factors paint a bleak picture of the SMME sector's potential to contribute meaningfully to economic growth, job creation, and poverty reduction.

Several internal and external factors contribute to the high failure rate of SMMEs in South Africa. The pressing ones are limited access to finance, limited access to markets, managerial and leadership skills, and an unfavourable business climate with the stringent regulatory framework. The competitiveness is being held back by relatively low business dynamism which is inhibited by administrative burdens to start a business, insolvency regulation, and a persistently insufficient labour market flexibility.

If South Africa must address these challenges, it needs a sound systematic framework that could effectively consider intricacies both in the internal and external environments of SMMEs and strategies that would assist entrepreneurs to operate their businesses under complex and dynamic conditions within entrepreneurial systems. Thus, to address this gap, this study aims to explore a holistic systematic entrepreneurial leadership approach that takes into consideration the complexity of both the internal and external contexts of SMMEs by subscribing to the systems thinking view. The following chapter discusses holistic systems thinking methodologies to improve entrepreneurial leadership skills/processes and, as a result, better detect possible crisis symptoms and weak signals of systematic change emanating from the entrepreneurial system, with the aim of enabling entrepreneurs to adapt to the challenges they are faced with.

## **Chapter Four - Modelling Entrepreneurial Systems**

### **4.1 Introduction**

The previous chapter identified the factors and the major challenges that affect SMMEs' sustainability within the entrepreneurial context in South Africa. This chapter provides an in-depth analysis of the literature related to systems thinking and systems dynamics modelling approaches, providing context for objective 3. The chapter comprises three sections. Section A unpacks the discussion on the nature and description of the system while highlighting its characteristics including purposefulness, openness, duality, and unpredictability. Section B describes the history of scientific query explaining the inherent complexity of the system. Section C emphasises the systems approach for scientific inquiry. The section also describes the rationale, background, and contemporary modelling approaches employed for modelling the entrepreneurial system.

The SMME sector continues to be plagued by relatively high failure rates and poor performance levels caused by the highly complex and dynamic business environment. If a business is to achieve its desired outcomes and be sustainable in the long term, the dynamic complexity of the business environment has to be successfully understood and addressed.

The complexity of the business environment is not only due to multi-stakeholder involvement, but also caused by the challenges from accelerating economic, technological, social, and environmental change, that require business managers to be equipped with systems thinking skills to effectively address these dynamic complexities. Effective business decision-making and learning in a world of growing dynamic complexity, requires entrepreneurs to be equipped with systems thinking skills to understand how the structure of complex systems creates their behaviour.

Due to the increasing turbulence and dynamic complexity that characterise today's competitive arenas, such systems need to be combined with systems thinking methodologies to improve entrepreneurial learning processes and, as a result, better detect

possible crisis symptoms and weak signals of systematic change emanating from the entrepreneurial system.

Conventional approaches to leadership and leadership development in entrepreneurial systems, founded on simple linear and reductionist, traditional paradigms, are inadequate in dealing with the uncertainties, complexities, and dynamics inherent in entrepreneurial systems. An alternative theory and method are needed if entrepreneurship is to be understood as a complex, dynamic, and non-linear phenomenon. It is clear from the previous chapter discussion that entrepreneurship is an important and positive organisational phenomenon in a competitive economy, but that classical theorising has failed to explain the process of entrepreneurship. Building from this foundation, this study aims to provide an alternative way of understanding the process of entrepreneurship within its various contexts; an alternative ontology and epistemology call for an equally alternative method of analysis. Greer (2010) and Bushe (2019) cite that most entrepreneurs do not possess systems thinking skills. This is simply because the conventional education system focuses on teaching the traditional thinking skills of linear methods. This need for systems thinking and the recognition of its use provided the inspiration and motivation to design a framework to deliver systems thinking knowledge and skills specifically targeting small business managers. Therefore, this study aims to show how systems thinking and system dynamics modelling can effectively lead to better results in terms of entrepreneurial leadership development. As a result, a systems dynamic approach will be illustrated and discussed, also through an empirical application to real SMMEs.

The chapter comprises three sections. Section A entails the discussion on the nature and description of the system while highlighting its characteristics including purposefulness, openness, duality, and unpredictability. The second section, Section B describes the history of scientific query explaining the inherent complexity of the system. Section C emphasises the systems approach for scientific inquiry. The section also describes the rationale, background, and contemporary modelling approaches employed for modelling the entrepreneurial system.

## **4.2 Section A: Description of systems**

There are several descriptions of a system. Voinov (2008:197-207) argues that a system is an integrated part that interacts and generates some newly established phenomena, as a result of other interactions of the processes. Rousseau (2014:146-159) notes that a system is made of components and interactions between the components with other's systems, forming a dynamic system (Rousseau 2014:146-159). Each of the systems comprises several interrelating parts which allow the system to function (Barlas 2007:1-29.). From a dynamic perspective, Walker, Carpenter, Rockstrom, Crépin and Peterson (2012) describe that the system contains variables that interact with each other. Therefore, within system analysis, the focus is on the interaction pattern between the system elements, rather than the individual parts, and examining them distinctively emphasising interactions, linkages, and relationships among them (Rousseau 2014:146-159; Darnhofer and Gibbon 2012).

The vital features of a system include systems parts and components, their interactions, and the innovation generated from the interactions. The parts of the interrelating and co-dependent components are linked by energy, matter, and information exchanges (Voinov 2008:197-207; Barlas 2007:1-29; Costanza 1996). Proust and Newell (2006) argue that to optimise the system's performance, it is essential to optimise the patterns of communication. The system thinkers follow specific principles that build the building structures of the system consisting of the mental models (Gharajedaghi 2011).

Figure 4.1 shows the adaptation of the model's vital themes, aspects, and theories of systems discussed within the literature.



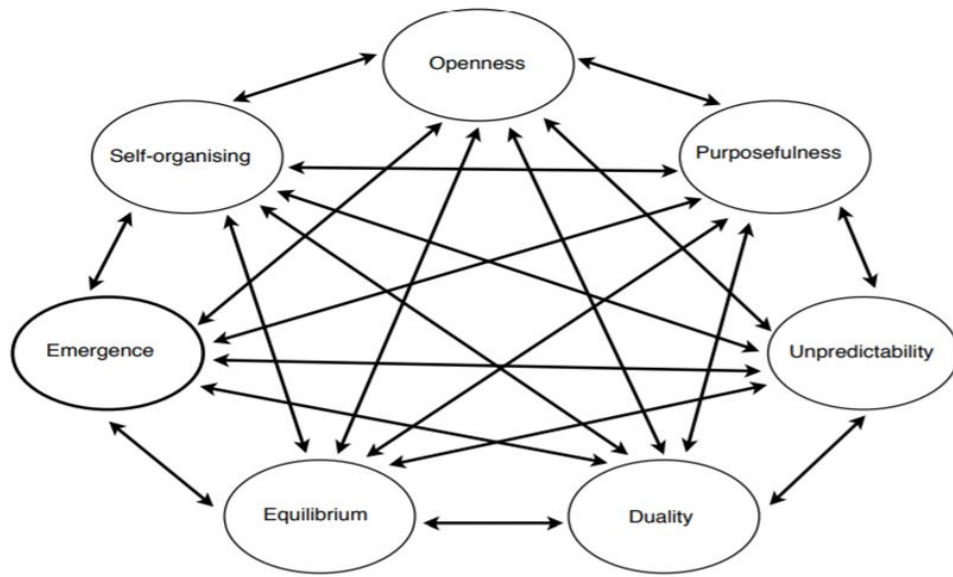


Figure 4.1 Model incorporating the key themes, concepts, and principles of systems theory  
Adapted from Gharajedaghi (2011)

#### 4.2.1 Systems are purposeful

Systems are purposeful. The purpose brings the question of understanding and sharing of knowledge to another level. Purposeful systems are the systems that follow the already established values (Gharajedaghi 2011). The author notes that purposeful behaviour tries to attain and maintain these values. These values are established within the culture of the network and the principal actors on most occasions, do not acknowledge the choice.

#### 4.2.2 Systems are open

Von Bertalanffy in Friedman and Allen (2011:3-20) differentiated between open-and-closed systems and showed that living creatures are open systems. Comparing an open system to a closed system: an open system interacts with the environment, while the closed system is segregated from its environment (Friedman and Allen 2011:3-20). Henning (2014) explained that the organisation could be viewed as an open system, meaning that

they can adapt to the environment and equally survive. On most occasions, the open systems are accustomed to continual flow and change (Capra 1997). The open systems are often viewed as a self-regulated, structural model which comprises several parts which interact with each other to acclimatise to environmental adjustments (Henning 2014).

To this point, the researchers conclude that when organisations are open systems, they interact with several parts of the greater system which includes but is not limited to clients, suppliers, socio-economic and political factors. An organisation is required to adapt to the adjustments and be open to new concepts that enter within its system to survive. New concepts entering a business will formulate an off-balance scenario that the businesses/companies may adapt.

Arguably, boundaries determine the guidelines of the system transactional environment. Balance-keeping within the boundary permeability handles the survival of the system. The capability of the system to adapt is vital for understanding the sustainability part of a particular system. As such, the open systems are known as complex adaptive systems. In complex adaptive systems, there are huge agents which interact with each other. Every agent and or actor follows the specific principle of interactions and not a single component acts alone and or outside the environment of the system. The trends produced by systems are a summary of all the interactions between the agents and the environment itself (Stacey, Griffin and Shaw 2000).

Trying to undertake an analysis of the system needs an understanding of the various factors that affect the different variables within the system, providing the transactional environment. In the organisational systems, the main stakeholders could include clients, suppliers, and shareholders. Gharajedaghi (2011) summarises that dynamics linked to the boundaries and interactions in an open system are often initiated by the internal codes of conduct, which comprises cultural descriptions.

### **4.2.3 Equilibrium in open systems**

In an attempt for an open system to utilise its capability to self-organise and formulate new structures and meaning, the system is required to operate off-balance. Unlike open systems, closed systems are continuously open and dynamic. In businesses and or companies, closed systems are examinable as systems where only concepts and information that support and equally preserve the policies and processes and items are entertained. Foreign items are normally not allowed within the systems. These systems are often kept at equilibrium and consequently, lose their capability to acclimatise to the slight changes within the environment. Byrne (1998:30) sees dissipative systems that operate far from the point of equilibrium and differentiate them from near to equilibrium systems. Close to equilibrium systems are neither wholly static nor isolated from the environment.

Henning (2014) suggests a three-state triangle model to present the three dynamics that are quite inherent to all the living creatures. The author explores the condition as a stable equilibrium (SE), explosive instability (Ei), and bounded instability (Bi) (as shown in Figure 4.2). Stable equilibrium occurs whenever a system gets a negative feedback loop, and the system has immense negative feedback loops. According to Henning (2014), whenever a system is functioning properly, there is a higher possibility that it will attain the dynamic equilibrium, in what is commonly referred to as a steady state.

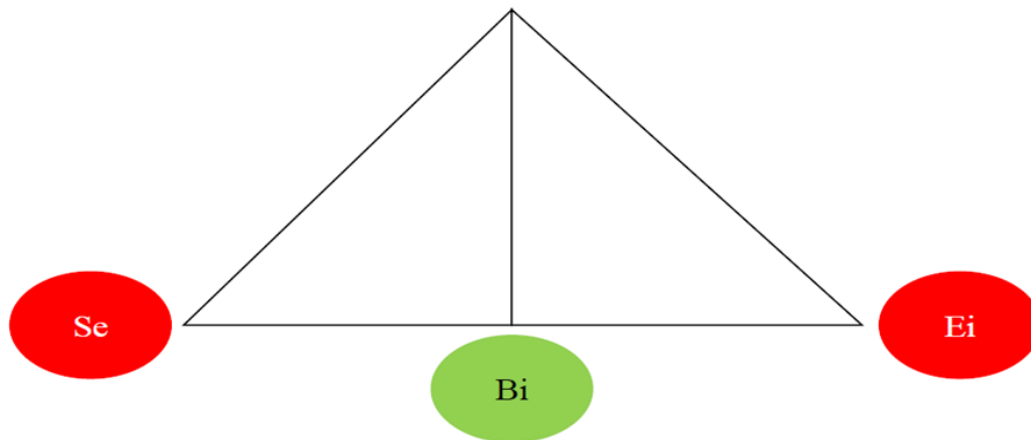


Figure 4.2 The three-state triangle model

Source: Henning (2014)

It has been established that there are differences between explosive instability and stable equilibrium, and it emerges that the two aspects function in a completely different mechanism. An organisation in this state does not have a clear structural framework, even though there are several strategic concepts. No clear implementation of these concepts is being undertaken, and there is no significant effect on the business operations. A result of the system functioning in this state is that the slightest change in the system can have a big impact on the entire system. Whenever negative feedback loops are unavailable and thus incapable to provide counter-resistance to the entire system, a further result is that they may eventually be explosive.

The last state of equilibrium is commonly referred to as bounded instability (BI). This is an ideal state for a system to operate and comprises both equilibrium and instability. The system is bound in a state that is unstable within limits. The conflicts that are formed by the two conflicting forces (stability and instability) competing for space within the system are the products of Bi. Bi is the ideal state for any organisation/company, because of the existence of unstable (disequilibrium) within limits. An organisation in this condition changes constantly, and as a result is more competitive than the other established

organisations (Henning 2014). Arguably, the system needs to be unstable within its boundaries for it to get the feedback and make the necessary changes.

#### **4.2.4 Synergy and emergency**

Several scholars have tried to explain the elements of synergy, which are directly correlated to the concept of emergence. Synergy implies that the whole is bigger than the summary of its parts and is an aspect that cannot be delinked from the emergence. An emergent theory is another theory of systems thinking explained by Gharajedaghi (2011). Initially, emergent features involve the features that emerge at certain levels of sophistication but do not apply at the lower levels (Merali and Allen 2011). The unique perspective of the emergent features depends on the features of the whole and not their features of the parts.

#### **4.2.5 Open systems are self-organising**

Gharajedaghi (2011) argues that self-organisation is not promptly an action committed consciously. On most occasions, self-organisation occurs automatically via a random mechanism iterative process. Stacey (2003:48) describes self-organising as the mechanism in which a system selects a route at a bifurcation point because of individual variability or variations. The bifurcation point is a part at which disturbance within the system has arrived at a point in which the system is completely destabilised and can no longer be the way it was initially (Stacey, Griffin and Shaw 2000). Whenever self-organisation happens by mistake, it is often through the utilisation of the implicit cultural codes, thus needs to reflect the trends that are generated by the system. Notably when the mechanisms of self-organisation redesign trends, this is a representation of the system at work. Explicitly, Wheatley (2011) argues that the paradox presented in self-organisation is in the partnered availability of freedom and order. The scholar proceeds with an explanation that effective self-organisation enjoys the support of two key elements. The first is a collaborative purpose that dictates to a degree the conclusions of the agents/actors, whereas at the same period enabling for the second key component, an estimation of freedom for actions within

the decision-making process. The availability of these essential elements results in a bigger coherence and strengths within the system. Stacey *et al.* (2000) also employ the word “paradox” when expounding on the self-organising concept of Prigogine’s dissipative framework, noting that crucial trends need to lose their symmetry to be in a better position to formulate new patterns/structures.

#### **4.2.6 System produces duality**

Multi-dimensionality is an important concept for understanding the system's operating processes. This aspect involves the ability of the system thinker to observe a complementary association in opposite tendencies and the capability to formulate feasible systems comprising infeasible sections. Duality is available in nearly all expertise and knowledge; these dualities are positioned such that the development of one is arguably observed as a loss to the other part. With the conflicting tendencies bound in duality in terms of zero-sum-game, some outcomes are inevitable. This is because tendencies are formed as a mutually exclusive entity within the dynamics and that the result is that some extent of compromise is needed to deal with any emerging and or conflicting tendencies. Usually, the tensions are cooled when parties settle on a compromise point between the two opposite tendencies. Within social realities that are commonly encountered with paradoxes, this continuous striving between the two positioning tendencies is exactly what triggers the development of new structural frameworks. In this light, two considerations are suggested for attaining a compromise position within these frameworks. Presenting them as paradoxical, the suggested considerations are an issue for changes and are necessary for stability. Gharajedaghi (2011) notes that where consideration for stability and change is very low, members of a system may get themselves in a compromised scenario that often witnesses anarchy. A higher consideration for stability, aligned with a low consideration for changes, leads to a conservative environment in which sections of the system win at the cost of others. A contrasting scenario aligned with low stability and prime concern for change may lead to radical system behaviours. Last, the mature system gets its design for chief consideration for both adjustments, and stability.

#### **4.2.7 Open systems are unpredictable**

The aspects of equifinality and multi-finality are two vital theoretical aspects describing the result of a dynamic mechanism within a system. The various sections within the system are arguably dynamic as a result, the input within a system does not in actual sense offer the projected results (Hanson 1995). A critical concept to add to the conversation regarding the cause and impact is that of multifinality and equifinality. Multifinality notes that the intended outcomes of action may have several unintended offshoots and may lead to more challenges than the initial challenge. There can be several outcomes from similar stimuli. Multifinality rejects the typical theories of causal inquiry-seeking projection of future states via the analysis of the initially eliminated scenarios. It appears that multifinality employs several aspects such as certainty, chance, and overall responsibility of the future states (Gharajedaghi 2011).

Equifinality offers the idea that several stimuli pressed on the system may give similar results (Hanson 1995). Arguably, equifinality gathers the possibility that distance routes can lead to the same place. It is, therefore, necessary for the organisational practitioners to employ various strategies and equally implement them simultaneously to get the desired results. Nearly all systems tend to be incorporated within the state of balance and or equilibrium.

As noted from the above discussions, systems are manifested by uncertainty and change, thus working with a system needs flexibility and adaptability. Notably, all the components of the system need the flexibility to navigate within the threshold limits put in to allow the system to adapt to the changes which come within a certain period. To survive, the systems are required to enhance flexibility: feedback loops are the processes by which the system maintains stability and adaptability. To attain system improvements, a constant study of the entire subject is needed to produce new knowledge and skills (Deming 199). By incorporating the information within the system's framework, the goal is to see the trends

that are not otherwise indicated. The human mind cannot evaluate the outcomes linked with complex and interlinked elements within the systems (Stermann 2002). The subsequent sections will discuss the systems theory.

### **4.3 Section B: The history of systems theory**

During the early 20th century, biologists played a vital role in understanding the mechanistic approaches and acknowledged various biological forms of systems. Their aspirations saw them exploring and redefining the various concepts and ideas and from their research and analysis, some essential aspects of the systems theory emerged as currently known. Capra (1997) argues that the shifts resulted in a term that incorporates both the living creatures and social systems. The author defines a system, as a combined whole whose vital properties arise from the associations between the different parts of the system. Arguably, systems thinking is described as the understanding of the occurrence within the system as a whole. The author stresses that the systematic understanding components mean placing them into perspective, to establish the degree of their relationships.

Jolly (2015) notes that the idea of systems thinking systems is an interdisciplinary approach in which components of the whole system are based on the interactions among different components within the environment in which they occur. Jolly (2015) describes systems theory as the analysis of the interactions of the components within space and time. Similarly, Mele, Pels and Polese (2010) argue that systems theory is a wider perspective that investigates a phenomenon from its elements. Focus is often put on the interaction and relationships among the different parts to understand the various interactions of these parts and results. Provided the system can be established in natural science, the community and economic perspective, a unique characteristic of the systems theory is that it expands across the various disciplines from which researchers and experts in various fields come up with their systems theories, through building on the already established knowledge and model amongst other well-known disciplines (Oladokun and Adewuyi 2016).



The system comprises interlinked elements and parts and, the systems theory notes that all components are interrelated and depend on each other (Jolly 2015). For a business organisation, the systems theory is considered as a way of thinking unlike the sets of policies in which each part of a business interacts with the business as a whole and other components of the external environment. The interactions of components and the resurfacing of expected and unprecedented effects give rise to the idea of thinking-thought processes (Lima 2017:15-36.). Systems thinking is a field that incorporates systems theory for solving real-world challenges, whereas the field refers to the institution of knowledge, theory, and methods that should be analysed and equally acknowledged to be applied effectively to identify and offer solutions to challenges (Broks 2016).

In management science, systems thinking shifted from the concept of an observable system to a complex world that can be examined within a learning process and in which modelling can be employed as a mental activity necessary to analyse the conditions (Checkland 2000). The system is not a formal framework, but a more comprehensive combination of interacting agents around an issue within a perspective. This approach of thought-process needs the various perspectives of the condition's actors to come up with necessary and relevant design models.

Complex theories came from the analysis concerning the formation of an order within a natural occurrence. A high number of components and interactions is a major contributor in establishing complexity. Researchers have ascertained that complexity is closely related to complexity in the various interactions (Halevy 2011). Usually, complex systems are composed of non-linear relations, feedback loops, and interactions between the components. They are regarded as “complex adaptive systems” in case they have emergent features to self-organisation and arose out of encounters (Adams and Hester 2012:233-242). Arguably at the micro-level phase, the behaviour of the system component is not projectable, and it shifts the contexts for other agents.

Many social and natural systems are complex frameworks. System complexity comprises several interlinks and variables as stated in Figure 4.3. Fewer variables do not constitute a complex system, rather many linkages at a fast rate do become confounded within the interaction among the variables which are responsible for systems behaviours.

The general trend with systems is that as they shift, they encourage and increase complexity. As the number of system elements rises, the trend of connection between elements become more comprehensive. Some factors which include population pattern increased diversity, migration, technological advancements, among others are usually interlinked, and therefore there is a higher probability of increasing the complexity. With complexity, normal decisions may be dynamic given that each element can act on several mechanisms depending on the network reactions. Subsequently, the major decisions in complicated systems are far-reaching. This implies that it requires a series of decisions unlike a single decision, given that decisions are often interdependent and the aspect of decision shifts with every decision that is implemented (Holling, Gunderson and Ludwig 2002). Figure 4.3 shows the integration of variables and linkages of complex systems

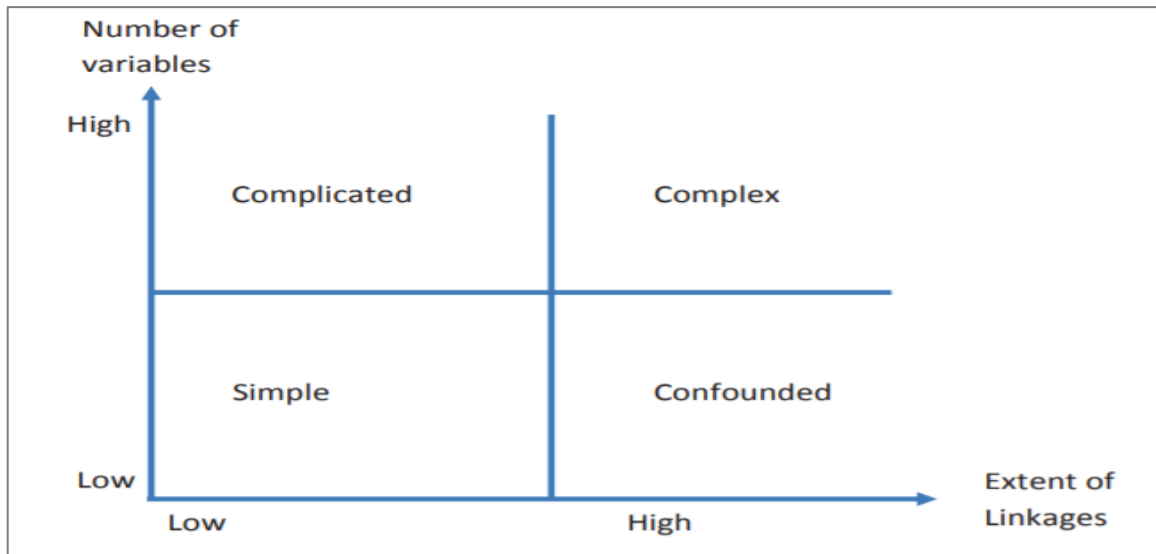


Figure 4.3: Integration of variables and linkages of complex systems

Source: Holling, Gunderson and Ludwig ( 2002)

As the systems shift, they encourage and increase complexity. As the number of system elements rises, the trend of interlinks between elements becomes more comprehensive, providing increasing complexity. With complexity, normal decisions may be dynamic given that each element can act on several mechanisms depending on the network reactions. Subsequently, the major decisions in complicated systems are far-reaching. This implies that it requires a series of decisions unlike a single decision, given that decisions are often interdependent and the aspect of decision shifts with every decision that is implemented (Holling *et al.* 2002). According to Shmelev (2011:2039-2049), analysis into the policy implications is only achievable via the understanding of the network between different components of a system and the emergence features of that system. If the community setting and or policymaker dislike a pattern, then the aspect of making the necessary changes is more likely to be limited by the interlinks and interactions within the system. Making interlinks visible and explicit is a method of identifying patterns and their impact on the change process.

Complex systems are often difficult to work with, as Dörner (2002) evaluated. An additional aspect is that complexity is not usually seen. Senge *et al.* (2008) note that many individuals respond to the events levels because they are apparent. Therefore, establishing the underlying factors need an understanding of the systemic structures, trends, and mental models. Figure 4.4 shows how humans explain reality as a four-step mechanism. Operations cannot handle complex systems at the level of the event or employ linear thinking processes. Understanding complexity and systems theory enables individuals to better understand the events, patterns, and resulting model structures. As one moves down the structure and understanding increases, more opportunities are presented to evaluate the leverage points to bring about a preferred change within the system. Given the complex systems, researchers expect a higher degree of uncertainty regarding the actions required and what the results will be. This requires an adaptive management mechanism of changing practices in line with the learning experience.

In a complex system, there is a higher level of uncertainty regarding the actions required and the possible potential results. This means that an adaptive management mechanism is changing practices in reaction to the new learning, while at the period making sure that the changes are aligned with the overall system aim.

In a complex system, there is a higher level of uncertainty regarding the actions required and the possible potential results. This means that an adaptive management mechanism is changing practices in reaction to the new learning, while aligning changes with the overall system aim. Operating complex systems can be beneficial, especially when incorporating collaborative mechanisms aimed at bringing individuals to explain and equally learn the various ways of widening the system patterns (Van den Belt 2004:196-210).

Figure 4.4 shows the Ways humans can explain reality

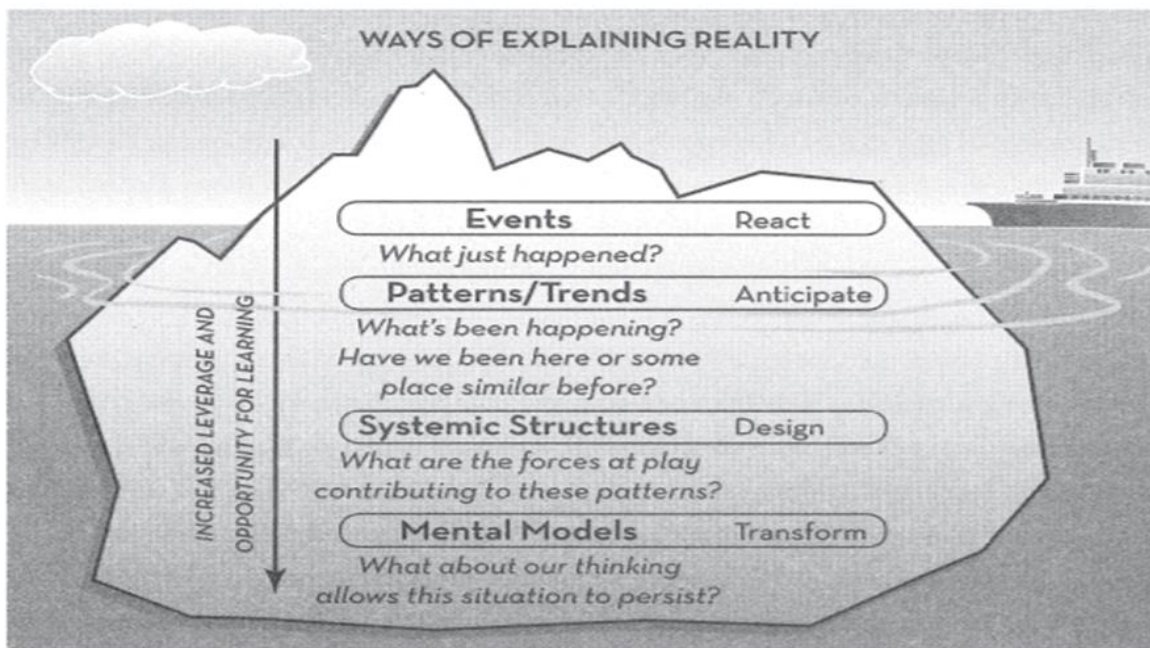


Figure 4.4: Ways humans can explain reality

Source: Senge *et al.* (2008)

Collaboration can assist in understanding the events that are linked with the system and the structure of the model itself, however, it does not imply automatic resolution of the issue

(Senge,Smith, Kruschwitz,Laur and Schley 2008). The reaction is not to seek a solution to the immediate challenges, explore different leverage points where a shift can enhance the general system. Attempting to manage, regulate and manipulate complicated systems is often problematic ( Bagheri and Hjorth 2006:74-92.). To decrease unintended results, ways to define, analyse and model interlinks and interactions need to be found, to establish an understanding and exploit in advance the potential effects of change. Thus, complex adaptive ecosystem's components, in which macro-level behaviours originate affect the micro-level interaction of the components of the system (Levin 2002:313-330; Lissack and Letiche 2002:72-94). The development of such a system has resulted in an interdisciplinary branch of scholarship commonly known as complexity science (Manson 2001).

From the research, an understanding of the entrepreneurial system as complicated brings the components required to suggest other approaches of looking at entrepreneurial leadership. This approach is aligned with the thinking of establishing a holistic multi-dimensional structure for entrepreneurial leadership. This will be explained further in the following subsections.

#### **4.3.1 Entrepreneurship as a complex adaptive system**

A key feature of the contemporary business challenges is that they constitute several aspects that adapt and evolve and learn as they interact with each other, creating a complex adaptive system. A complex adaptive system is a system that has many elements which are commonly known as agents. Agents interact and in later stages learn the system itself (Holland 2006:10). As mentioned earlier in the discussions, the interaction between the agents is often guided by the set of regulations, and through adapting to each other and within a set of regulations, the emergent order is formed. Instead of looking for complex results, complex adaptive system principles are often preoccupied with the development of simplicity from the complicated interactions (Thietart and Forgues 2011:53-64). A complex adaptive system has special, non-linear, and self-organisation abilities. Systems thinking is put forward as a more comprehensive way of evaluating such complex social

issues since it is concentrated on the philosophy of holism. Holism approach asserts that it is significant to analyse all the aspects of a challenge, as it is the interconnection and relationships between these various aspects that lead to the problem issue (Jackson 2000). However, systems thinking is an overarching conceptual structure with a wide range of philosophies, tools and methodologies all based on the principle of holism, but distinct in changing regards.

The complexity approach is often known as a systematic inquiry to create fuzzy, multivalent, multilevel, and multi-disciplinary presentations of reality. In this light, a system can be best known by observing the trends within the complexity that define the probable shifts of the systems. Levin (2002:313-330) describes the analysis of the complex adaptive system (CAS) as research of the interplay among mechanisms working at diverse scales of space, time, and equally organisational complexity, with a focus on the interactions of the processes and interlinks among the agents.

Complex adaptive systems are formed because of the interaction of the network of agents. In such networks of agents, control is immensely scattered, and there are simultaneous connections and co-operation within the network's systems. These agent-constituting networks can be seen in organisations/businesses. Within the distinct levels of the organisations/businesses, systems occasionally revise and re-organise the components that make up the system itself. Usually, the agents that are involved in the system's creation, determine the future system through the activities and interactions, thus leveraging them (Pidd 2004). A systematic review of literature on entrepreneurial activities shows that studies on the topic have aligned to linear models that are evaluated through classical scale techniques. Trying to understand a dynamic, non-linear occurrence like entrepreneurship, needs the use of an equally dynamic and non-linear research lens. Another aspect taken into consideration by most experts is the uniqueness of theory.

Entrepreneurship may be best understood as a complex adaptive system. Fuller and Moran (2001:47-63.) argue that the core aspect of complexity is that the interactions between the

components of an open system form novel and unpredictable trends. Complexity in this context implies an explanation of the interconnection and dynamism. Observing entrepreneurship in the perspective, to a certain extent, offers an understanding of how entrepreneurial activities of entrepreneurs combine and coordinate necessary changes within the entrepreneurial system. The major advantage of observing entrepreneurship as a complex system depends on exploring how entrepreneurship establishes an order from disorganisation brought on by consistent changes within the entrepreneurial system.

#### **4.4 Section C: The systems-based approach of scientific inquiry**

In nearly all the disciplines, the aspects of systems thinking cannot be described without initially discussing the application of system-based mechanisms to scientific inquiry. Oladokun and Adewuyi (2016) argue that this system-based approach of scientific analysis is based on different disciplines such as system engineering, dynamics, research operations, information science, and soft systems, among others. The system-based approaches of scientific inquiry thus consist of complex scenarios and their advancements. Oladokun and Adewuyi (2016) emphasises that a system-based approach of scientific enquiry combines systems theory, systems techniques, and philosophy as the main essential interlinked domains of scientific enquiry. The systems theory offers a philosophical foundation for the system-based approaches, whereas the system method offers a series of methods, modelling equipment, and initiatives for the system-based approach of scientific inquiry.

The following sections will discuss the rationale behind the systems-based approach in section 4.4.1 and the background of the systems-based approach in section 4.4.2.

##### **4.4.1 Rationale behind the systems-based approach**

Oladokun and Adewuyi (2016) assert that the systems-based approach is designed from the classic approach of scientific inquiry in forming an understanding of how complexities of occurrence in the scientific scenario may be researched. According to Oladokun and Adewuyi (2016), science has several defining features from which three are dominantly

vital: reliability, refutability, and reductionism. Complex entities are divided into minor components which can be analysed distinctively to gain knowledge of the whole concept, which provides the philosophical foundation of the classic perspective of scientific inquiry that brought about technological revolutions across the globe. The system mechanism of scientific inquiry thus shows a type of paradigm shift that changing focus from researching individual parts to researching the whole, offering a multi-dimensional structure in which information from diverse aspects and domains can be involved without being forced within a one-dimensional mapping (Oladokun and Adewuyi 2016).

#### **4.4.2 Background of the systems-based approach**

In line with the analysis of Oladokun and Adewuyi (2016) systems approach can be viewed as parts of a whole which cannot be distinctive and seen as being the same to the summary of parts. This ideology depends on deterministic, linear thinking which is inadequate for dealing with several iterative variables of complicated and dynamic components. Arguably, the system-based mechanism has the capability of capturing the dynamics of several joint and recursive complex antecedents and sees the behaviours of the system as non-linear and non-deterministic in overview and it rejects the reductionist technique of classical science, resulting in systems thinking (Oladokun and Adewuyi 2016). Arnold and Wade (2015:669-678) offer a description of systems thinking that can be employed in several disciplines. The description emanated from the literature review on several descriptions of systems thinking and suggested a new description that is applicable in nearly all the disciplines. Researchers all understand that a system is considered as a frequently interacting and interdependent group of parts that establish a unified whole. Systems thinking is described as a way of thinking about the components and systems themselves (Arnold and Wade 2015:669-678). The description is based on reductionist mechanics and allows an in-depth analysis of how systems thinking applies to complex and dynamic conditions within the entrepreneurial systems. Figure 4.5 depicts the definition of systems thinking.



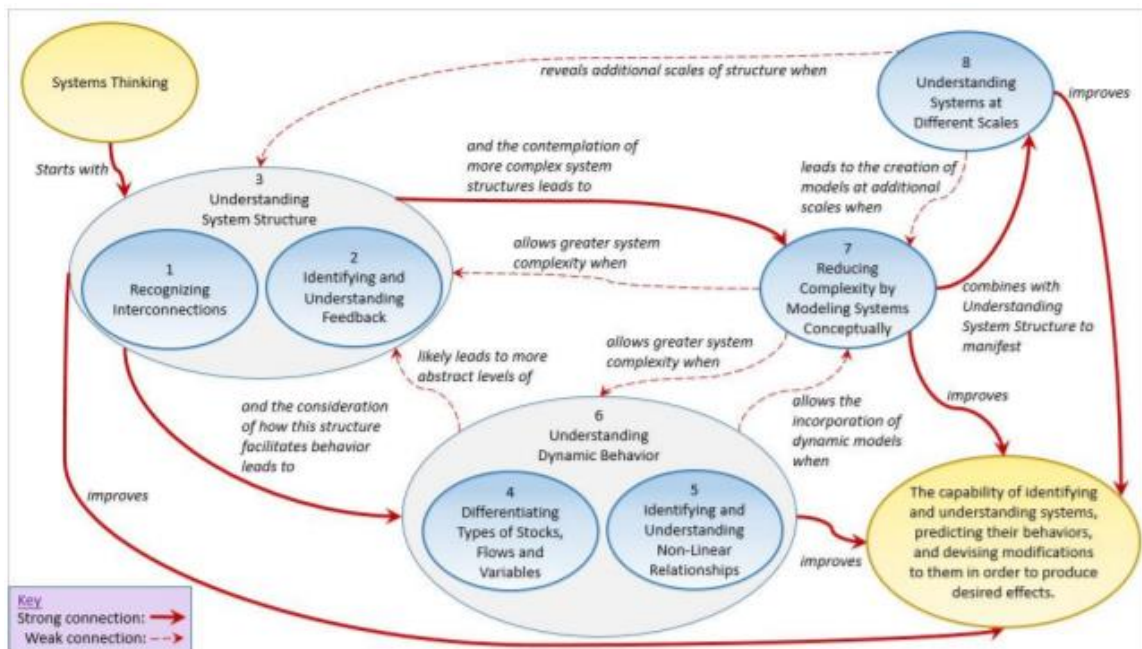


Figure 4.5: Definition of systems thinking

Source: Arnold and Wade (2015:669-678)

The system's thinking consists of three types of aspects, namely: characteristics, inter-connections, which are often interlinked, and unique purposes. The purpose is a function or goal which describes the goal of systems thinking in a way that can easily be understood to the particular aspect of life under analysis. Elements refer to characteristics of the systems thinking, while interconnections refer to how elements feed into and/or back from each other. That is how elements interrelate with each other.

Figure 4.6 shows the description of system thinking

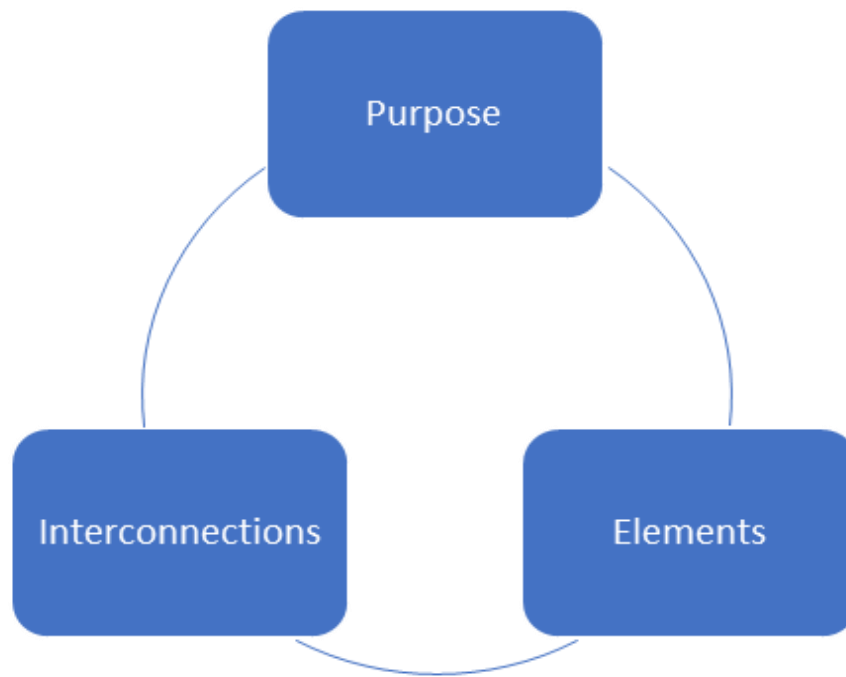


Figure 4.6: The description of system thinking

Source: Adapted from Arnold and Wade (2015:669-678)

Past research and studies on systems thinking describe systems thinking from a distinct perspective. Richmond (1994) argues that systems thinking science of making unique reliable inferences regarding the behaviour through an in-depth understanding of the underlying structure of the occurrence under examination. Senge (1990) also described systems thinking, stating that it allows one to view the system element interactions. Sweeney and Sterman (2000:249-286) note that the systems thinking approach include the ability to see the interaction of the general behaviours of the system with its key agents within a period and to detect and monitor the feedback process of the various elements. The vast research and studies fail to describe the purpose and or meaning of the aspects of

complexity. Stave and Hopper (2007) describe some system characteristics as features of systems thinking.

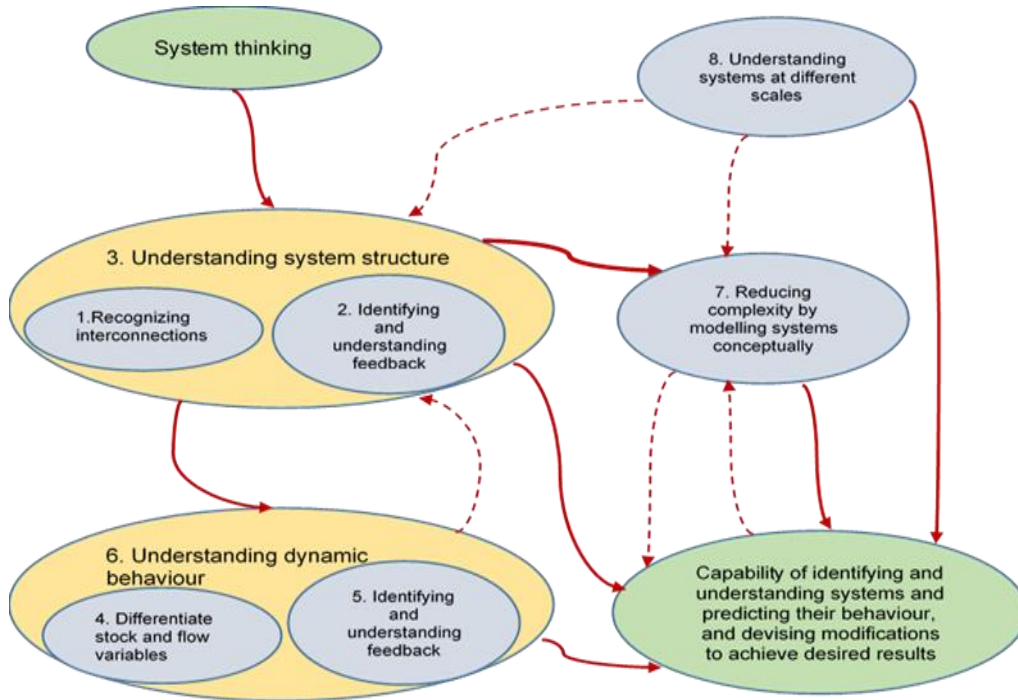


Figure 4.7: depicts the systems thinking model

Source: Arnold and Wade (2015:669-678)

Such features comprise of acknowledgements of interconnections, assessment of feedback and dynamic behaviour making distinction between stock and flow variables, adoption of conceptual models, creation of simulation models and testing of existing regulations for policy recommendations

From Figure 4.7 systems thinking is characterised by feedback loops and shows that changes in an element affect the entire system. Researchers established that the systems thinking process begins with acknowledging the various interlinks and evaluation and understanding of the different feedback loops among the components, recognising the whole model of the entire system. After this process, one should now be in a better position

to recognise the dynamic behaviours through differentiating the kinds of variables between the stock and flow variables, then finally the establishment of the non-linear correlations/relationships (Arnold and Wade 2015:669-678). The complexity of the system needs to be declared through modelling the system abstractly, which eventually leads to an acknowledgement of the system at distinct phases/scales.

Monat and Gannon (2015) defined systems thinking as different from ideal thinking, integrative vs. dissective thinking by acknowledging that repeated scenarios and their trends largely come from systematic structures. The systematic structures are equally derived from human mental models, which also equally acknowledge that the human behaviours emanate from available structures enclosed within the interacting components. Having been used in various disciplines and or fields, systems thinking has shown that it has a greater ability to offer solutions to complex challenges that cannot be solved through orthodox kind of thinking, particularly in business organisations' operations. Some tools of system thinking, as identified by Monat and Gannon (2015), include but are not limited to stem archetypes, chain structures, causal loop comprising loop with feedback, and stock and flow diagrams, among others. In line with Monat and Gannon (2015), the disciplined approaches to systems thinking comprise these steps: description of the scenario, evaluate whether systems thinking is relevant, develop trends of behaviour, assess the underlying structure triggering the underlying structure, the leverage points, design an alternate framework, initiate the alternate structure, and design an adoption mechanism.

Systems thinking focuses on established complexities unlike organised simplicity which is dependent on the concept that events and trends are large because of systemic structures and mental models (Monat and Gannon 2015). Aligning with the descriptions of systems thinking offered by Arnold and Wade (2015:669-678), the nine-step process of systems thinking examined to show how the understanding of the underlying dynamic behaviours play a vital role in designing and initiating the alternative model that can make sure that the business survives within a dynamic environment.

In line with the conceptualisation of the steps of systems thinking shown above, Monat and Gannon (2015) integrate the description of the systems thinking as a norm, language, and categories of tools given that systems thinking is typically the opposite of linear thinking and focus on the association among the elements as opposed to emphasising on the components themselves. Systems thinking understands that systems in various disciplines are often dynamic and suggests that systems need to be researched holistically to acknowledge the forces and feedback loops that initiate the behaviour in a structure.

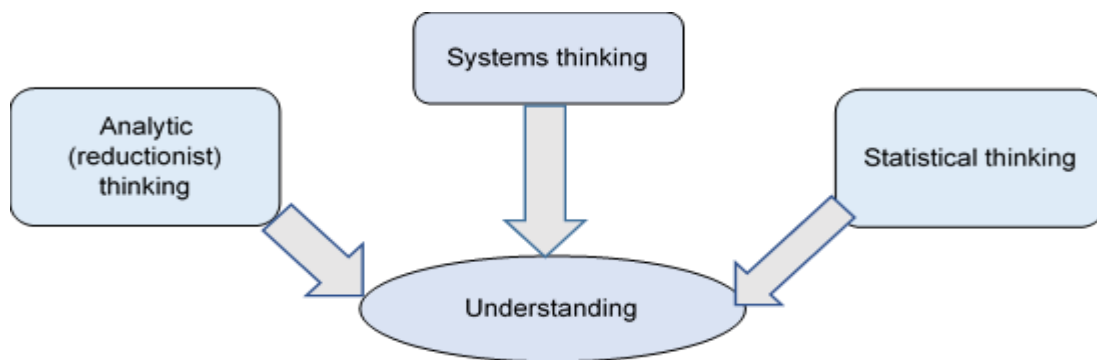


Figure 4.8: depicts how the Systems thinking complements reductionist and statistical thinking

Source: Arnold and Wade (2015:669-678)

As evident from Figure 4.8, system thinking, whether analytic or reductionist and statistical thinking complement each other, thus offering an acknowledgment of the dynamic system. Focusing on the Iceberg model, the understanding of the dynamic within a system is often encouraged with the help of a mental model which enables the researcher to acknowledge systemic structures, trends, and probable scenarios where the models are often unavailable. The model shows the difference between the natural system and the human-designed system, which relates to an understanding of how the perspective can be evaluated to allow the achievement of goals in a particular setting. The objective is to encourage business

survival and development of business organisations. The errors between the natural systems and human-designed systems are indicated by the various levels of the Iceberg model as shown in Figure 4.9.

Figure 4.9 indicates that the natural system comprises physical and mental forces, self-organisation, emerging trends whereas the human-designed system comprises mental models among the scenarios and models. Systems thinking comprises human-designed natural systems and trends that originate from a systemic model (Monat and Gannon 2015). As per Figure 4.9 The systemic model is shown by hierarchies that are available in the organisational setting, rules, and procedures among other forces present within the dynamic system and structures (Monat and Gannon 2015).

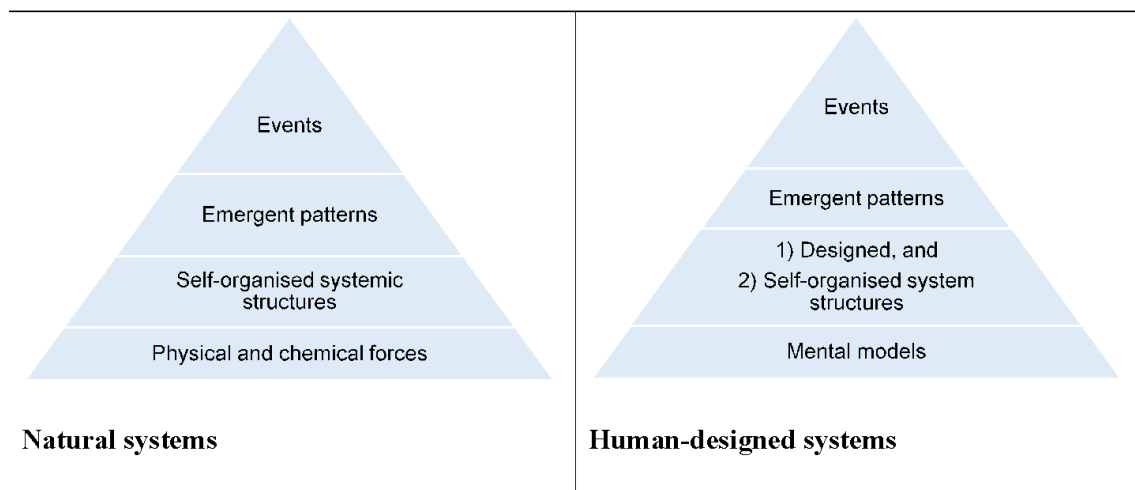


Figure 4.9: Iceberg structure comparing natural and human-designed systems

Source: Monat and Gannon (2015)

In natural systems, structures are consistently organised whereas, human-designed systems and structures are often designed (Monat and Gannon 2015). The mental model of human-designed systems (Figure 4.9) comprises culture and values, whereas systemic structures in both natural and human-designed systems gather the association among the components, loops and offer dynamic modelling between and along with the flow and stock variables.

Emerging features are because of the uncertainty among the system's elements, whereas trends are regulated and recurring see-able scenarios in which such trends may be mental, physical, or even behavioural.

Lima (2017:15-36.) examines how systemic thinking could be employed appropriately for analysis of entrepreneurial dynamics to enhance the overall performance of business organisations, particularly SMMEs. These SMMEs have relatively simple structures (Halpin and Kurthakoti 2015), focusing on the necessity of understanding the interlinks between entrepreneurship, learning initiatives, and system thinking. Adoption of systems thinking within entrepreneurship improves the general understanding of the dynamics which assists entrepreneurs and managers to focus on strategies that will ensure the survival of the SMMEs. Given that entrepreneurship and strategic management are all the learning mechanisms, systems thinking still is the most effective approach for understanding the entrepreneurial environment.

To engage systems thinking in the design and adoption of initiatives to attain organisational goals, Lima (2017:15-36.) underlines the relevance and necessity of getting the system thinking skills and how to apply them in entrepreneurial activities. In applying the concepts of entrepreneurship and business development, Halpin and Kurthakoti (2015) consider systems thinking as a mechanism of understanding the real-life scenarios and thus focuses on the various components within a particular system. Acknowledging the system in terms of its features and patterns of interactions offers an insight into entrepreneurs to get the skills that will enhance their capabilities. The systemic thinking approach has been suggested as an appropriate tool in understanding and applying solutions that are vital for business survival. The suggested systemic thinking approach comprises three aspects: locus of concentration, understanding the associations and flexibility.

Furthermore, Tang and Vijay (2011) expound that a system dynamics approach is significant to decipher a complex social issue and problem-solving techniques; hence, its application in business is inexhaustible. The simulations established from the system

dynamics models assist in coming up with suitable organisational policies and processes enabling the business leaders to decompose a complex characteristic or social system into distinct elements, then coalescing them again to be envisioned and analysed to distinguish the eventual effects. Business organisations often are established to solve one or more socio-economic issues; a fact that makes the system dynamics approach critical. This can be accomplished through understanding the system's dynamic structure that captures detailed facts, human response, sources of information, and other direct and indirect factors, thus giving entrepreneurs an in-depth understanding of the status of the business and its complexities (Tang and Vijay 2011).

Vemuri and Bellinger (2017:1-9) examined the requirement and adoption of systems thinking approach towards implementing the decision-making within the businesses/organisations. The research emphasised that even though the need for systems thinking in businesses has been on the rise, several companies have attempted to implement the systems thinking, however, they have found the approach unsuccessful. One reason was that many entrepreneurs are used to reductionist thinking in undertaking entrepreneurial business activities and problem-solving. Vemuri and Bellinger (2017:1-9) employed a systemic model which comprised of three components: spirit, mind, and body. The researchers extended the model for adoption in a business organisational/entrepreneurial context.

It is established that a system dynamics technique within the business may be employed to analyse the link between innovation and market trends, which includes but are not limited to client orientations, competitive analysis and sub-system evaluations, and coordinated networks. This research supports the utilisation of the system dynamics model within an entrepreneurial context. Through the inclusion of the real-scenario feedback loops, the technique offers entrepreneurs an opportunity to alter the system to attain a competitive advantage as compared to their competitors and improve overall business performances. Arguably, the decision by entrepreneurs to use system dynamics in assessing the market patterns will enable them to understand which of their items are mostly preferred by the



customers and the ways of improving on product and service delivery. All businesses require profit, and thus effective measures through system dynamics will enable them to correlate the various aspects within the system and explore the areas of weakness that require adjustments for entrepreneurial success and sustainability.

Many business organisations employ strategic planning and management techniques to manage business issues linked to progress and identify failure points of the system to showcase the inefficiencies wholly depending on reductionist thinking in offering solutions to complicated business challenges. Regardless of the inappropriateness of reductionist approaches, it is vital to note that the adoption of systems thinking is also complicated, even though models and tools are present to enhance its implementation (Vemuri and Bellinger 2017:1-9). Table 4.1 shows the differences in reductionist thinking and systems thinking habits.

<b>Reductionist thinking habits</b>	<b>Systems thinking habits</b>
Simplification of challenges for the smallest sections to obtain solutions with analytical tools	Seeks to recognise the broader perspective
Critically think just of the integration of components in a system as opposed to their interconnections and trends	Recognise how components within systems change over a period and produce necessary trends
Does not link the behaviour of the system to interconnections of components	Knows that a system's structure generates its own behaviour
On most occasions, make conclusions from the first or second cause-and-effect associations	Evaluate the revolving nature of complex cause-and-effect associations
Occasionally make decisions that are dependent on mental models, belief systems, and past encounters	Thinks of how mental models affect the reality and future
Stresses on speed and prompt outcomes at the appropriate cost of an efficient viable solution	Fully reasons an issue and follows a slow process to reach a given conclusion
Do not understand that systemic interventions occasionally take a long time to generate outcomes	Understands the need and relevance of time delays when exploring cause-and-effect relationships
Focuses on short-term effects of the action	Consider short and long-term effects of actions/procedures

Pays no attention to unintended results	Gets where unintended outcomes emanate from
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Table 4.1 shows the differences in reductionist thinking and systems thinking habits.

Source: Vemuri and Bellinger (2017:1-9)

The spirit, mind, and body (SMB) approach have been a major focus for the adoption and implementation of the systems thinking model within businesses/companies. The elementary aspects of the SMB come from the spiritual knowledge which stresses the need for integration of SMB to achieve human excellence (Vemuri and Bellinger 2017:1-9). Figure 4.10 shows the SMB model. As shown in Figure 4.10, it emerges that the spirit, body, and mind do interact and interlink. The system of spirit is the leadership system that is formulated to pass the required missions, encouragements, and offer the energy for entrepreneurial developments. The importance of leadership from an organisational perspective needs business executives and managers to offer necessary resources and maintain a suitable environment to enhance the delivery of works and outputs. This limits unnecessary obstacles.

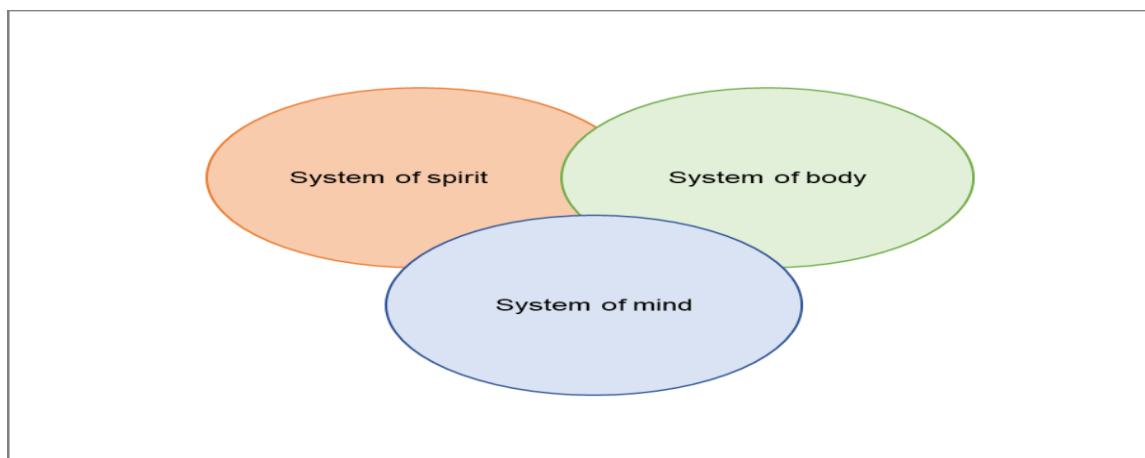


Figure 4.10 spirit, mind, and body (SMB)

Adapted from Vemuri and Bellinger (2017:1-9)

Notably, the system of mind is further divided into deep structures. Deep structures offer room for changes either in the thought-process or functional habits of individuals and stakeholders involved in business operations. The availability of the deep structure allows and enhances deep learning over time and enhances the progress of behavioural changes. Subsequently, the system of body is a supportive system which is vital when implementing the systems thinking process within a business which comprises the design and implementation of models and tools for systems thought processes.

Table 4.2 shows SMB model for implementation of systems thinking in organisations

<b>Systems of spirit</b>	<b>Systems of mind</b>	<b>Systems of body</b>
<b>Vision</b>	Surface structures	Equipment for systems thinking
<b>Objectives</b>	Education (introductory)	Training components
<b>Values</b>	Deep structures	Company-wide intranet
<b>Strategy</b>	Training (intermediate)	Knowledge management
<b>Governance</b>	Acknowledgment and reward system	systems and skills
<b>Interactions</b>	Change management systems, Mental	Frequently asked questions
<b>Response</b>	models Response systems	

Table 4.1 SMB model for implementation of systems thinking in organisations

Adapted from Vemuri and Bellinger (2017:1-9)

The SMB structure for the adoption of systems thinking within businesses comprises values, strategies, objectives, and response. Finally, the system of the body constitutes tools needed from systems thinking among others (Vemuri and Bellinger 2017:1-9). Behl and Ferreira (2014:104-109) examined the essential factors and techniques of systems thinking offering problem-solving approaches of thinking about the change and subsequently providing solutions. Further, Behl and Ferreira (2014:104-109) explore the link of individual components and corresponding distinctive systems thinking patterns. The

individual systems thinking components examined are crucial for consideration and include the adoption of several perspectives within the interconnection perspectives.

To solve the complicated challenges effectively, Schöttl and Lindemann (2015:1-10), argue that it is vital to first have a deeper meaning of the complexity from a different perspective. Regarding entrepreneurial development, two main perspectives of complexity evaluated include complexity in systems theory, and complexity in terms of psychology. Suh (2005) explored four kinds of complexities within the systems theory, they were: real complexity, imaginary, combinatory, and periodical.

Figure 4.11 shows the elements of complexity in systems theory.

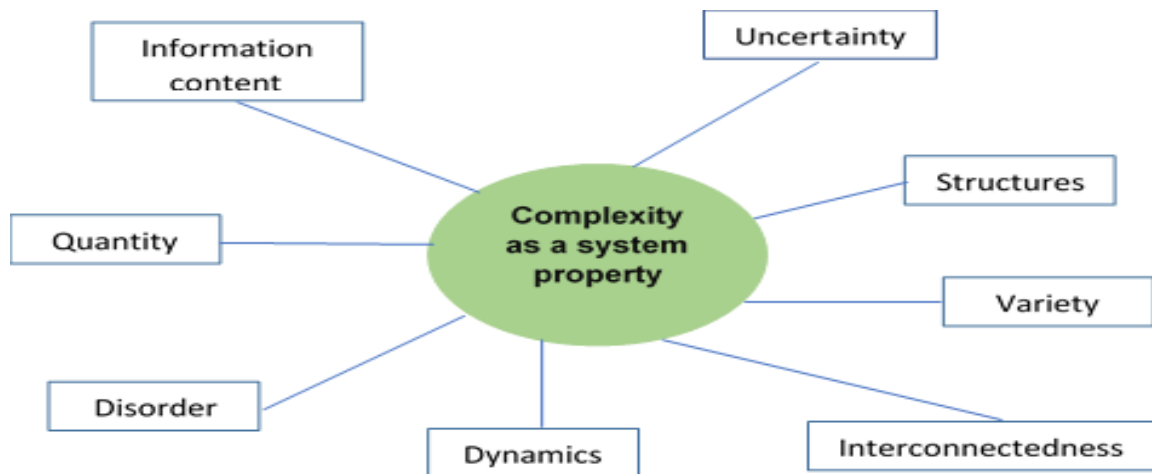


Figure 4.11 Complexity characteristics in systems theory

Source: Schöttl and Lindemann (2015:1-10)

Skarzauskiene (2010:49-64) explored the link between complexity and systems thinking as far as organisational performance is concerned. The environment in which businesses face challenges in their operation given that they are uncertain and equally complex, therefore the importance of systems thinking initiating the organisational performance is key in improving the cognitive intelligence competencies. Cognitive intelligence competency either affects the leadership performance or organisational performance. As evident from

Figure 4.12, systems thinking is a vital component in intelligence competencies, which comprises: social intelligence competencies and emotional intelligence competencies. Such categories affect personal leadership, association leadership, and management/strategic leadership which further affect the leadership progress and the organisational progress levels.

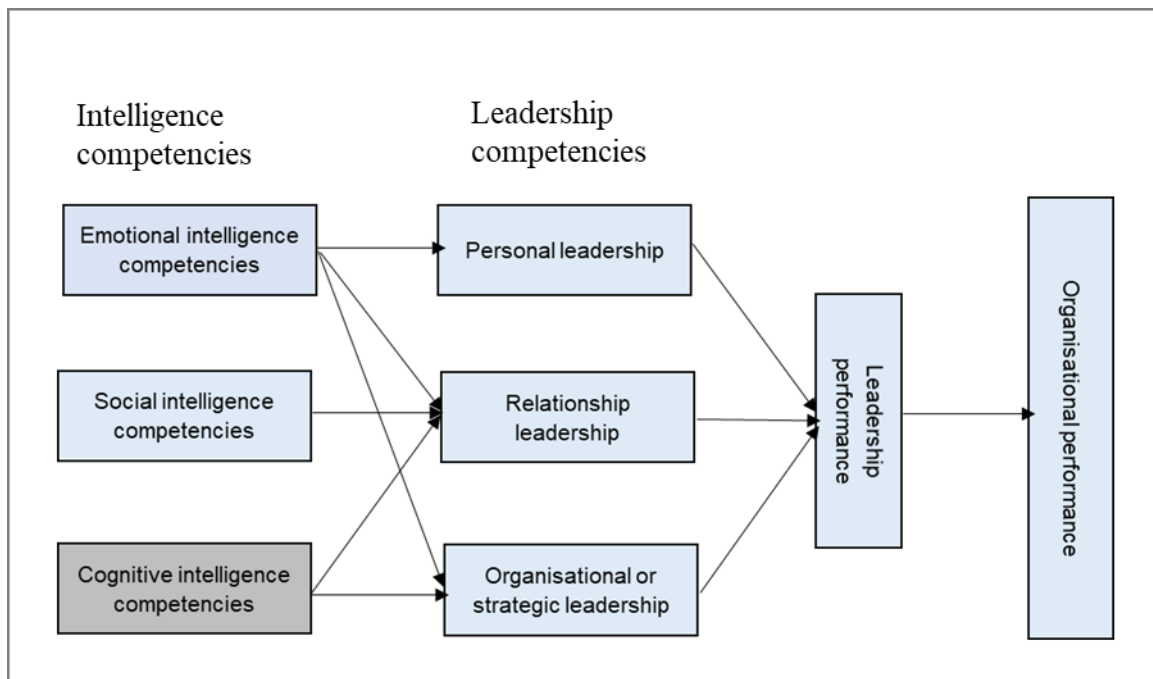


Figure 4.12 Systems thinking as an essential component of intelligence and leadership competencies

Source: Skarzauskiene (2010:49-64)

## 4.5 Modelling entrepreneurial systems

In system dynamics, the main issue is always on understanding how system variables, and components produce behaviours in interactive patterns within a system. System dynamics have formulated certain patterns and symbols to represent them; that is the variables and

feedback loops take the centre stage. Mchunu (2015) argues that system dynamics offers an approach for mapping and modelling scenarios that happen in the real world in distinct and described settings. Monat and Gannon (2015) argue that the behaviour of components in the height of systems thinking, offers counter-intuitive; therefore system dynamics and modelling are incorporated to improve the general understanding of the behaviours of the system over time. Abdelkafi and Täuscher (2015) argue that the system dynamics process enables modelling and simulating through the integration of feedback loops of those very systems.

Abdelkefi and Täuscher (2015) consider system dynamics as a strategic approach/technique for re-organising complex systems and examining their behaviours. For an entrepreneurial system context, dynamic behaviours may be redesigned by employing the system approach, which focuses on behaviour hypotheses, and research shows that incorporating system dynamics into the evaluation processes of entrepreneurial development is scant and limited.

Given the limitation of strategic management and leadership approaches still widely employed by many businesses, the acknowledgement of system dynamics as a strategic technique for assessing and offering solutions to the challenges in the complex systems is increasingly being adopted. Colabi and Zali (2014:350) evaluated the association between entrepreneurship and system dynamics and noted that modelling entrepreneurship as a complex system assists entrepreneurs in enhancing the business network system and progress.

Rengkung (2018:1-14) describes system dynamics as a modelling mechanism that examines necessary resources and abilities in a particular system for assessing and understanding the complex systems in which changes happen within the business environment over a time. The most commonly employed model in system dynamics includes causal loop diagrams (CLD) and stock-and-flow diagrams (SFD). Notably, CLD indicates casual loop among the distinct groups of components/variables, whereas SFD is

designed from the causal loop diagram to focus on the physical structures. Teplov, Vääätänen, and Podmetina (2016) analysed the applicable system dynamics technique for modelling of both the external and internal determinants of the entrepreneurial processes. The researchers initially designed a conceptual model and suggested theoretical causal association that were examined with the help of equations. The research data was gathered from the Global Entrepreneurship Monitor (GEM), GEI, World Bank financial reports. Using these data, the researchers could test and equally establish the suggested causal associated and design model equations whose estimates were used to verify the model and its results. The outcome from the research indicated that entrepreneurship has a positive effect on the growth and development of the economy.

#### **4.6 System dynamics application in entrepreneurship/ entrepreneurial leadership research**

System dynamics modelling has been accepted widely in several domains to improve the general understanding of such systems. On this note, Cosenz and Noto (2016:703-741) established that highly essential learning and acknowledging competencies phenomena like management, economics, and engineering among others to be scenarios in strategic management. The authors note that several factors characterise business leadership and management, therefore the mechanisms and period of balancing the two is important for the progress of the organisation.

Cosenz and Noto (2016) argue that the system dynamics model may be used along with solid and sustainable approaches that align to the organisational requirements and offer precise cost-effective trade-offs. The authors further cite that the model assists entrepreneurs and managers in coming up with a more established business model. In line with the entrepreneurial leadership perspective, individuals who have a habit of thinking linearly, a component that leads to the effects of feedback not being effectively addressed. System dynamics enhance the individual skills of business owners, which can equally allow

them to have better insights during the decision-making processes. It can thus be concluded that the dynamics of a system are vital for entrepreneurial development.

Woodside (2004:987-1010.) notes that the system dynamics approach can be enlarged to accommodate the global business, businesses/companies which operate at local and international levels. From the author's point of view, the system dynamics technique allows the business to evaluate the probable elements and come up with solutions. This may be attained by offering a better insight into the various subsystems of business models and associations (Ashayeri, Keij and Broker 1998:817-831.).

System dynamics can appropriately be used in business organisations to trigger the question of what if behaviours and assess the most relevant business alternatives. An and Jeng (2005: 347-354) examined the efficiency and application of the system dynamics in particular business organisations. The authors note that the model allows entrepreneurs to come up with a simulation of complicated business patterns and behaviours of getting all the relevant informational activities and workflows. The capability of the system dynamics is in its ability to offer an accurate description of the entrepreneurial system behaviour considering the overall aspects that make it an essential tool for the business environment. Similarly, Gregoriades (2004:307-311) notes that a system dynamics approach within the business does well and can showcase the association between innovation and market alignments. The research supports the adoption of system dynamics within business operations. Through the inclusion of the real-world feedback loop, the approach offers entrepreneurial leaders with chances to change the system and attain greater competitiveness amidst the tensions.

Lyneis (2000) notes that a system dynamics technique can be employed for market analysis and forecasting. Business progress measures, profitability, demand, and revenue assist the top executives in making appropriate decisions. Lyneis (2000) further notes that system dynamics can be employed in the development of more relevant and accurate forecast for either short-term or mid-term initiatives. Unlike statistical techniques, system dynamics



familiarises the business manager with an understanding of the underlying factors and effects of changes within the market trends.

## **4.7 Chapter summary**

This chapter provides an in-depth analysis of the literature related to systems thinking and systems dynamics modelling approaches, providing context for objective 3. The chapter highlighted that South African entrepreneurs are dealing with intractable challenges triggered by the ever-rising complexity of the entrepreneurial system.

It is evident that the entrepreneurial systems in South Africa are sophisticated, complex and dynamic. Some notable challenges which affect the South African entrepreneurial system include but are not limited to legal and regulatory system including limited access to markets, lack of finance, tax burdens, inaccessibility to technology and business management and leadership skills. Thus, entrepreneurs need to understand the complexity of the current environment and appreciate that there is no ‘simple’ solution to the leadership problems they face.

As demonstrated in the chapter, conventional approaches to managing leadership in entrepreneurial systems, founded on traditional science paradigm, linear and reductionist, are inadequate in dealing with the uncertainties, complexities, and dynamics inherent in such systems. Moving from the conventional kinds of thinking to contemporary thinking necessitates alternative frameworks and theories to guide the choice of an appropriate analytical tool. A systems-based approach is proposed as an alternative method of thinking since it is more suitable in dealing with the complex dynamics of the real world and entrepreneurial complexities are best viewed and discussed using dynamic approaches.

In entrepreneurial contexts, systems thinking moves entrepreneurs away from focusing primarily on the individual parts of their businesses to viewing the whole business and entrepreneurial system as having its own set of unique characteristics, qualities and

dynamics. Systemic thinking enables entrepreneurs to understand their business system and how decision-making influences the success or failure of the business. Findings reveal that having a better understanding and insight into the various leadership problems and dynamics encountered by SMMEs, allow entrepreneurs to develop systems thinking strategies and interventions that can enhance the performances and sustainability of their SMMEs.

The next chapter will discuss the theoretical framework and research design underpinning this study.

## **Chapter Five - Methodology**

### **5.1 Introduction**

This research study aims to examine the entrepreneurial system concept and identifies challenges that impact the SMMEs' performance and sustainability in the Gauteng province. The study also intends to broaden the understanding of how a systems thinking approach can be applied in entrepreneurial leadership, towards addressing the complex dynamics faced by entrepreneurs in the entrepreneurial system. It does this by exploring the use of entrepreneurial leadership in responding to the various uncertainties, problems, and opportunities within the entrepreneurial system using systems thinking.

Entrepreneurial leadership skills and systems thinking approach can be used to enhance the SMME success rates and reinforce the efficiency of organisation support strategies. This research study aims to stimulate system dynamics in the entrepreneurial environment based on the systems thinking approach which entrepreneurs can apply in dealing with business challenges, dynamic conditions, and complexities that prevail in the small business entrepreneurial ecosystem.

This study adopted a holism model underpinned by methodological pluralism and mixed-method strategy. This study adopts a pragmatist philosophical approach and mixed-method case study to achieve its objectives. It consists of a three-tier research plan comprising semi-structured interviews, causal loop diagrams, and simulation modeling with each method addressing the research aim and the objectives.

This chapter discusses the methodology and research design that was used in the study. This chapter presents the philosophical background, research methods techniques, and data collection techniques, and analysis underpinning this research. The chapter presents the research approach used in the study to address the research aim and goals of the study as highlighted in the introductory chapter. The chapter is subdivided into three sections. It

begins by expounding the fundamental elements of a research design process in Section A. Section B discusses data collection methods employed in this study and, section C discusses the system dynamics methodology approach adopted in the study.

## **5.2 Section A - Research Methodology**

Kumar (2019) discussed various research techniques of the research as a systematic configuration of the entire research process, including the various decisions made by the researcher concerning the collection and evaluation of information to respond to the research questions. Flick (2015:599-608) maintains that the research method is a blueprint of the whole research procedure and surrounds the research technique applied by the researcher in addressing the research problem. A research approach must, therefore, be streamlined within the research scope, and the research problem being addressed by the researcher. Kumar (2019) outlines that there is no specific research method, and the approach applied by the researcher solely depends on the research phenomena being studied, the familiarity of the researcher with the method, and the ability of the adopted techniques to provide the most appropriate results. Novikov and Novikov (2013) argues that the research method bears the ability to influence the outcome of the study positively or negatively, based on its suitability. A favourable research method must be able to achieve the set research objectives and answer the research questions. A well-structured research method enables reliable and transparent findings.

The elements of a research method include the research ideology embraced, the research methods and strategies applied, the research population and sampling technique implemented, the justification for external and internal validity, the reliability measured and procedures, the data collection instruments, and finally the analysis and interpretation of the collected data. Kumar (2019) elaborates that in developing the various elements of the research methodology, a fundamental question that the researcher must answer is whether the study will take a quantitative approach, a qualitative approach, or it will be a combined-methods design. The applicability of each of the techniques is based on the type

of information that will be collected, the type of research phenomena, and the capability of the approach to meet the research questions satisfactorily. This part outlines the research methodology that was adhered to and presents a description for each major decision made and the anticipated effect on the research.

### **5.2.1 Study's philosophy**

This study regards entrepreneurial leadership as a multifaceted and complex phenomenon. With the characteristics of the entrepreneurial system and the increasing complexity of the challenges currently encountered by entrepreneurs, a single form of inquiry will be insufficient to examine the aim and objectives of the research. In this research, a case study was applied with the System Dynamics (SD) model as the modelling approach. The SD strategy served as the method to extract knowledge and data from the entrepreneurs within the entrepreneurial system in the Gauteng province. It allowed for deeper investigation of the structure of a system revealing hidden feedbacks that promotes the problematic situations within a system. The SD tool allows researchers to examine the system's structure to identify underlying structure, information flows and patterns of interaction and determine the behaviour of that system. According to Singh (2015), system thinking tools help researchers and stakeholders in the system, investigate their mental models, and recognise their perceptions and collective understanding regarding the problematic situation in the system, instilling systematic change and impact. The SD strategy allowed for the mixing of several models, epistemologies, research methods, and approaches so that all facets of the research challenge would be sufficiently investigated.

In addition, this study utilised a pragmatism approach. Pragmatism offers several ways to address dichotomies that exist in combined techniques to social science. Biesta (2010:95-118) addresses this by arguing that knowledge can only offer us information regarding the actions and the outcomes, instead of the generalised facts. The author cites that the importance of the pragmatism paradigm is that pragmatism disintegrates the step-by-step procedure between optimistic and constructive ways of knowing to look at what is

significant from both (Biesta 2010: 95-118) through abduction moving back and forth from between induction and deduction by converting observations into theories and then assessing those theories through action (Morgan 2007:48-76).

Pragmatism is utilised to understand the modern issues in the world and offers a richer and more realistic perspective of human behaviour than approaches utilised by rationalist and structuralist approaches. The pragmatism paradigm perceives the social world in terms of procedures that link all forms of entities in relational and recursive ways, since they do not see the clear circumscriptions encountered by the rest of the scholars. Their view can be outlined as anti-dualistic. Pragmatists adopt a process view of the world that appreciates the short-term and urgent features of social life (Hernes 2014).

### **5.2.2 Systems thinking philosophy**

Systems thinking uses approaches and techniques for implementing non-linear innovative thinking when addressing system challenges. System thinking allows researchers to view the system as interconnected parts or subsystems of the system (Simonovic 2009: 684-700). The system's approach investigates structures beneath complex phenomena. The systems approach is an approach for comprehending patterns of variations as opposed to static snapshots and for perceiving procedures and interconnections. Thus, the principles of systems thinking play a crucial role in investigating systems problems linked to interconnected subsystems such as entrepreneurial systems.

Systems thinking is put forward as a more comprehensive way of investigating and evaluating complex social issues since it is concentrated on the philosophy of Holism. Holism asserts that it is significant to analyse all the aspects of a challenge, as it is the interconnection and relationships between these various aspects that lead to the problem issue (Jackson 2000). Systems thinking is an overarching conceptual approach with a wide range of philosophies, tools and methodologies all based on the principle of holism. This

study was led by one of these systems, thinking methodologies known as System Dynamics (SD), which served as the theoretical structure guiding the study.

#### **5.2.2.1 System dynamics**

System dynamics is applied in identifying patterns of interactions among separate yet interconnected subsystems affecting the system's dynamic characteristics and structure. The Systems Dynamics (SD) approach entails establishing a model that incorporates the dynamic nature of the systems to determine the basic structure of social systems. Harris and Williams (2005) view system dynamics as a methodology for analysing and managing composite feedback systems such as entrepreneurial systems. In the context of this study, system dynamics offered context and modelling tools to investigate the research problem. The study advances the contribution of modelling through investigating the interdependencies, patterns of interaction, and feedback loops from the structure of the problem situation within the entrepreneurial system. Since the structure of the system is crucial in the identification of the root of all challenges, and evaluating the system holistically an SD approach was deemed suitable for this study.

Entrepreneurial leadership is a complex phenomenon, characterised by various stakeholders, ranging from the entrepreneurs, and actors in both the internal business environment and the external business environment. In South Africa, an average of 63-75% of new start-ups often fail as soon as they are established or after a few years of operation (Fatoki and Garwe 2010: 131); Mthabela 2015; Leboea 2017). Understanding the interplay between the different factors that directly or indirectly influence the entrepreneurial system is critical in solving entrepreneurial leadership challenges and implementing systematic change, determining entrepreneurial success and sustainability.

Tang and Vijay (2011) expound that a system dynamics approach is significant in investigating complex social issues; hence, its application in business is inevitable. The approach gives considerable insights regarding system behaviour considering factors such

as setbacks, assessment, flows, and funds, among others. The simulations established from the system dynamics models assist researchers in coming up with suitable policies and processes, by permitting entrepreneurs to decompose complex characteristics and patterns of the entrepreneurial system into distinct elements, to understand and solve system problems. Businesses are often established to solve several socio-economic issues; a facet that makes the system dynamics approach significant. This can be accomplished through analysing a dynamic structure of the entrepreneurial system, that captures detailed facts, interactions, flows of information, and other direct and indirect impacts, thus giving entrepreneurs an in-depth understanding of the status of the business (Tang and Vijay 2001).

The application of the system dynamics approach is reinforced by its ability to address the research problem of this study. The present study focuses on identifying and understanding pathways to entrepreneurial leadership development and adoption and deepen the current understanding of the concept of entrepreneurial leadership in selected SMMEs operating in the Gauteng province. The SD offers a feedback mechanism, which materialises through circular causality and information feedback loops. These assist in the breakdown and comprehension of a system problem, such as entrepreneurial leadership, and provides meaningful insights that are essential in enhancing the wellbeing of the system.

The system dynamics enables entrepreneurs to define an issue and strive to accomplish a collective and unified behavioural perspective of the distinct problem of the system. The approach allows the modeller to capture responses to the system problem, through identifying fundamental system structures and mental models in decision making to aid in the model development, simulation, and formulation of conclusions and policy recommendations. The systemised strategy makes it possible to gain an endogenous perspective, which holds the exogenous disturbances as fundamental triggers in variations of the system characteristics, thus providing a better understanding of the distinct subsystems of the system and their relationship during the re-engineering process (Ashayeri, Keij and Broker 1998:817-831).



Ashayeri *et al.* (1998:817-831) assert that the system dynamics approach can be broadened to cover international business re-engineering, businesses functioning locally and internationally. According to the researchers, a system dynamics approach enables the business to determine the suitable failure factors and points and develop solutions to improve them. Thus, system dynamics offer an opportunity for the entrepreneurs to design their businesses and ensure seamless flow of the resources, operations, processes, and other elements with a direct and indirect impact on the operational and success of the business.

Systems dynamics modelling can be implemented by best understanding business operations and processes and re-design them in a manner that eliminates failure factors and capitalises on the success factors. Woodside (2004:987-1010) argues that a system dynamics approach in the business discipline can be used to outset the relationship between innovation and market orientation, which encompasses customer orientation, competitor orientation, and sub functional coordination. The research additionally advances the utilisation of the system dynamics model in an entrepreneurial leadership and entrepreneurial system's context through investigating real-world feedback loops.

#### **5.2.2.2 Soft systems**

The soft systems methodology (SSM), one of the approaches in system thinking, offers the necessary tools for the systems thinkers to investigate human and social systems like the entrepreneurial system in the context of this study. Soft systems initially started as an organised approach of exploring human problem circumstances and drew upon systems theory to establish a practical method that could be applied to poorly structured or 'soft' real-world challenges. The philosophical strongholds of SSM include interpretivism, or hermeneutics, and advances to the central tenet of SSM's capability to deal with real-world challenges, the role of the people's global perspective.

SSM consist of a seven-stage process for analysing research problems through the exploration of a problem situation, problem circumstance conveyed; root description of essential systems; conceptual models; comparison of theoretical models with the reality; viable and desirable alterations; and action to enhance (Banathy 2013). Baskerville, Pries-Heje and Venable (2009:1-11) describe SSM as an approach and method that aims to accomplish three goals, namely: the realisation of the opportunities to enhance a system; creation of awareness amongst partners: and to realisation of the stakeholders' perspective (Checkland and Scholes 1990). In this study, the SMM approach was used as a tool to gain knowledge regarding the entrepreneurial system and elicit respondents' mental models and rich pictures which facilitates the researcher to comprehensively understand the issue and provide insights into how the system operates. This holistic view provides unique perspectives on how systems may be interconnected and how solutions may present themselves through stakeholder engagement (Jayaratna 1994).

### **5.2.3 The research approach**

The empirical stage of the study began with the identification of variables influencing the entrepreneurial leadership within the entrepreneurial system and was derived from the literature review. This made possible the development of a qualitative and conceptual model based on the mental models of the system stakeholders.

### **5.2.4 Case study approach**

There are multiple meanings attached to describe a unit of analysis or research method (Yin 2013). This study used a case study strategy that focused on the SMMEs as the unit of evaluation. Case studies allowed the researcher to gain a comprehensive understanding of issues enabling a holistic analysis of the case under investigation and how entrepreneurs understand and use entrepreneurial leadership to confront the complexities inherent in the entrepreneurial system. Case studies offer opportunities for intensive analysis of several specific details not considered by other methods (Guthrie 2010). A distinctive characteristic

of the case study is an in-depth presentation of the phenomenon in its real context (Yin 2013). Here, the case study allows for intensive investigation and understanding of the entrepreneurs' leadership challenges inherent in the entrepreneurial system and needs to be investigated for its singular comprehension and meaning, neither necessarily for generalisability nor interchangeability. It needs to be understood in its context and needs to include the historical and circumstantial background of the entrepreneurs in terms of their lived experiences and the vigour of which this case study issues a noteworthy case for investigation.

The initial stage of the case study design included gathering qualitative data for the succeeding phases of the system dynamics model. Case studies provide opportunities for extensive analysis of multiple details overlooked by other methods (Guthrie 2010). A distinctive feature of a case study is the comprehensive presentation it makes of the phenomenon in its real context. Yin (2009) states that interviews are an essential source of case study evidence because most case studies are about human affairs or behavioural occurrences. For exploratory research, semi-structured and in-depth interviews are suitable to find out what is happening and to seek new insights. Myers (2009) argues that one of the major advantages of the semi-structured interview is that it creates room for some improvisation in the interview's course. However, the case study research method is also open to criticism because of limited systematic procedures, and this is also because of being mistakenly related with case study teaching (Yin 2009) and for the absence of scientific generalisation. Yin (2009) claims that the aim of case study research is an analytical generalisation that technically entails an expansion of the generalisation of theories rather than a statistical generalisation. Case studies can be generalised to theoretical propositions rather than the populations of the world (Yin 2009). Researchers have been motivated to evaluate case study research depending on its fundamental principles as opposed to using procedures for other methods (Myers 2009).

### 5.2.5 Grounded theory research

Grounded theory principles formed the basis for this research. The grounded theory refers to the discovery or generation of theory from data systematically obtained from social research (Thomson, Petty and Scholes 2014:167-186). The grounded theory operates in a reverse fashion and may appear to contradict the scientific method (Thomson *et al.* 2014:167-186). In referring to strategies associated with a qualitative approach, Creswell (2003) notes that in grounded theory, the researcher attempts to derive a general, abstract theory of a process, which involves action or interacting grounded in the views of participants in a study.

Grounded theory is a research method that facilitates the discovery of theory from data to conceptualise the primary concern of participants and how they resolve a challenge. Specifically, it is a systematic yet flexible methodology for the concurrent collection and analysis of many data, including qualitative data, to construct theories that are grounded in data themselves. Methods are then devised, and data gathered, to either prove or disprove the hypothesis. Grounded theory, however, operates in a reverse fashion (Thomson *et al.* 2014:167-186). The first research step in this study is data collection, which in system dynamics terms refers to mapping the complex system or conceptualising the causal structure of the system under investigation. This is achieved by engaging with stakeholders in the system to elicit data. Analysis of the initial data then informs many further iterations of data collection and analysis throughout the research process until core conceptual ideas emerge to form a theory (Corbin and Strauss 2015). In this study, grounded theory provided a flexible paradigm in which a wide net could be cast to capture contextual richness and depth of understanding of the causal factors, which aligned well with the systems thinking paradigm of stepping back to see the larger system.

### **5.2.6 Selected methods for the study**

This study adopted a holistic approach underpinned by methodological pluralism and mixed-method strategy. In addition, the research study adopted a pragmatist philosophical approach and mixed-method case study to achieve its objectives stated in the introductory chapter and uses a mixed-method research design that is rooted in the pragmatism paradigm. As discussed earlier, the pragmatist paradigm was deemed suitable in this study because it includes both qualitative and quantitative research approaches, providing a more holistic understanding of the research problem and the phenomena through various modes of analysis combined in a continuous cycle of abductive reasoning. Mitchell (2018: 108) cites that “pragmatism is an attractive philosophical partner for mixed methods” and provides superior research results (Rahi 2017; Makombe 2017:3363-3382).

Furthermore, the study adopted sequential explanatory mixed methods. The case study strategy has been found suitable for creating and validating theory in a single study from one or more cases. In applying the mixed methods this study utilised both quantitative and qualitative data sequentially starting with a qualitative study then followed by a quantitative study. Triangulation in the study was achieved as the data was collected about the same construct in both qualitative and quantitative strands at the same time.

A three-tier research plan was used comprising semi-structured interviews, causal loop diagrams (CLDs), and simulation modelling with each method addressing a research objective. The data from literature and exploratory interviews were collected sequentially. The empirical phase of the study started with the theoretical investigation and assessment of the entrepreneurial leadership concept in Chapter 2, then followed by identification of the challenges and complexities faced by entrepreneurs within the entrepreneurial system in the Gauteng province in Chapter 3 and the entrepreneurial system description in Chapter 4. The semi-structured interviews were conducted as discussed in Chapter 6. The data was collected iteratively and was used to formulate causal and feedback loops which explained critical challenges faced by entrepreneurs in a complex entrepreneurial system as

demonstrated in Chapter 7. The conceptual models were therefore a means for capturing, describing, formulating, testing, and communicating the causal and behavioural theory of the complex system. The results were simulated in Chapter 8.

### **5.3 Section B: Data collection method**

This study utilised a literature review and semi-structured interviews as sources of primary and secondary data. A comprehensive review is thereby provided below on each of the study methods as sources of obtaining information.

Secondary data in the study was collated by carrying out a comprehensive literature review. The initial stage of the research involved investigating the concept of entrepreneurial leadership and challenges facing entrepreneurs in the entrepreneurial system in South Africa. The literature review included both South African and global sources and was based on the exploration of related themes and concepts in online databases. Online database literature searches were deployed as the fundamental technique for evaluating the literature and finding relevant academic and non-academic articles and sources. The researcher consulted several search engines, namely Google Scholar, ProQuest, Elsevier, and Sage publications.

The literature was investigated and used as the base to develop key themes identified in the literature. Similar procedures were used to evaluate the challenges impacting entrepreneurial leadership as far as the entrepreneurial systems are concerned. The search specifically explored studies that were carried out in the domain entrepreneurship, leadership, and entrepreneurial leadership. The literature was examined to determine and plot the indispensable variables, their relationship, and their influence in modelling entrepreneurial leadership. The gathered information was classified; for instance, the definition of SMMEs and entrepreneurial leadership was perceived from the local and international points of view. Several definitions were explained and evaluated for their applicability of developed and developing countries. The majority of the search related to

researchers' findings on entrepreneurial leadership and SMMEs. This approach helped the researcher to bring to the fore a developed concept of SMMEs and entrepreneurial leadership, and challenges facing SMME owners in the developing countries and South African context.

The investigation included carrying out the research and identifying the critical variables affecting the entrepreneurial system and what the problems are for both SMMEs and stakeholders in the entrepreneurial system in the Gauteng province. Every endeavour was made to ensure that the sources were appropriate and focused. The GEM reports and publications were derived for comparison with other countries or private companies. Aspects of the research process have been discussed in the second, third, and fourth chapters of the study and the literature review is the main data source for the initial system visualisation in the creation of the causal loop diagrams which will be elaborated further in the seventh chapter of the study.

The key themes identified in the literature informed the design of the semi-structured interview questions. The instrument was piloted with five participants to evaluate the appropriateness of the content and validity of the interview guide. The pilot interviews were conducted to shed some light on the participants' realities. The researcher could clarify ideas regarding the general impression of the participant's readiness to take part in the study. According to Yin (2013: 96), the pilot interview represented a formative procedure that gave rise to various technical and conceptual issues. Several questions were removed for repetition, whereas others were rephrased for precision. The next steps included incorporating these viewpoints in the final interview guide.

### **5.3.1 Qualitative study**

Once the researcher was granted permission from the Durban University of Technology ethics committee, primary data was gathered by carrying out semi-structured interviews.

The semi-structured interview technique has been adopted by system dynamics modelling (Forrester 1992:42-63; Luna-Reyes and Andersen 2003:271-296), participatory narrative inquiry (Kurtz 2014), and soft systems methodology (Checkland and Poulter 2006). The approach was embraced in the South African sugar industry to assess social intricacy in a supply chain environment (Proches and Bodhanya 2015).

Data was collected by interviewing the participants individually. The participants were questioned utilising semi-structured interview questions. These semi-structured interviews paved the way for the researcher to involve the participants by inquiring for more information. Forty-six participants comprising thirty-one males and fifteen females were deliberately deployed to participate in the individual interviews. The participants were included in the study if they were an SMME in selected municipalities in the Gauteng province. In total twelve participants were included from the city of Ekurhuleni Metropolitan, seventeen from the city of Johannesburg Metropolitan, and fifty-six were recruited from the City of Tshwane Metropolitan. The inclusion criteria are that entrepreneurs should have been part of an entrepreneurial system within the specified locations; or have operated businesses for at least one year and should have attended a leadership development programme or course.

### **5.3.2 Population**

Sekaran and Bougie (2013) assert that population comprises the whole cluster of individuals, objects, incidents, things, or significant scenarios under analysis and examination during research. Sekaran and Bougie (2013) describe the research population as the complete group of people, occurrences, or issues that the researcher wishes to evaluate. The population can as well be described in terms of geography and time. Babbie and Mouton (2011:100) elaborate on the definition of population as “the set of individuals regarding who the participants are”. The selected population consisted of SMMEs in the Gauteng province - extracted from the database listing SMMEs (The Gauteng Business



Propeller). These SMMEs belonged to different sectors, including agriculture, mining and quarrying, manufacturing, electricity, gas and water construction, retail and motor trade, repair services, wholesale trade, catering, accommodation and other trade, transport, storage and communications, finance and business services, community, and social and personal services.

### **5.3.3 Sampling technique**

The sample of the study is defined by Newman and Newman (2011:240) as “a small set of cases a researcher selects from a large pool and generalises to the population”. The sample is part of the defined population and CAWI based on this definition, it follows that the sample of the study will be smaller than the actual population. According to Sekaran and Bougie (2013), sampling refers to “the process of choosing suitable individuals, entities or events as representatives of the complete population chosen for the study”. The sampling technique refers to the method that is used by the researcher to select the targeted sample, in this case, SMMEs in the Gauteng province.

Purposive sampling, one of the most common sampling techniques for qualitative designs (Mack, Woodsong, MacQueen, Guest and Namey 2005) was used in the study and very popular among researchers in the social sciences. According to Teddlie and Yu (2007:77-100), purposive sampling is primarily used in qualitative studies where units (e.g. individuals, groups of individuals, or institutions) are selected based on a specific purpose or where people are deliberately selected for the important information they can provide. Purposive sampling can also lead to a greater depth of information from a smaller number of selected units. In addition, Cooper and Schindler (2014) comment that in purposive sampling, the researcher chooses participants based on their unique characteristics or expertise. Further to this, Saunders, Lewis and Thornhill (2016) and Leedy and Ormrod (2015) contend that in purposive sampling, individuals are chosen who would provide the most information to meet the research objectives.

The inclusion criteria were that the entrepreneurs needed to reside in the Gauteng province and operate a business from either the cities of Johannesburg, Ekurhuleni, and Tshwane and the business be in existence for at least one year. The participants were interviewed from the cities of Johannesburg, Ekurhuleni, and Tshwane. Those who had qualified to participate before the interview process were identified and approached by the researcher who expounded on the objectives and requested their informed consent for participation in the study.

As per Table 5.1, the sample size for this study comprised forty-six entrepreneurs in three distinct municipalities in the Gauteng province situated in South Africa with thirty-one males and fifteen females. Thus, the sample size of this study was large enough to provide a deep understanding of challenges within the entrepreneurial system and the creation of causal loop diagrams and modelling phases of the research process.

<b>Municipality area</b>	<b>Total interviews</b>
City of Ekurhuleni Metropolitan	12
City of Johannesburg Metropolitan	17
City of Tshwane Metropolitan	17

Table 5.1: Sample size

Source: Researcher's own compilation

#### **5.3.4 Data collection**

Data can be defined and described as the information collated by researchers to address their research needs. Hence, assembled information should be appropriate to give essential outcomes for the study. Research techniques include observations, surveys, case studies, experimentation, grounded theory, action research mixed approaches, among others, as stated by (Sekaran and Bougie 2013). A semi-structured interview survey was used in the study. Arguably, conducting an interview survey was the most appropriate technique for

the study because of its efficiency and relatively low cost compared to other data collection techniques (Sekaran and Bougie 2013).

The participants were recruited on voluntary grounds, with no incitement, and could leave the research at any time, and thus the decision to stay in the study was consensual. The term ‘informed consent’ means a total revelation of the state, processes, and responsibility of the participants in the prospective research and obtaining written consent from every candidate (Cooper and Schindler 2014; Leedy and Ormrod 2015; Saunders *et al.* 2016). The candidate-involvement data and consent form, as shown in Appendix 3, was designed, and handed over to the participants.

The interview process was conducted in the cities of Johannesburg, Ekurhuleni, and Tshwane. The interviews were conducted by the researcher along with two volunteers who assisted with translation as the research had limitations in understanding ethnic languages prevalent in the Gauteng province. The volunteers consented to participate in the study. The interviews were conducted at the respective offices of interviewees for freedom of expression, with minimal or no distractions and interruptions. The session lasted for approximately forty-five to ninety minutes and the interviews were recorded while the researcher took notes.

Saunders *et al.* (2016) claim that semi-structured interviews begin with a group of interview questions. Cooper and Schindler (2014) contend that semi-structured interviews give more and clear data. The researcher obtained important information that could be used during the system dynamics modelling process.

In addition to face-to-face semi-structured interviews, computer-aided electronic interviews were also utilised to complement the data collection techniques to attain the objectives of this study. Online interviews were delivered using Computer-Assisted Web Interviewing approach for online interviews. The application of CAWI has been reported to save time and increase efficiency (Tourangeau *et al.* 2013; Dillman 2000). CAWI supporters additionally commend audio-visual alternatives and the capability to associate

both remote populations and particular subsections as benefits (Wright 2005). Disadvantages are normally connected with discriminatory coverage of the intended population, such as the prohibition of people without internet access (Couper and Miller 2008). Extensive internet penetration can overcome this challenge. The entrepreneurs were called for recruitment and further arrangements for the interview.

### **5.3.5 Data management and evaluation - thematic analysis**

Qualitative data analysis techniques include thematic, narrative, discourse analysis, interpretive, phenomenological, and conversation analysis. The qualitative study requires a pliable examination strategy, which is the most significant advantage of thematic evaluation as stated by Braun and Clarke (2006: 77-101). The assessment involves information coding that depends on the structure (Braun and Clarke 2006 77-101). Once the initial coding was done, codes were combined into bigger sets by sorting those with the same content and definition. Combining the codes to form bigger sets continued up to a point that very few codes tarried. The following procedure in the evaluation process entailed the merging of codes into themes. The above procedure was useful in explicating themes from the raw data. However, the focus with the SD technique enabled the identification of the feedback effects between specific variables. Re-reading the information ensured a paved way for the evaluation of the themes at a comprehensive level and the realisation of the active variables in the themes; how the variables impact others; and the general characteristics established via the feedback effects. This allows the development of CLDs regarding individual themes, which later amalgamated to generate a qualitative system dynamics model portraying the universal feedbacks at hand recognised how the themes linked with each other. The procedure is demonstrated comprehensively in Chapter 7.

### **5.3.6 Process of data analysis**

This section expounds on the data examination procedures deployed to generate the themes from the forty-six interviews evaluated. The interviews incorporated forty-six entrepreneurs in three distinct municipalities in the Gauteng province situated in South Africa. The interviews were able to capture the general meaning of the participants' views and responses. Data analysis was conducted under guidance from a statistician. Once the data was interpreted, the entire process was reviewed exhaustively, and the errors were systematically eliminated.

A thematic assessment technique of data analysis was adopted to evaluate the data provided by the forty-six participants as asserted by Braun and Clarke's (2006:77-101) thematic analysis. Thematic analysis is a thorough and inductive conventional procedure orchestrated to determine and evaluate themes from textual information with transparency and reliability (Guest, MacQueen and Namey 2011). Alternatively, the thematic assessments incorporate several transcriptions and categorise them into related groups and themes. Using the thematic analysis approach, the information was sorted, coded, and classified once the audio interviews were transcribed, followed by construction, processing, and winding up of themes. The analysis ensured that the information derived from the process is sensible and the coded data provides the most appropriate themes that address the research questions and aims of the study. The analysis adhered to the inductive process of thematic examination highlighted in Table 5.2.

### **5.3.7 Cleaning and coding process of the information**

Cleaning activities and preparation of the interviews for coding involved a rigorous exploration of the scripts. Hence, the researchers rejected the typing mistakes and absent words. The introductory reading encapsulated the outlining of important paragraphs to simplify the data assessment process (Creswell 2013:205). Using NVivo 12 Plus in the initial phase enabled the evaluation of the scripts via lexical queries including word

frequency and text search queries to promote the coding, and a word cloud of the most common one-hundred words were produced. The coding process adhered to Saldana's (2015) coding guidebook. Table 5.2 depicts the thematic analysis outline

Stage	Illustration of the process
Acquainting oneself with the available information	Translating information where necessary, comprehension and re-comprehension of the information, considering the initial concepts
Producing initial codes	Coding fascinating behaviour of the information in a systematic way across the whole data set, gathering suitable data to each code
Discerning for themes	Accumulate codes into prospective themes, collating all data suitable to each possible theme
Appraising themes	Inspecting whether the themes function with the coded extracts (Level 1) and the whole data set (Level 2) producing a thematic 'map' of the examination
Describing and naming themes	The underlying evaluation is to process the particulars of every theme, and the general story the researcher gives, generating clear definitions and names for each theme
Report generation	The last opportunity for assessment. Adoption of lucid, impelling extract examples, the last evaluation of chosen extracts, connecting back to the examination of the research question and literature, and generation of an academic report of the examination

Table 5.2: Thematic analysis outline

Source: Braun, Clarke and Rance ( 2015:183-197).

## 5.4 A brief evaluation of the themes generated from the research

The primary themes transpiring from this research are reflected in Table 5.3. The table also highlights the number of quotations repossessed from every theme. Figure 5.1 and table 5.3 highlight the theme of “Leadership challenges and intricacies” with five hundred and forty-five references enfolded by all participants in the research. This is accompanied by the “Entrepreneurial Leaders” with three hundred and six references.

Main Themes	Number of Codes	Number of References
Entrepreneurial Leaders	46	306
SMMEs and Leadership Challenges	49	545

Table 5.3: Summary of the codes employed in the present study

Source: Author’s compilation

Figure 5.1 depicts the number of codes and quotations per theme

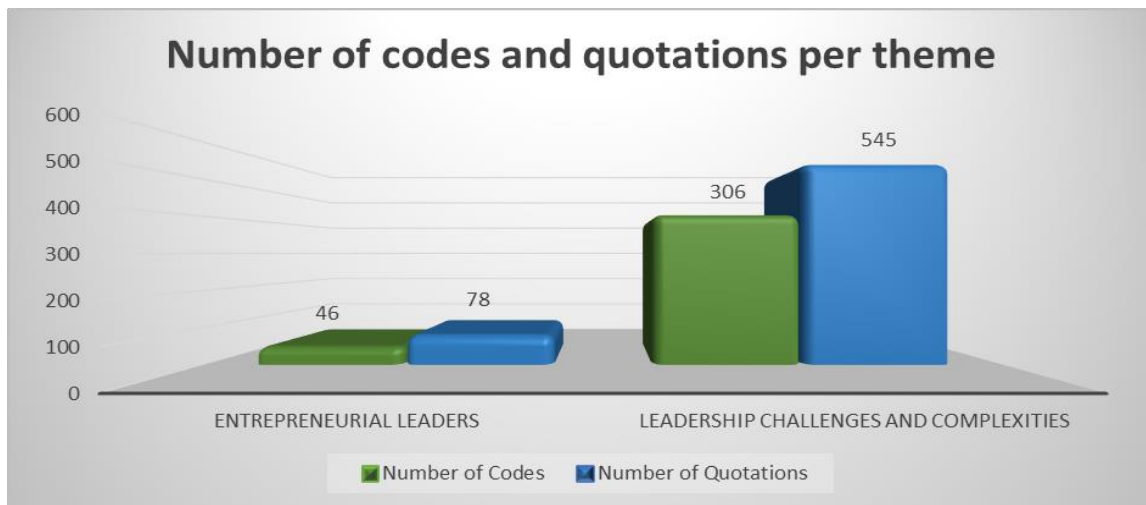


Figure 5.1: Number of codes and quotations per theme

Source: Author’s compilation

#### **5.4.1 Validity and reliability**

Every research regardless of the strategy applied in modelling should be scrutinised so it can show the validity and reliability of the study. Qualitative researchers consider trustworthiness, reliability, transferability, and adherence as reliable criteria for qualitative examination (Schwandt, Lincoln and Guba 2007:11-25). The rigor of the qualitative part of this study entails the overall planning and execution to ensure the authenticity and credibility of the study process. The reliability of this research stage was guaranteed by requisitioning the following procedure: credibility, dependability and confirmability

**Credibility** entails developing trustworthy studies. As far as the studies are concerned, credibility is guaranteed via the process of triangulation. Novel approaches were applied to enhance the survey such as the application of several information sources, including individual interviews and supplemental strategy to promote the believability of the research by the use of an unconventional coder to determine themes of the qualitative information.

*The dependability* of the research can be cited against the application of a set of linked techniques of inquiry, as deduced previously and comprehended in the chapter. The study was done to confirm that the research process was logical, attributable, and recorded in a conditioned way by providing a comprehensive exposition of the entire activity.

**Confirmability** describes the level at which the study results are validated and upheld by others (Guba 1981). The study findings were dispensed to the participants, partners, and academic specialists for authentication at each juncture and stage of the development process. More techniques to improve the confirmability of the results were achieved by incorporating independent and unrestrained coders to determine themes of the qualitative data and validate the results.

Specialists in the field were also requested to evaluate the interview questions to ascertain their validity and professionalism. Scholars working in the field of Entrepreneurs were



urged to give their views and remarks on the interview guidelines. Structural validity verification was accomplished by assessing the interview timeline and content validity of the interview guidelines. A provisional draft was electronically sent to different scholars and entrepreneurs for remarks and views before the completion of the questionnaire.

## **5.5 Section C: System dynamics modelling**

The previous section elaborated on the qualitative phase of this study. This section puts greater emphasis on the matter of translating interview data into the CLDs, laying a foundation for system dynamics modelling and simulation model (SDSM). SDSM can be defined as a computerised method based on the feedback control theory and the contemporary theory of nonlinear dynamics (Sterman 2000).

The model is developed on the postulation that time lags, nonlinearities, system responses, extension, and structural interactions between the features of a system which can be important in identifying an entire system's characteristics than the individual components of the system (Sterman 2000). System dynamics assert that the model of a system and its concomitant responses result in its discovered characteristics (Davies and Simonovic 2011). This study's approach used system dynamics techniques as demonstrated in Figure 5.2.

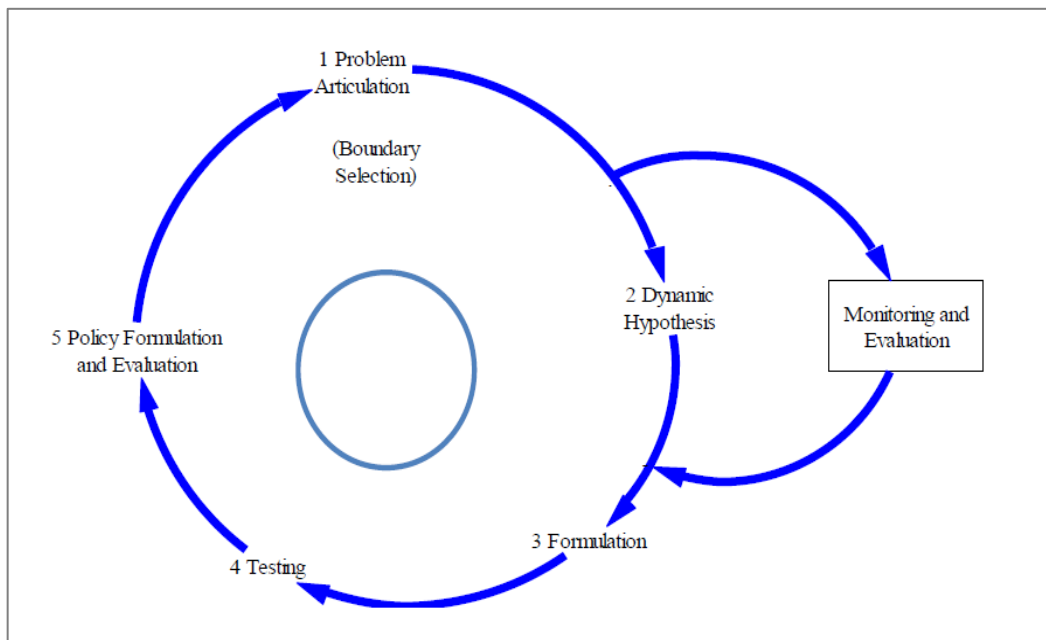


Figure 5.2 System dynamics modelling process

Source: Author's compilation

### 5.5.1 System dynamics modelling process

In system dynamics, a deep understanding of the system and its inherent structures and patterns of interaction are the primary and most significant steps to describe the problem. The process ensures that the relevant system limits of the problem are identified and sorted appropriately. Participants and stakeholders for the study are identified, and interviews are carried out as outlined in section 5.7. The third phase of the process is the creation of a causal loop diagram of fundamental variables prominent in the entrepreneurial leadership system dynamics. The finding was the creation of causal-loop diagrams as described in Chapter six and discussed comprehensively in Chapter seven. The CLDs are transformed into a stock-and-flow diagram, complemented with variables and initial states that can be mimicked with the aid of computer software (Kundapur 2012). The replicated model was thereafter validated as described in Chapter 8 of the study.

### **5.5.2 Model verification**

Model testing is a primary process since it enables the researcher to discover and realise the mistakes in a model and setting the platform suitable for clear comprehension (Stermann, 2000). In principle, carrying out more trials is recommended at this phase, thus a high precision and increased accuracy with the findings. The model was evaluated by conducting several trials as recommended by Barlas (1996: 183-210) and Sterman (2000).

### **5.5.3 Design and evaluation of the policy phase**

This is the final phase of the modelling steps as outlined by Sterman (2000). This phase entails the evaluation of policy options under different scenarios (Sterman 2000). Sterman (2000) asserts that designing policy carries more importance compared to the values of parameters, stating that policy design entails the establishment of contemporary structures, approaches, and decision regulations.

### **5.5.4 Ethical considerations**

The study was carried out in line with the ethical guidelines formulated by the university, and the ethical code of conduct suggested for social research (Babbie and Mouton 2011). This study was approved at Durban University of Technology Ethics Committee in 08 March 2018 (Appendix 1). Permission to conduct research was received from the gatekeeper prior to conducting the research.

All the research participants were aware of the nature, objectives, and purpose of the research. More light was shed on the participants about their withdrawal from the research at whichever juncture that would deem fit for them, depending on their judgments about the entire process. Participants were given the datasheet that provided an outline of the research and ethical considerations. Signed informed consent was then obtained from participants. The information sheets and consent forms (see Appendix 3) were translated

into local languages - isiZulu and Setswana, and interpreters were present at the interviews. The ethical guidelines concerning privacy, confidentiality, and anonymity were maintained during the research in addition to all the data gathered being treated with the privacy they deserved.

Ethical practices were observed and upheld throughout the data collection process. Ethical considerations were covered including voluntary participation, protecting the individual's feedback, and safeguarding the candidate's identity and reputation. Voluntary participation was done by distributing consent forms and ensuring that participants had a clear insight of the right to withdraw from the process at any stage with no legal implications and consequences. Permission forms additionally addressed the voluntary nature of the whole activity by expounding that no payment was needed for the participation and the outcomes could solely be for academic purposes. Further, considering the language barriers, interpreters were hired, who were required to sign a non-disclosure agreement.

## **5.6 Chapter summary**

This research study aims to broaden the use of system dynamics in the entrepreneurial environment based on the systems thinking approach which entrepreneurs can apply in dealing with business challenges, dynamic conditions, and complexities that prevail in the small business entrepreneurial ecosystem.

Findings reveal that the literature related to current trends in entrepreneurial ecosystems have explained the significant complexities and dynamics associated in entrepreneurial contexts in emerging countries. Entrepreneurial systems are inherently complex and traditional methods for solving problems in entrepreneurial systems have not fully accommodated the complexities and causal relationships associated with processes in entrepreneurial contexts.

One of the biggest challenges that policymakers face is how to devise appropriate strategies and policies for SMMEs that could attain business sustainability in highly complex and

dynamic entrepreneurial contexts. Past approaches, which depend on the traditional and mechanistic methods are no longer adequate to enable entrepreneurs to cope with complexities within the entrepreneurial system. Subsequently, findings reveal that interventions that are geared towards SMME and leadership development should incorporate holistic techniques such as system dynamics, which take into consideration environmental and socio-economic issues and their interrelationships within the entrepreneurial system.

System dynamics has been identified as a systems thinking approach to policy analysis and design. Research in the modelling and management of complexities in dynamic systems has resulted in the application of a number of system dynamics modelling tools and techniques in academic research. The system dynamics modelling technique is considered most suitable for this study as it reveals the cause and effects evident in dynamic systems such as the entrepreneurial system. This study adopted a systems thinking approach that directs attention towards key system variables, non-linear dynamics behaviour over time, feedback processes underlying those dynamic behaviours, and unanticipated consequences within the entrepreneurial system.

Semi-structured interviews were used to collate data from SMME in Gauteng. This data was used to understand objectives 4 and 5. Purposive sampling was used. Forty six participants were interviewed. Data was collected with the support of two interpreters and was analysed using NVIVO tool. The next chapter presents a discussion on the data collected during the study and discusses external and internal factors that affect entrepreneurial leadership.

# **Chapter Six - Qualitative Study Analysis**

## **6.1 Introduction**

This chapter presents a discussion on the data collected during the study. The sample for this study was drawn from a population of SMME businesses in distinct municipalities in the Gauteng province as a way of comprehending how complex and dynamic underlying factors influence entrepreneurs in their businesses. The collected information is a direct depiction of the perspectives of both genders who were incorporated in this research study. It can be considered that the research comprises thirty-one males and fifteen females. The number of male participants in the research outnumbers that of females because most SMMEs sampled for this research are owned by men.

Section 6.2 discusses internal factors that affect entrepreneurs and Section 6.3 discusses external factors affecting entrepreneurs. Section 6.4 addresses analyses of the entrepreneurial leadership concept. Section 6.5 presents factors leading to business failure.

## **6.2 Internal Factors affecting entrepreneurs**

Participants noted the internal problems influencing entrepreneurs and their business, as outlined below:

### **6.2.1 Crime and corruption**

Xavier, Kelley, Herrington and Vorderwulbecke (2013) revealed that corruption had become more prevalent, affecting the business's capability to survive and develop in SA, while the high levels of crime are influencing all businesses.

The data revealed that businesses are susceptible to crime. It is clear that crime is a major business environment constraint, particularly for informal SMMEs. Data depicts that crime

influences the business environment through acting as a direct violation of businesses' and property rights. Participants contended that crime, therefore, reduces the enticement for businesses to reinvest. Such a risk may cause businesses to give up possibly on new technologies and more lucrative production options. It also generates hurdles to access inputs as suppliers prefer not to operate in high-crime areas.

Participants in the study argued that entrepreneurs in Gauteng experience a wide variety of problems, some of which are specific to their businesses, and South Africa as a country, such as corruption, lack of infrastructure, and high levels of crime. Through the data analysis process of the study, crime appeared to be mentioned as a challenge faced by SMMEs who participated in the study. Participants in the study highlighted the impact of crime on their businesses.

*“Crime rates are on the rise within the area where my business is situated.”*

Sharing similar claims was **Participant 12**, who shared his concerns over the lack of security by the local municipality where the business is situated. The participant argued that “... it is substandard due to a lack of security around researchers are robbed frequently in our minor businesses” (Participant 4).

**Participant 25** also complained about the problem of crime in the area where his business is based. He noted that local citizens blame him for their inability to secure permanent jobs. As a result, they pull out guns and rob his shop:

*“Racism is a huge problem in my business, some people blame me for their unemployment. At times they point at us with a gun and take the money, and grocery and the police don’t even bother to help us” (Participant 25).*

It is clear that due to the high crime rate, entrepreneurs are not aggressively pursuing avenues to grow their market shares and stay ahead of competitors. Rather they are focusing

on operational matters. Furthermore, crime increases expenditures or investments in security measures to eliminate or minimise the likelihood of crime.

For SMMEs in informal areas, crime may destroy the advantages such as the convenience that comes along with their location. This is because they have to change operating due to the hours of functioning that have been conditioned by the probability of the occurrence of a crime.

### **6.2.2 Lack of financial resources**

One of the major problems that were pointed out as hindering the growth and survival of initial SMMEs in Gauteng is access to finance. Participants acknowledged that an increase of business investment in assets is associated with significantly higher growth levels, particularly for SMMEs, and small businesses with the lowest levels of investment are most likely to decrease. Participants reinforced that for entrepreneurs to gain substantial assets. They either need private access to finance or they need access to credit. Participants revealed that access to finance and the enormous time required to obtain financial support, are major problems for the South African entrepreneur.

Data derived from the participants showed that a lack of financial resources is one of the fundamental problems influencing the entrepreneurial leadership of most SMMEs in the study. Participants argued that lack of financial assistance from banks is a major challenge for them to be functional. Some entrepreneurs across the Gauteng province interviewed expressed how hard it was for them to get assistance from the banks. Participants highlighted how things have transformed from the past where it was easy to get financial assistance from the banks.

*“You do not get assistance from the banks. I have worked for the bank previously. In the olden days, ’ clients knew the bank manager and personnel personally, today it is different.*



*In the olden days, when people owed money, the bank officials made sure that these clients repay their debts as the interest brought income to the bank” (Participant 9).*

Supporting the information stated by **Participant 9** is **Participant 14** who said, *“Lack of funds for robust marketing is a problem, and this ends up influencing the leadership in the organisations. The businesses are not viable since researchers do not have the essential resources to promote our business and the sales”.*

Reinforcing the data above was **Participant 29**, who argued that that banks do not offer assistance to SMMEs when they apply for financing. She added that banks used to visit the business to ascertain the viability. Supporting the above-said information, the participant claimed that, *“When you need financing from the financial institutions, then they do not want to help you. They only want to help you later. Previously, bank officials will visit the business to evaluate profitability.”*

**Participant 15** posited that entrepreneurs must have a relationship with the banks. However, from the information provided, banks do not fund a business operating in certain areas as they perceive them to be high-risk, hence this is affecting the entrepreneurs as they may find it difficult to nurture their businesses. The participant argued that,

*“In terms of access to finance, it is important to have a relationship with the bank. The bank, however, does not provide access to finance to businesses operating in certain areas, because they perceive the risk to be too high.”*

Reinforcing of the information stated above is **Participant 3** who contended that, *“Lack of finance and resources is a huge issue as we are facing problems to buy machinery required for the business.”*

The access and general availability of finances and necessary financial resources are central to the development of SMMEs and businesses in South Africa. When businesses have

access to financial resources, it will enable the entrepreneur and businesses to attract and retain the skills they require, which as a result, will allow the business to be competitive and survive during periods of unfavourable economic conditions.

### **6.2.3 Inaccessibility to financial education**

Gaining access to financial education is another major issue that creates leadership problems that are experienced within the entrepreneurial system of most SMMEs, as indicated by the participants who were involved in the study. Participant thirty-one claimed that it is very difficult to obtain information about funding the small business from the government. The participant added that centres like SEDA, which offer financial education to SMMEs, are far from their businesses. The participant added that,

*“To obtain information regarding government funding is cumbersome. Technology can be used to promote services, and the government should go after this. It could additionally raise the precision of payments made to the government. SEDA is situated too far from businesses.”*

Supporting on the above **Participant 35** stated that,

*“It is hard to keep information because of lack of education and expertise for bookkeeping”*  
(**Participant 35**).

Reinforcing the statement above is **Participant 39**, who illustrated that his business would have expanded by now if he had known that the government offers financial education to SMMEs. The participant indicated that,

*“I think if I was aware that the government does provide training for SMMEs, my business would have grown and expanded by now.”*

*“Lack of trust amongst those involved, insufficient funds, poor decision-making result from poor financial education” (Participant 46).*

From the data presented it is clear that business failure experienced with the entrepreneurial system is also due to a lack of financial education and that the government does not have enough mechanisms in place to support small businesses and coach entrepreneurs on how to operate a business. Failing to use or lack access to business support systems by new entrepreneurs is one of the reasons business start-up failure in South Africa is on the rise.

#### **6.2.4 Poor infrastructure**

From the coding process of the study, participants pointed out the constraints that infrastructure could pose to SMME business growth. Participants illustrated the challenges they are faced with when they need to both travel and transport their workers' significant distances to access economic centres and their markets. From the coding process of the study, participants emphasised poor infrastructure as a challenge faced by most SMME leadership in entrepreneurs in running their everyday businesses. Data shows that in terms of domestic movement of goods, entrepreneurs experienced damages to stock during transportation. Because of this, it was found that transportation is a relatively higher constraint on SMMEs.

Participants shared that poor infrastructure leads to business failure experienced with the entrepreneurial system, and they attempt to apply alternative techniques to keep their businesses running. For example, **Participant 15** mentioned that the roads are not in pleasant condition and this has an adverse effect on the delivery of goods, and in turn, delivery goods' trucks get destroyed. The participant asserted that,

*“The roads are in poor condition, and it hinders the delivery of products to the customers. This is one of the reasons why I do not purchase new delivery trucks for this reason as the new trucks get destroyed because of the poor quality of the roads” [ Participant 15].*

Cementing the notion above, **Participant 25** stressed that there is poor service delivery in the area. He indicated that water supply is vital in the daily running of the business as people need water for different reasons, amongst them flushing the bathrooms. From the data provided, it is clear to note that water service delivery is a big problem as echoed by **Participant 25** who asserted that,

*“The water pressure is too low and the water supply gets disconnected frequently. I have 28 people working for me, and clients need water to flush the toilets. The water pressure or the lack of water is very troublesome. I thus had to put in water tanks to ensure a sufficient supply of water. I furthermore have solar panels that I use for electricity as the constant supply of power is tricky in the area where the business is located”* [sic].

#### **6.2.5 Lack of training in financial management**

The information derived from the entrepreneurs who participated in the study noted that the lack of training is among the factors that led to business failure within the entrepreneurial system. Participants highlighted that because of a lack of training in financial management, many entrepreneurs also had no expertise with the business. Some participants claimed that they do not keep financial data and for those who mentioned that they did have financial records, they did not receive any training assistance with their record-keeping. For the entrepreneurs in the informal sector, specifically, SMME entrepreneurs emphasised that they have not been exposed to any financial literacy courses. Interestingly, from the evaluation, participants asserted that,

*“Lack of training from entrepreneurs influences entrepreneurship, promotion of the expertise of the staff, as well as overall management training”* (**Participant 4**).

Some participants insisted that lack of training contributed to “SMMEs’ inability to successfully adapt to competitive environmental problems”, claimed **Participant 32**.

Participants stated that insufficient training in entrepreneurial leaderships influenced SMMEs and most of them failed to adapt to the latest accounting systems, information technology, management ideas, and production approaches.

#### **6.2.6 Inadequate technology**

Communication technology are indispensable in today's business as it enhances business growth and development. Many SMMEs lack suitable technology. They find it hard to compete with their larger counterparts. Inadequate technology has been termed as a huge constraint for SMME business growth in Gauteng, as expressed by the participants. Participants claimed that small businesses tend to experience a low productivity rate in businesses because they are not making use of advanced technologies. Some indicated that this results in the SMMEs being uncompetitive concerning the larger businesses. From the data provided, **Participant 20** claimed that,

*“Most SMMEs in my municipality are not advanced with their technology due to financial restraints, but also the entrepreneurs have limited know-how in the area of the technology”* [sic].

Data indicates that most SMME stakeholders lack the correct knowledge and capability to choose the most suitable technology for their business needs, as contended by **Participant 33**. The data provided by some participants show that inadequate technology is a hurdle for the growth and development of the small business; hence **Participant 5** argued that,

*“SMME entrepreneurs must initiate the investment in relevant technology to increase the capacity of their businesses as far as quality and productivity are concerned.”*

Application of the latest suitable technology is among the most crucial factors that contribute to the success of SMMEs' competitive advantage; however, the growth and expansion of small businesses are limited due to the lack of technology or skills to research

and come up with new business concepts. SMMEs have limited access to technological advancement partly because they lack the most appropriate data and continue to hold on to poor and outgrown technologies Chipangura and Kaseke 2012).

#### **6.2.7 Poor communication**

Communication is regarded by participants as the lifeblood of any modern organisation. The data depicted that entrepreneurs have been unsuccessful in designing and implementing their communication approaches; they have a long way to go.

*“Communication is fundamental, and poor communication in the business deters advancement thus influences business growth” (Participant 2).*

Supporting the claims, **Participant 9** echoed that,

*“Difficulties in communication and planning lead to low motivation of employees; hence no new developments can accrue for the SMMEs” (Participant 9).*

It is clear that poor communication poses a threat to the survival of the SMMEs and this may affect their chances of attracting, satisfying, and retaining their key stakeholders.

#### **6.2.8 Lack of entrepreneurial leadership skills**

The information received from the participants showed that entrepreneurial leadership plays a fundamental role in developing entrepreneurs and their businesses and largely affects the daily operations of the small business and subsequently improves their performance and sustainability. Therefore, a lack of entrepreneurial leadership skills impacts negatively on the business and affects operations as echoed by the participants below:

*“Poor leadership skills allow entrepreneurs to lose focus on the business and mismanagement and embezzlement of funds or putting the business at risk all the time”* **(Participant 12)**.

*“Entrepreneurs suffer from limited leadership expertise and operational practices suitable for small business management”* **(Participant 22)**.

Participants stated that there is a need for entrepreneurs to possess entrepreneurial knowledge, skills, and education appropriate for their operations so that their businesses will grow.

The information displayed by the participants depicted that poor entrepreneurial leadership skills are a big problem in most SMMEs as it influences the fundamental role of the formulation of the business’s approach and in maximising the profits in ensuring the smooth flow of business operations. Participant thirty-four noted that:

*“Poor leadership skills can be reflected through the individual goals of a leader which influence the strategies formulated by the stakeholders.”*

#### **6.2.9 Poor educational qualification**

Comprehensive analysis of the information depicted that a lack of educational qualifications for entrepreneurs poses a major challenge to the growth of their small business. Data indicates that small business entrepreneurs have lower levels of education compared to large business owners. Most participants claimed that for entrepreneurs to start and nurture a business, they require certain competencies that can be developed through education and training initiatives. Insufficiency or a shortfall in education thereof can present a major constraint for SMMEs that leads to business failure. **Participant 6**, for instance; posited that,

*“Poor educational background is a major issue. Some owners have not acquired the required professional education, and it is hard to operate a business and be successful without knowledge and skills.”*

The sentiments were echoed by participant eighteen who asserted that:

*“Lack of education and poor professional background influence business and leadership.”*  
Most significantly, the level of education was identified to be among the contributing factors to the level of performance for the small business as stressed by Participant 26,

*“The managers of small businesses have scanty formal education as far as business ownership, management, and successful sustainability are concerned.”*

### **6.3 External factors impacting entrepreneurs**

The generated data from those who participated in the research showed that the external environment of a business can be defined as the defects that appear from the outside of a business that influences the organisation’s capacity to operate appropriately. The growth and development of some participants were hindered by some of these external epidemics. Limited management skills and expertise embedded in entrepreneurs is one of the external forces that affect small businesses. Insufficient proficiency in entrepreneurs makes it hard for the business to adapt to the varying trends in technology besides grappling to access loans and finances. The development and growth of any business are influenced by SMME leadership. Some of the challenges that should be addressed include stringent government regulation policy; inadequate financial support from money-lending institutions and the government; competition; and limited or lack of municipal support. The mentioned factors have adverse consequences on the success of the business.



### 6.3.1 Rigorous government regulation policy

The business regulatory environment is among the primary elements which had a negative effect on the growth and development of SMMEs. Ferreira (2007) noted that SMMEs in South Africa cannot accomplish their set goals and objectives because of multiple obstacles such as civil service and red tape, weighty regulations, and tax. One of the major hurdles encountered by the majority of SMMEs in Gauteng, as claimed by participants who took part in the research, is that of rigorous government regulations that stifle the organisation, rather than aid growth, by helping. From the results, the barriers are an outcome of the finite funds that are supposed to be available to SMMEs to promote their business growth. Intriguingly, partakers contended that *“It is asserted that government regulation policies should protect SMME leadership, however, their implementation usually lead these small businesses’ and its leadership to disintegrate”* (Participant 4).

*“Government regulations and the lack of transparency in them influence our organisations”* (Participant 13).

Through procedures of data examination, participants asserted that government regulation policies governing the formation of small businesses are cumbersome and complicated, and contradictory, therefore small businesses often find it challenging to adhere to the government regulation policies. Some participants observed that the government has developed novel methods of administration and regulation which are considered as the most fundamental interference for entrepreneurs in their ability to establish and operate a business, hence influencing the entrepreneurial system of most SMMEs who participated in the research.

A rigorous regulatory environment has been developed to minimise the rate of entrepreneurial activity. South Africa has various regulations that undermine entrepreneurship by limiting access to crucial resources such as talent and capital which form an unstable and incalculable business environment (Simodisa 2015).

### 6.3.2 Lack of financial support from banks and government

The participants reported that several SMME owners expressed that they encounter an uphill role whenever they attempt to secure loans or financial support for their businesses from the government and banks. Some of the participants complained that even when they secure the loans, the owners uphold that the profits make it almost non-viable to break even.

While examining the information, participants in the research study accentuated that there seems to be a realised lack of expertise and skills amongst SMME stakeholders, and it necessitates the government to offer consequential and thoughtful entrepreneurial support in the various stages of the South African curriculum. They demonstrate that the lack of such reinforcement from the moneylending and government leads to the non-fulfilment of the SMME leadership. The participants asserted that:

*“It is almost impossible to get help from the banks and the governmental institutions. Formerly, I worked as a staff at a bank and the clients could easily get access to whichever financial assistance he or she needed regardless of the size of their businesses. However, recently that is not the case” (Participant 34).*

*“Banks are reluctant in offering help to SMMEs when they apply for funding” (Participant 29).*

*“Whenever there is a need for funding from the financial institutions, then they are unwilling to offer the appropriate help: The banks will help the owners at a later date when there will be no urgency for the matter. Earlier on, banks and the governmental institutions could visit the organisation before ascertaining the need to fund the business as far as profitability is concerned” (Participant 44).*

The collected data revealed that it is a hurdle for small and medium entrepreneurs to relate with the government, especially if they viewed the SMMEs as a high-risk venture. Sadly, it can be noted that limited financial assistance from the banks and the government is among the major challenges disconcerting SMMEs since a good number of them cannot raise the necessary funds appropriate for the organisation, either as the initial capital or when the necessity for expansion arises as stated by **Participant 4**.

### **6.3.3.Competition**

*The collected information from the participants illustrated that many small business organisations are exposed to an increasingly competitive environment against developed businesses, making it almost impossible to maintain a sustainable and competitive advantage. Participant 7 stated that:*

*“Unhealthy competition from large businesses negatively influences the leadership and tampers with the communication of the entrepreneurs.”*

Supporting the previously discussed concept is **Participant 8** who argued that *“Big competition from large businesses is an element influencing our businesses”*. Participant 6 narrated that competition and limited funds for extensive marketing is a major challenge for entrepreneurs which, therefore, negatively affects the entire business. He stated that,

*“Insufficient funds to study marketing and competition is a factor.”*

From the evaluation of the information derived, participants highlighted that SMMEs competitiveness in the Gauteng province has stuck in the mud because of lack of skilled labour and development of exceptional expertise as explained by **Participant 10**.

**Participant 25** highlighted that:

*“External factors, such as competition, lead to the collapsing of an organisation since majority leadership is unable to adapt to the pressures of the competition.”*

#### **6.3.4 Lack of municipal support**

The results provided by the participants showed that lack of municipal support is an element that contributes to the erosion and disintegration of SMME businesss in the Gauteng province. **Participant 13** agreed with the data by arguing that *“Insufficient government and municipal support for minor businesses, the limited clarity in what one needs to adhere from them to operate an organisation, inconsistency in the various provinces, municipalities, and cities with as far as rules and regulation are concerned, improper training, pedagogy, reinforcement, and tax relief, the lack of expertise, insufficient or limited public transport among others.”* **Participant 21** supported this comment by noting that, *“It is strenuous since there is no support from the institution such as our municipalities and no support from the society that expected to reinforce the business.”*

Entrepreneurs stated that government intervention initiatives were unfruitful because of the challenge of mismanagement, failure to monitor, and poor execution. Arguably, intervention programmes are ineffective for inadequate marketing, making it impossible for the new and the small entrepreneurs unaware of their significance.

### **6.4 Analysis of the concept of entrepreneurial leadership**

Analysing the information revealed that the participants who took part in the study were able to traverse and understand the concept of entrepreneurial leadership. Most of them contended that acquiring entrepreneurship or leadership standards by entrepreneurs alone cannot guarantee the success of these small businesses. Information presented indicated that entrepreneurs must acquire both leadership and entrepreneurship characteristics for their organisations to flourish. Appealingly, from the strategic analysis process, most

participants asserted that entrepreneurial leadership is a *“peculiar and modern type of leadership that is composed of leadership qualities with the spirit of entrepreneurship:”*

#### **6.4.1 Definition of entrepreneurial Leadership**

The data collected from the participants depicted that in business, entrepreneurial leadership has become primarily significant for business development, and entrepreneurs should put emphasis on entrepreneurial leadership for them to accomplish business objectives and promote growth and continuity. **Participant 11** highlighted that *“Leadership is an exercise aimed at influencing the staff of a company to accomplish the business objectives”*. Expounding on the above viewpoint is **Participant 1** who also argued that *“Leadership is the capability to guide others by achieving goals and acquiring knowledge and conveying knowledge to others”*. Supporting the above statements is **Participant 2**, who claimed that *“Leadership entails managing, guiding and collocating the business or company using distinct leadership styles”*. Also, **Participant 6** contended that leadership for him *“is a role that involves the provision of guidance and overall direction to employees or those that take directives from you and apply for the achievement of business goals”*. Concisely, most of the participants claimed that leadership is an act of power impacting others to accomplish organisational objectives.

#### **6.4.2 Entrepreneurship**

Participants who participated in the study partly asserted that entrepreneurship is perceived to be the driving force behind the development of many organisations, SMMEs, the establishment of employment, and progress of the South African economy. Some participants stressed that this idea entails production in the organisation.

Participants acknowledged entrepreneurship as *“the procedures, caused by people, of realising new opportunities and translating them into marketable goods and services”* stated by **Participant 43**. Most of the participants echoed that entrepreneurship is a process

of realising new opportunities and changing them into marketable, viable products. Reinforcing the above observations is **Participant 7** who claimed that *“It is a task that entails providing guidance and general direction to subordinates or those that look up to you and it centres around formulating and developing a project idea and creating a new business idea by assuming an economic risk in return for profit.”* Some indicated that in entrepreneurship, change and innovation are key in growing the business. From the information provided, **Participant 20** commented that *“Entrepreneurship is a process of Recognising novel prospects and transforming such prospects into vendible and lucrative products.”* Supporting the above-stated statements, some entrepreneurs argued that entrepreneurship centres on creating and developing business ideas to achieve expected results.

From the results of the research, it can be observed that entrepreneurial leadership is a combination of entrepreneurship and leadership which applied effectively and efficiently to enhance business opportunities for them to acquire a competitive advantage. Some participants mentioned that the success of a profitable business depends on the effective entrepreneurial leadership of business management.

**Participant 36** claimed that *“It is a way of generating value for organisational owners by combining a unique innovation package of resources to respond to an identified opportunity.”* Echoing the above information was **Participant 11** who asserted that, *“is the ability to offer leadership expertise as they are ready to generate more leaders than followers”* and **Participant 13** posited that, *“Entrepreneurship leadership is leaving an exemplary life and feel comfortable to develop the people beyond what is needed in the businesses.”*

As for **Participant 17**, the concept refers to *“...preferred form of affecting people is by earning respect by leading from the front with personality, being friendly with an open-door policy, willing to pay attention to ideas from employees, surrounding myself and drawing wisdom from friends and mentors and having a clear, fair and precise limit.”*

Evaluation of the information interestingly depicted that “*entrepreneurial leadership is a way that is unique from other leadership styles in the sense that entrepreneurial leadership emphasises much on opportunity identification and exploitation regardless of whether the environment is steady or unstable.*” **Participant 25** emphasised the definition by contending that, “*entrepreneurial leadership is a societal impact process in which the leader seeks the voluntary involvement of juniors to reach the business objectives regardless of the environment where the business is situated.*”

#### **6.4.3 Entrepreneurial skills**

From the extracted information most participants stated that they lack entrepreneurial skills necessary for their businesses to be competitive in the market. Some of them asserted that the idea involves talking to juniors on how to initiate a sustainable small business, managing and motivating staff as well as mentoring less experienced individuals who are part of the business. For some, entrepreneurial skills include contributing to goods and services these SMMEs are providing in developing new markets for their products.

For instance, **Participant 4** stated that “*Marketing essentially; advertising and giving quotations and running of the business.*” Supporting the above point is **Participant 6** who commented that, “*Checking the available roles on a weekly and daily basis, planning for them, ordering stocks and ensuring a smooth preparation procedures and service.*”

Also, supporting the information stated above is **Participant 20** contending that “*To grow business through mutual respect, hard work, loyalty, experience, honestly understanding knowledge.*”

Reinforcing **Participant 20's** sentiments, **Participant 24** indicated that *“Being good in improving staff and give good customer service.”* From the information at hand, most of the participants asserted that their work in the *“small business they are operating is about people/customers if they look good; they will attract more clients to us”*, **Participant 34**.

#### **6.4.4 Views on entrepreneurial leadership development**

Data extracted from the participants highlighted the importance of entrepreneurial leadership development within SMMEs and most of the entrepreneurs viewed them as central to business success and growth. From the data provided by the participants, leadership development as per **Participant 4** is *“Expansion and job creation with the small businesses”* and for **Participant 6** *“It is a very crucial section of any business or society, and it needs to be taught at schools”*. It is also important to note that, *“Leadership development is critical to enlarge the capacity of individuals to be able to perform leadership tasks in the business or an organisation”*, contended **Participant 9**. Supporting the above-mentioned information is **Participant 21** who indicated that, *“Leadership is the act of creating a vision for the future inspire and motivate people with the vision.”* For some SMME owners who took part in the study, leadership development could mean that everyone is a learner.

From the data analysis process, though most of the participants agreed that entrepreneurial leadership development is vital for the success of each business, **Participant 13** indicated the importance of having various programmes on leadership and entrepreneurial coaching. The participant highlighted that *“Threshold must take the form of a various programme in the leadership coaching facilitated by the City of Johannesburg with skills development programmes for the coaches to filter down to young and passionate entrepreneurs.”* For **Participant 28**, leadership development is about leaders being able to show the way. Concluding on this point, **Participant 44** argued that, *“leadership development comes about as a result of the training from early stages”*.



## 6.5 Factors leading to business failure

The factors leading to business failures' internal leadership problems, are discussed in the sub-sections below.

### 6.5.1 Internal leadership problems

Through the data analysis process, most of the participants who took part in the study argued that entrepreneurial leadership plays a vital role among SMMEs, and it significantly impacts the day-to-day performance of these businesses. Hence, for SMMEs to succeed, the entrepreneurs need to become entrepreneurial leaders with adequate knowledge, a strong educational background, and expertise necessary for empowering them in their respective roles in their businesses.

From the information provided, most SMMEs in Gauteng suffer from limited entrepreneurial leadership expertise and operational practices necessary for the development of the small business. This is expressed by **Participant 6**, who argued that *“Lack of qualifications and the required knowledge is a barrier that leads to leadership failure of these small businesses.”*

Supporting the above information is **Participant 46** who argued that *“A deficiency of leadership skills, lack of knowledge of the entrepreneurial system influence the entrepreneurs lead to the collapse of the business.”* Additionally, participants in the study stated that a lack of expertise reduces the success rates. This is expressed by **Participant 36** who also indicated that *“Lack of trained personnel in other organisations and favouritism is a barrier.”* Data indicates that a lack of business knowledge is a major drawback that leads to business failures. Most of the participants indicated that there is not much information available at the entrepreneur's disposal, which then contributes to the low expertise and operational practices needed to run a small business effectively.

Participants also expounded on the lack of appropriate communication channels adopted by entrepreneurs as a major leadership challenge to the SMME owners' experience. From the information, **Participant 44** added that *“Inappropriate communication in the leadership of the entrepreneurial structure, as well as one-sided or biased communication, does not work alongside SMMEs.”* Supporting the above-mentioned information is **Participant 12**, who also explained that *“Lack of communication and being rigid to adapt new development trends, and being bossy, not managerial, are some of the internal hurdles affecting our business.”* **Participant 9** discussed the challenges experienced in communication causing low motivation and loss of morale among the subordinates.

The data examination process depicted that insufficient grounding that cultivates self-belief among the entrepreneurs is a leadership problem encountered by most entrepreneurs hence they fail to rise to *“dizzy heights as they seem to avoid the consciousness more often”*, echoed **Participant 45**. Echoing the statement above is **Participant 22** who contended that, *“Instabilities, aversion, lack of decisiveness, inability to be precise and clear whenever a challenge arises, impatience with others, influence the leadership and leads to leadership failure in most instances.”*

Management competence in SMMEs was scrutinised. It was realised that inappropriate managerial competence was the main factor resulting in SMMEs' failure (Martin and Staines 2008: 23-34). Halabi, Barrett and Dyt (2010:163-179) revealed that small business stakeholders have a very fundamental knowledge of financial and accounting data and have serious challenges with financial planning literacy. On the same theme, it has been claimed that small business stakeholders have little knowledge about financial matters and discovered that those with little or limited financial planning expertise do not even value the information extracted from financial statements (Alattar, Kouhy and Innes 2009:81-107).

Fatoki and Garwe (2010:131) and Van Scheers (2016:349) maintain that lack of fundamental entrepreneurial skills such as business planning as one of the reasons why

small businesses fail, while Lekhanya (2015:414) argued that a lack of entrepreneurship education is the primary reason for SMME failure in South Africa. According to Mohammed and Nzelibe (2014:4), having a well-versed and good business management expertise is crucial to any individual to run and successfully manage a business.

### **6.5.2 Leadership challenges**

Notably, leadership has a bearing on the managerial aspect of the organisation, hence a lack of it has a negative effect on the growth of the business. Concisely, from the information provided, poor leadership in an organisation can fail the leadership and, to a greater extent, the entire business.

Moreover, the research depicts that insufficient government and municipal support for small businesses is one of the major external challenges the entrepreneurs is faced with currently. **Participant 4** indicated that *“Lack of government and municipal reinforcement for small businesses, lack of precision in what is needed to be adhered with to operate a business, inconsistency in the different provinces, municipalities, and cities with regards to rules and regulations, the lack of training, coaching, support and tax relief, the lack of public transport, etc.”* Supporting the stated information above, **Participant 6** contended that, *“There is scarce information available at entrepreneur's disposal. Lack of funding and support”* [sic]. Supporting the two participants is **Participant 21**, who insisted that the lack of support from stakeholders such as banks and government are an external challenge entrepreneurs encountered. The participant states that *“Little or no support from the community expected to offer support to the business and lack of support from institutions, especially banking was a major hindrance to the flourishing of an organisation.”* Most participants complained about this factor.

Notably, a support structure to any leadership by institutionalised owners is vital as it brings stability to the leadership and the business at large; thus, the growth of leadership is rife as echoed by participants. Some participants explained the lack of finance to fund

entrepreneurial expertise and competition from other SMMEs as other external challenges were encountered.

**Participant 4** claimed that *“Substandard marketing approaches and hurdles in getting finance when you need to expand your company and your expertise is our worst nightmare as business owners.”*

For some, these leadership challenges are an outcome of not having the baby boomer’s generation as part of the organisation. **Participant 23** posited that *“it is lacking, the older generation 45-65 have sufficient technical skills and experience that can only be brought with time-basically, individuals normally retire at sixty-five and then stay at home. Entrepreneurs should tap their skills and make use of them by hiring them as part-time or freelance coaches of the younger staff members.”*

## **6.6 Trustworthiness of information**

To ensure the trustworthiness and reliability of the information, the researcher was guided by a statistician in the analysis procedures to guarantee consistency, reliability, solidity of the coding procedure and the generated codes. The inspection of the quality validates the assumptions drawn from the code generation process (Bazeley and Jackson 2013). Because the process is subjective, collective coding helps minimise the prejudice that comes along with qualitative data since it offers multiple viewpoints in the data translation process (Guest *et al.* 2011). However, to increase data precision, Computer-Aided Qualitative Data Analysis Software (CAQDAS) NVivo version 12 Plus was incorporated.

Emphasis was on how entrepreneurs apply entrepreneurial leadership in response to unpredictability, challenges, and opportunities in a business structure and decipher how the concept of systems thinking can be employed in entrepreneurial leadership in dealing with the compounded dynamics encountered by the involved entrepreneurs. Open coding was applied in the analysis through the allocation of initial codes to the chosen paragraph. Codes

can be defined as “*badges for allocating meaningful units to the illustrative or deducible information assembled during research*” (Fereday and Muir-Cochrane 2006:80-92). The initial coding cycle entailed procedures such as Vivo coding, descriptive coding, and process coding. Once the codes had been generated, they were arranged scientifically into a codebook under their group, genre, and relationships. The original quantity of codes generated was forty-five. Thereafter, these codes were refined, combined, collapsed, and deleted depending on their significance. Finally, thirty-two parent codes were obtained. The recognised themes were tagged and processed based on the research questions and goals. The process of examining inductive information led to the emergence of two main classes, which are discussed in the subsequent chapters.

## **6.7 Chapter summary**

Research findings highlight that SMMEs encounter significant challenges that hinder their survival. A number of internal factors that pose leadership challenges were identified namely (i) crime and corruption, (ii) Lack of financial resources/finance (iii) Lack of financial education, (iv) infrastructure constraints, (v) lack of training, (vi) lack of technology and (vii) lack of entrepreneurial leadership skills.

The study findings reveal that crime and corruption impact the entrepreneurial system entrepreneurs operate in. Entrepreneurs experience high levels of crime, with crime appeared to be identified as one of the challenges faced by entrepreneurs. Lack of financial resources/finance is cited as hindering the growth and survival of SMMEs. Lack of financial assistance from banks is a major challenge for entrepreneurs. For the entrepreneurs to acquire substantial assets, they either need private access to finance or they need access to credit to finance their businesses. The enormous amount of time required to obtain financial support, is major problem for the entrepreneurs.

Findings reveal that lack of training and educational qualification is among the factors that contribute to business failure within the SMMEs in the province. Entrepreneurs have lower

levels of education compared to large business owners. Findings reveal that entrepreneurs lack knowledge, skills, and education appropriate for their operations so that their businesses will grow. The study also found that lack of entrepreneurial leadership skills is a significant problem in most SMMEs as it impacts the sustainability of their businesses. In an examination of the business environment entrepreneurs operate in, constraints in infrastructure and inadequate technology have been cited as challenges to SMME business growth. Entrepreneurs identified poor infrastructure as a challenge faced by many in running their everyday businesses. In addition, inadequate technology and low productivity impend the growth and development of SMMEs. Research findings revealed that the growth and development of SMMEs was hindered by some of these external factors which include: (i) rigorous and stringent government regulations, (ii) competitive environment, (iii) lack of municipal support and (iv) high crime and corruption levels.

One of the major hurdles encountered by the majority of SMMEs in Gauteng is that of rigorous and stringent government regulations that stifle the organisation, rather than aid business growth. Findings reveal that the government regulation policies governing the creation of SMMEs are cumbersome, complicated and contradictory, and SMMEs find it problematic to adhere to. In addition, the lack of municipal support has contributed to the erosion and failure of SMMEs in the Gauteng province. Research findings from the study reveal that SMMEs are exposed to an increasingly competitive environment against established businesses, making it almost impossible to maintain a sustainable as well as competitive advantage.

Lastly, research findings revealed that entrepreneurs experience a high crime and corruption levels. According to the GEM 2020 report corruption is becoming more prevalent, impacting the enterprises' ability to survive and grow in SA, while the high levels of crime are affecting all business. The next chapter presents the formal process for the construction of a system dynamics model, and the techniques used to elicit data to shape and structure the system dynamics model.

## **Chapter Seven - System Dynamics Modelling**

### **7.1 Introduction**

This chapter presents the formal process for the construction of a system dynamics model, and the techniques used to elicit data to shape and structure the system dynamics model. This chapter presents the conceptual model, which is based on empirical findings of the exploratory study derived from the semi-structured interviews in Chapter 6. The chapter starts by marking out the boundary of the conceptual model, then proceeds to identify key variables in the entrepreneurial system from data derived from interviews with stakeholders in the SMMEs in the Gauteng province. A conceptual system dynamics model is developed based on the interaction and feedback structure from the system. The conceptual model is then used to develop a basic entrepreneurial leadership system dynamics model to understand the underlying dynamics which have informed the development of the model.

### **7.2 System Dynamics Modelling Process**

Fundamentally, system dynamics modelling (SDM ) rests on the assumption that time delays, nonlinearities, system feedback, amplification, and structural relationships between a system's elements can be more significant in determining aggregate system behaviour than the individual components themselves (Forrester 1992; Sterman 2000). The SDM is a system or approach which helps in creating or developing a wholesome model which is based on feedback created on feedback loops. The applicability of the SDM approach is based on its ability to capture the feedback effects of systems and characterise temporal processes (Sterman 2000). Compared with the conventional simulation or optimisation models, the SDM approach has the advantage of showing how different changes of the fundamental components of the system affect the dynamics of the entire system in the future (Xu, Hedrick, Sengupta, and Vander Werf *et al* 2002). It can capture feedback-effects, time delays, accumulations, and nonlinearities (Sterman 2000). These model

development procedures are designed based on a visualisation process that allows modellers to conceptualise, document, simulate, and analyse models of dynamic systems (Sterman 2000).

### **7.2.1 Grounded theory**

Grounded theory is specifically highlighted to the reader in this section. Over and above spelling out the methodological paradigm, the intention is to equip the reader with the appropriate theoretical framework for viewing the results. The research is based on grounded theory principles. The grounded theory refers to the discovery or generation of theory from data systematically obtained from social research (Thomson *et al.* 2014). The grounded theory operates in a reverse fashion and may appear to contradict the scientific method (Thomson *et al.* 2014). The first step is data collection, which in system dynamics terms refers to mapping the complex system or conceptualising the causal structure (Figure 7.1). This is achieved by engaging with actors in the system to elicit data. Analysis of the initial data then informs many further iterations of data collection and analysis throughout the research process until core conceptual ideas emerge to form a theory (Corbin and Strauss 2015). In this study, grounded theory provided a flexible paradigm in which a wide net could be cast to capture contextual richness and depth of understanding of the causal factors, which aligned well with the systems thinking paradigm of stepping back to see the larger system (Richmond 2005).

### **7.2.2 Phase One: A Literature review**

To develop the system dynamics model the interview material data that describes the structure and the behaviour dynamics that result from that structure was utilised. While the



interviews do not provide any empirical data, they do provide detailed qualitative descriptions that can be represented formally in a System model as depicted Figure 7.1.

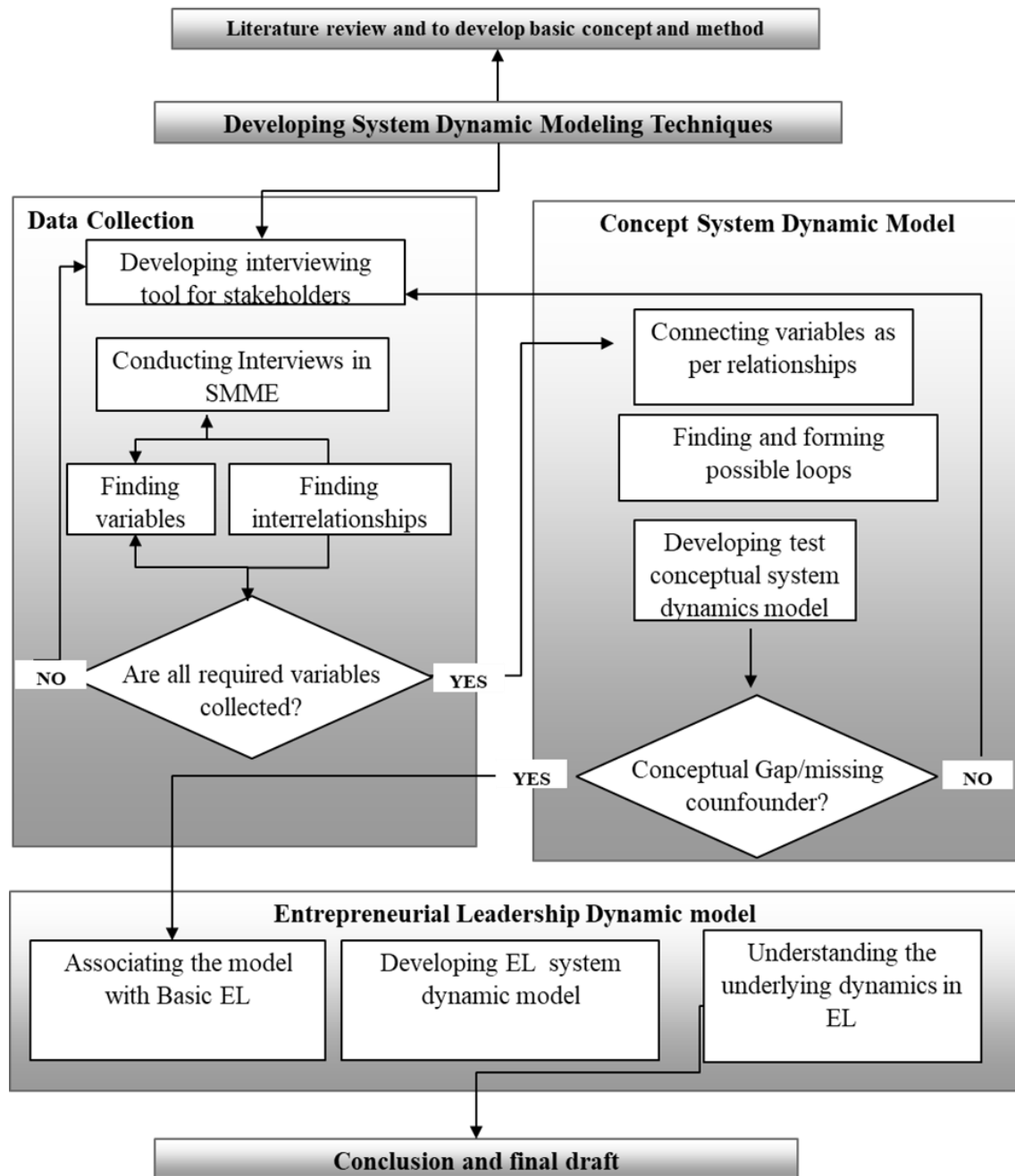


Figure 7.1: System dynamics model conceptualisation research process

Source: Researcher's own depiction

As part of the problem definition, a scoping review of the literature was performed to understand the context of the study and its underlying problem issues, identification of key variables, dynamic problem definition, and identification of the stakeholder groups (Sterman 2000; Ford 2010). Aspects of this component have already been presented in Chapters 2 and 3. For example, Figure 7.2 illustratively presents the frequency with which recurring themes appeared in the literature. During the construction of the qualitative system dynamics conceptual model, it was necessary to consult with literature beyond the irrigation discipline to justify and/or gain confidence in the plausibility of model structures and feedback loops. This will become more evident in the result chapter (Section 7.3), where additional literature is cited for anchoring and justifying certain model components and feedback loops.

### **7.2.3 Phase 2: Semi-structured interviews**

This study combines both qualitative and quantitative strategies. A qualitative method using semi-structured interviews have been used to elicit the key drivers and factors that impact the dynamics of the entrepreneurial leadership within the entrepreneurial system. This technique allowed for the development of qualitative/conceptual entrepreneurial leadership.

### **7.2.4 Phase 3: Interrelationship diagrams**

The outcome of the constant process of data collection, analysis, and then categorisation in the cycles was the identification of eight core categories that are pertinent to the failure of SMMEs in South Africa. Each of the eight-core categories identified will be discussed; the brief discussion will include how the category affects the concern variable and its relation to the concern variable.

A graphic representation of the interrelation is presented in Figure 7.2.

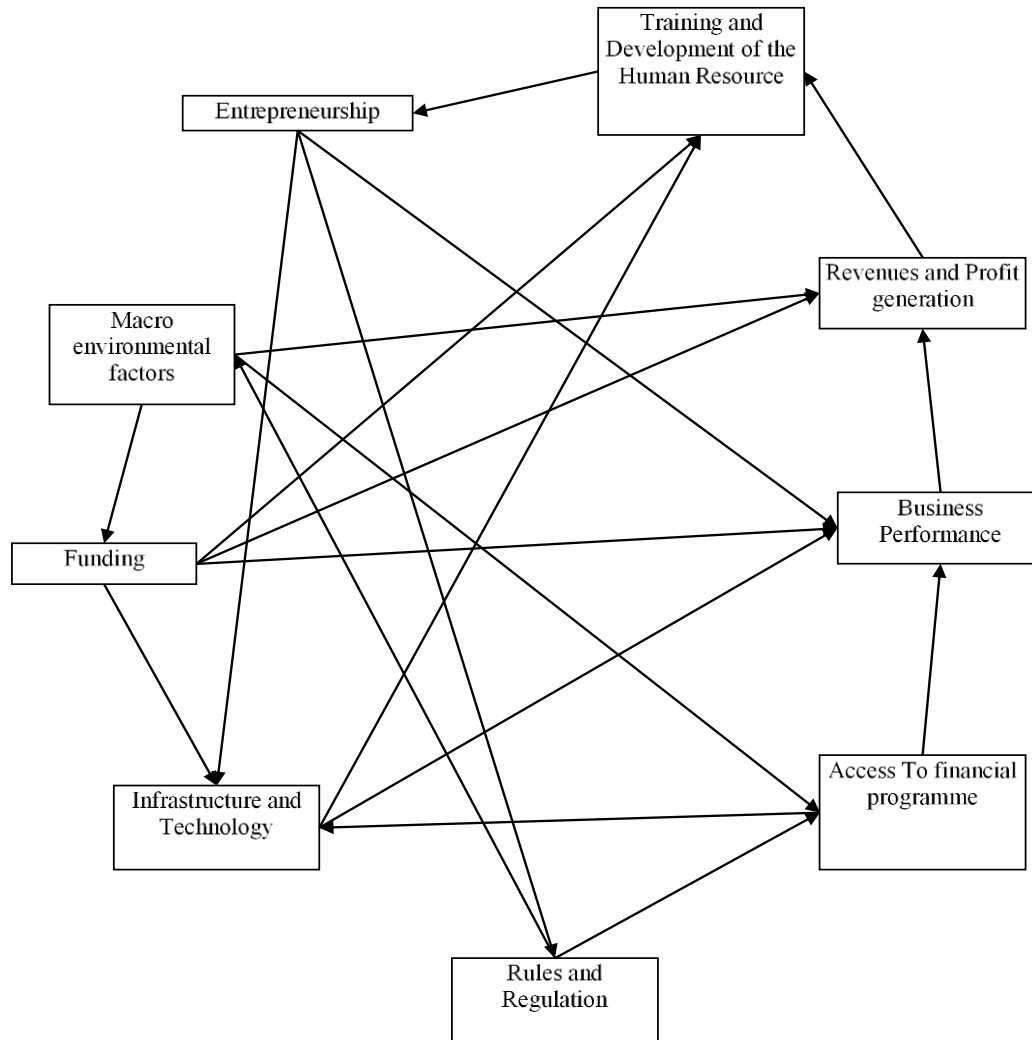


Figure 7.2: Interrelationship diagrams

Source: Researcher's own compilation

#### 7.2.5 Phase 4: Constructing causal loops diagrams

The causal loop diagram (CLD) helps system thinkers visualise important elements of the system and conceptualise their relationship to each other. Elements of a system may be

caused by some element(s) or can give rise to subsequent element(s). It also helps understand the major issue(s) through the number of feedback loops.

The CLDs are perhaps the most utilised system visualisation and communication or modelling tools in system dynamics. CLDs based on the principles of systems thinking and system dynamics are powerful tools because they assist in conceptualising how different systems structures and understanding how different variables interconnect. They visually represent the feedback loops among the various components of the system under study. Also, CLDs can be used to formulate a preliminary causal hypothesis of the problem under study and to simplify the illustration of a model (Sterman 2000; Coyle 2002).

The causal loop diagrams help elicit and capture mental models and describe a hypothesis about the causes of the dynamics.

Sterman (2000) clearly distinguishes the feedback loop as either positive or negative. The former amplifies whatever is happening in the system, as a catalyst for change, so it is also called a self-reinforcing loop. The negative feedback loop acts as a counteract change and, therefore, is called self-correcting or balancing loop. Systems are combinations or networks of feedback loops, both positive and negative, from where all the complexity of the dynamics arises (Sterman 2000). Figure 7.3 demonstrates a basic representation of a causal loop diagram.

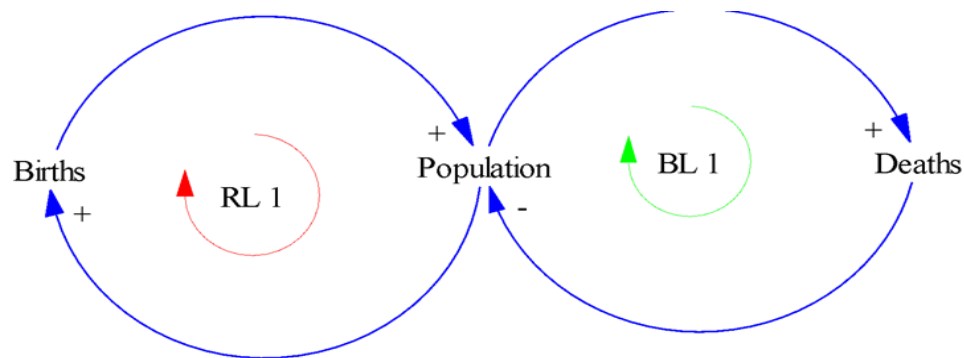


Figure 7.3: A causal loop diagram

Source Sterman ( 2000)

A typical example of a positive link is the relationship between the number of births and population growth. Researchers know that all else being equal, more births lead to a greater population, and fewer births lead to a lower population. In Figure 7.3, this relationship is represented by labelling the arrowhead with a '+' sign. The relationship between the number of deaths and population growth represents a negative link. More deaths lead to a lower population, and fewer deaths lead to a greater population.

As illustrated in Figure 7.3, this can be represented with an '-' sign on the arrowhead. More births lead to a greater population, and fewer births lead to a lower population. These causal links are true independently, and they are also simultaneously true. While more births lead to a greater population, a greater population also leads to more births since more people make more babies (assuming, of course, a constant birth rate). Therefore, more births today lead to more births in the future, i.e., births reinforce births. Similarly, fewer births would lead to a lower population, which would lead to fewer births in the future, showing that the reinforcing process works in the opposite direction too. Additionally, more deaths today lead to fewer deaths in the future. This is because more deaths today will cause the population to fall, which means fewer people will be alive to die later. These types of loops are called balancing feedback loops (marked with a 'B' in Figure 7.3) since more leads to less or fewer leads to more, meaning that the original change is balanced by a change in the opposite direction.

Therefore, the next step was to identify the cause and effect of each variable. These causal links have a polarity that explains how the variables are related, a positive (+) or negative (-) sign near the head of the arrow shows whether the variables move in the same or opposite direction (Stermann 2000). The feedback loops may occur either in a reinforcing (R) or balancing (B) loop type. Reinforcing loops represent growing or declining actions in the systems, while balancing loops represent self-correcting mechanisms that counteract and oppose change (Maani and Cavana, 2007). Vensim PLE® software version 5.10e was used to translate the conceptual models into the CLD.

### 7.3 Results: merged system model (CLD)

As variables were identified from the major themes that emerged from the data, they were arranged into CLDs. When these CLDs were merged, and the relationships between the various loops were identified, a qualitative SD Model was created. The combined and merged system model presents the merged loops in the leadership and entrepreneurial strategies depicted in Figure 7.4. The model comprises 12 reinforcing and 7 balancing loops, namely finance, operations, the external environment, and communication are the major components of the merged model. The diagrams depicting the loops were developed using Vensim system and they represent the research findings as depicted in figure 7.4.

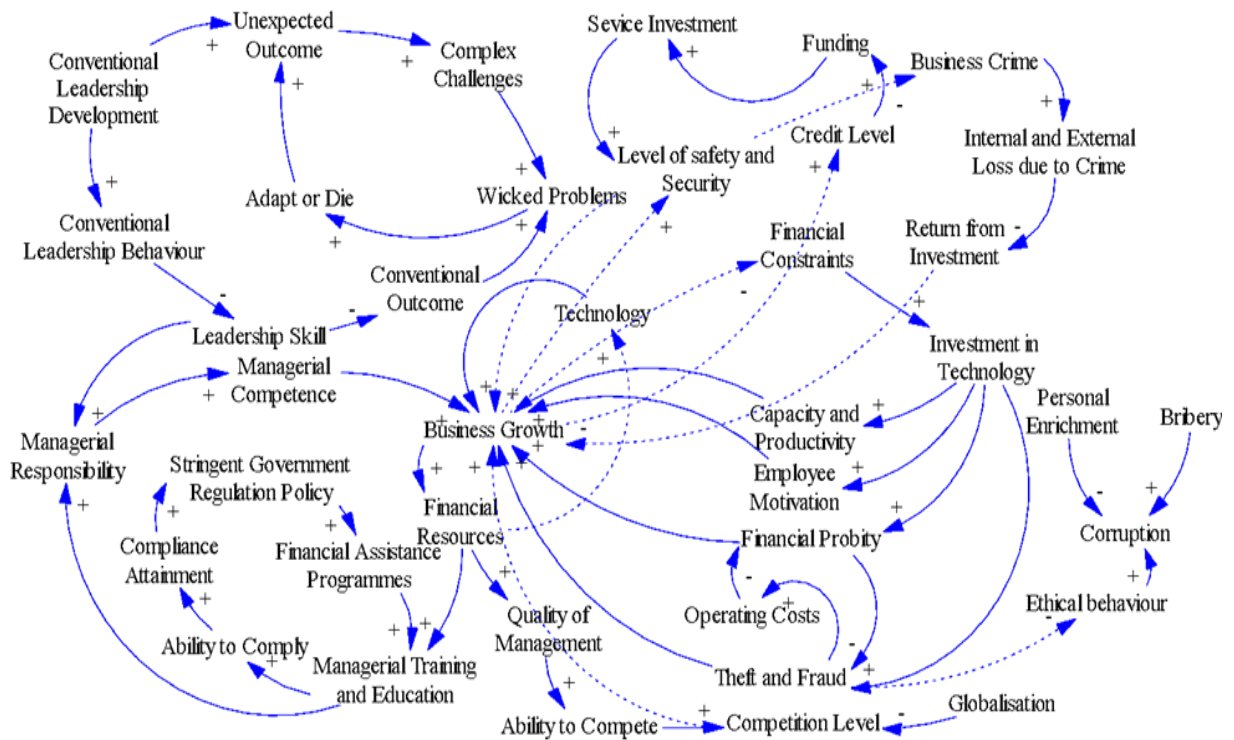


Figure 7.4: Merged system model (CLD)

Source: Researcher's own compilation

### 7.3.1 Environmental complexity and change loop (RL1 and RL2)

The identified variables as being influential in the environmental complexity and change dynamics are presented in Table 7.1.

Conventional Leadership Development	Conventional leadership behaviour	Leadership skill
Conventional outcome	Wicked problems	Adapt or die
Unexpected outcome	Complex challenges	

Table 7.1 Influential variables in environmental complexity and change dynamics.

Source: Researcher's own compilation

These variables listed interact to contribute to the feedback structure represented in the two reinforcing loops (Loops R1 and R2) depicted in Figure 7.5.

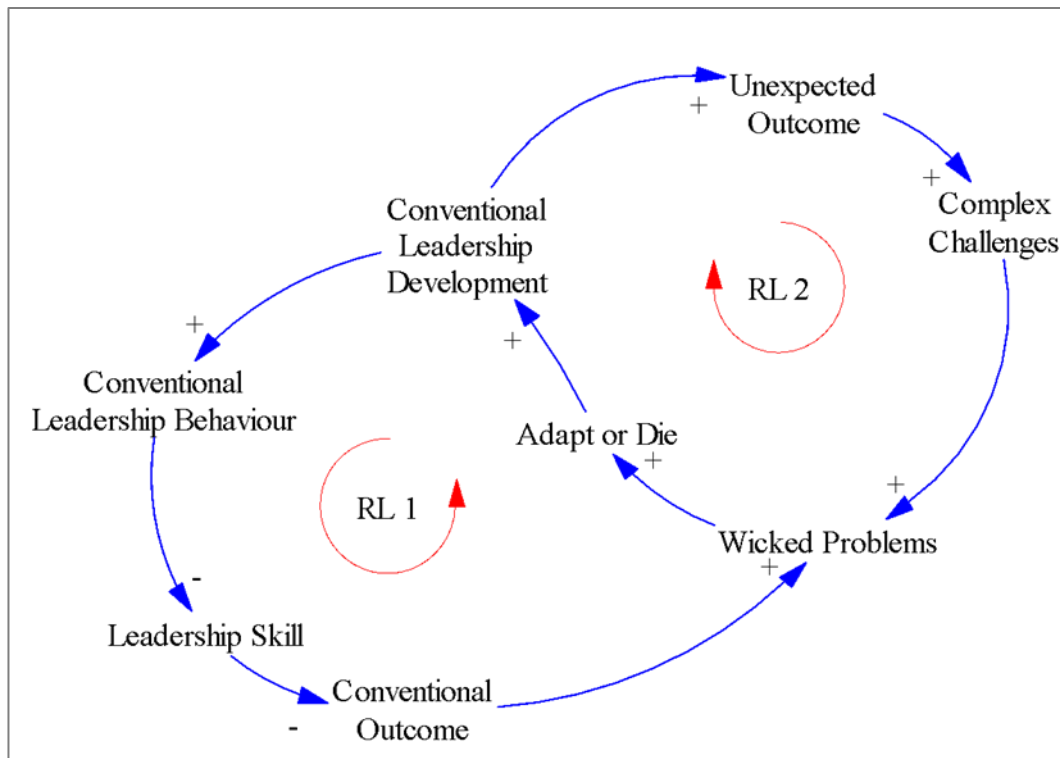


Figure 7.5: Environmental complexity and change loop

Source: Researcher's own compilation

The environmental complexity and change CLD (Figure 7.5) highlight the organisation's ability to adapt and manage the complexity posed by the market and environment. The Environmental complexity and change CLD comprise two (2) reinforcing loops and depict the conventional leadership behaviour and an attempt to explain when it arises, and its consequences, including and particularly its self-reinforcing nature (**RL1**). The intent is to reveal the insidious and limiting nature of the self-reinforcing tendency of conventional leadership behaviour, especially given the emerging 21st century with its turbulence, rapidity of change, and dire need to solve complex, wicked problems in sustainable ways (**RL2**).

#### 7.3.1.1 Conventional leadership approach (RL1)

If prevailing views and expectations of leaders and leadership are conventional (**conventional leadership development**), then leadership development programmes, initiatives, and strategies will likewise be conventional leading to entrepreneurs applying known and tested strategies to the business challenges they are encountering (**conventional leadership behaviour**). As shown in the loop in Figure 7.5, the tendency to fall back on simplistic formulas to leader development unintentionally perpetuates the status quo and leads to a decline in leadership skills (**leadership skills**) and produces inefficient results (**conventional outcomes**). However, given the challenges to modern leadership, the persistence of conventional ways of thinking about leadership and developing leaders, and the widening gap between leadership capabilities required to respond to business challenges, conventional leadership approaches prove futile thus increasing wicked problems (**wicked problems**). As a result, strategies to intervene in wicked problems often have surprising effects, sometimes counterproductive or exacerbating (**adapt or die**). Wicked problems are likely not solved by conventional means and strategies. **Conventional leadership** has real limitations, as these limitations remain or increase with the inability to adapt, wicked problems will continue or worsen forcing entrepreneurs to



(**adapt or die**) increasing inefficiencies of conventional leadership creating another Reinforcing loop (R2) which is depicted in Figure 7.5. A detailed discussion on the loop is presented below.

#### **7.3.1.2 Limitations of conventional leadership approach (RL2)**

As shown in the loop in Figure 7.5, unexpected outcomes occur even in the face of conventional leadership's inability to deal with complex challenges leading to increasing wicked problems. Wicked problems may increase conventional leadership behaviour, potentially a vicious cycle, to the degree that wicked problems are misunderstood, and conventional solutions are repeatedly, and, perhaps, increasingly thrown at them.

The structure forms two important feedback loops which highlight the need to position and enable organisations and people for adaptability in the face of increasingly dynamic and demanding environments. It addresses how leaders can position organisations and the people within them to be adaptive in the face of complex challenges. It taps into current requirements for organisations and those within them to be flexible, agile and adaptive in response to changes associated with a volatile and often unpredictable world (Uhl-Bien and Arena 2018:89-104.).

Understanding the dynamics in environmental complexity and change and the limiting factor of conventional leadership approaches is crucial. The 21st century is said to be fraught with complexity, unpredictability, ambiguity, competing interests, dilemmas, contradictions, wicked problems, turbulence, radical and rapid change, diminishing resources, and paradox (Genovese 2015; Boardman and Sauser 2008). It is chaotic and confusing (Hays 2015; Kuratko 2007).

Entrepreneurs operate in a dynamic business environment; hence the old management theories and practices do not survive. Inadequate knowledge and environmental complexity mean a reduced understanding of the impact of the change and the ability to both respond

and manage change. This reductionism or deficiency means that knowledge of the system changes is lacking and therefore, entrepreneurs cannot develop strategies for dealing with complexity and change in their environment. Therefore, the increased uncertainty and competitive pressures in the globalised dynamic market require a new form of leader. If an organisation is experiencing turbulence, attributed to new venture development, industry changes, or organisational change, entrepreneurial leadership style could cause the willingness of a leader to take risks and contribute innovative ideas to lead the organisation to the point of stability.

**Leverage point** is in the entrepreneurs' understanding that traditional leadership expectations and outcomes still have a place in today's new world of work, but they should be combined with a set of new competencies and recognition of a new context to round out how leadership is defined for the 21st century. Entrepreneurs need to become better equipped for the current and emerging realities and demands of the 21st century and strategies for achieving this need to be developed or extended, perhaps through changing conventional leadership and leadership development. To manage the change and complexity, entrepreneurs/businesses need to allocate resources to ensure adaptability in the face of increasing complexity and change. However, this can be done as entrepreneurs are mindful of the extent the complexity and change have on their business.

The dynamics that environmental complexity and change facing entrepreneurs expressed in Figure 7.5, show the challenges and complexity in regulatory compliance when accessing funds for their business, attaining compliance, and the pressures. This imposes on the management and employees, thus reinforcing the regulatory compliance loop in Figure 7.6.

### **7.3.2 Regulatory compliance loop (RL3,RL4, BL1, and BL2)**

The variables identified as being influential in the Regulatory Compliance dynamics are presented in Table 7.2.

Institutions and network	Municipal support	Access to funding
Marketing effort	Stringent government regulation policy	Compliance attainment
Entrepreneurial training and education	Managerial responsibility and skill	

Table 7.2 Influential variables in regulatory compliance dynamics

Source: Researcher's own compilation

The regulatory compliance loop is presented in Figure 7.6. The reinforcement loop RL3 implies the enhancement of funding through business funding improvement. The balancing loop BL1 refers to the regulatory policy and related challenges within the organisational environment that must be managed through entrepreneurial managerial and management skills. The variables mentioned in Table 7.2, influence each other to create the following feedback structure presented in Figure 7.6.

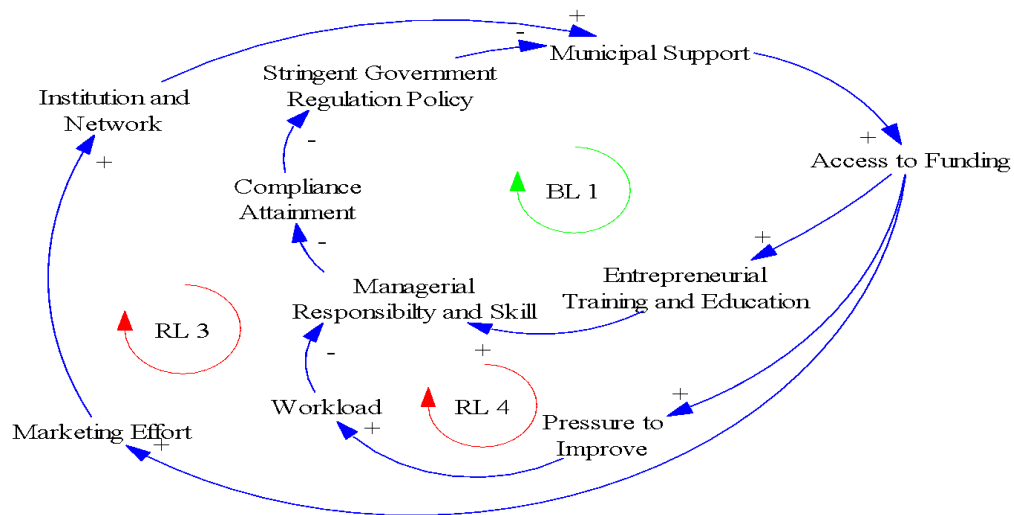


Figure 7.6: The regulatory compliance loop

Source: Researcher's own compilation

The access and general availability of finances and appropriate economic resources are central to the development of SMMEs, this, together with insufficient and inconsistent

institutional support from the government sector, banking sector, and financial institutions. **RL3** shows a reinforcing behaviour where the level of institutional support as network, institutional and municipal support determines the level of access to funding available to entrepreneurs. **BL1** shows the challenges posed to entrepreneurs by regulation stringency in the quest for accessing funds and interacting with institutions and networks. Whereas **RL** reflects the pressure imposed on the business in the quest for compliance attainment and the impact this has on managerial competence.

#### 7.3.2.1 Access to funding (RL3)

Researchers assume a decrease in institutional support (**institutions and networks**). The level of institutional support (institutions and networks) also impacts on support (municipal support) available to entrepreneurs. **Municipal support** is also identified as a challenge towards easy access to finance to SMMEs. The lack of provincial offices, high cost of searching for support services and lack of trained service providers, cumbersome administrative requirements, and insufficient knowledge transfer between consultants and small businesses, affect access to funding. The lack of financial support (**access to funding**) results in entrepreneurs not having adequate forms of credit and equity or to financial services. **Access to finance** not only hinders SMMEs' growth, but this challenge also decreases funds available for marketing strategies (**marketing effort**) thus affecting negatively SMMEs' chances of survival in business. Not only will the lack of access to finance result in undesirable outcomes such as lack of funds for business marketing to take advantage of emerging opportunities and to minimise potential threats the business faces (**marketing effort**). Lack of funds results in using very ineffective marketing strategies. This leads to declining business performance and revenue, thus decreasing in institutional support (**institutions and networks**).

### 7.3.2.2 Compliance attainment (B1)

BL1 refers to the regulatory policy and related challenges within the organisational environment that must be managed through the entrepreneurial managerial and management skills attained to comply and to access funding. If government regulation policy becomes more stringent (**stringency of the policy**), the stringency of policy decreases **municipal support**. Insufficient municipal support leads to a decrease in access to funds (**access to funding**). A decrease in the availability of funds (**access to funding**) results in less disposable income available for entrepreneurial *training and education* programmes. Lack of participation in training and education by entrepreneurs leads to a decrease in managerial responsibility and skills, which in turn decreases compliance behaviour (**compliance attainment**). **Compliance behaviour**, in turn, increases the **stringency of policy**.

The dynamics explained here create a balancing or goal-seeking effect in that the business regulatory environment is one of the key factors which had a negative impact on the growth and development of SMMEs. SMMEs in South Africa cannot reach their set goals and objectives because of several impediments such as bureaucracy and red tape, cumbersome regulations, and tax. The only way in which they can do this is by improving the compliance behaviour through enhancing managerial competence gained from education and training to create an awareness of the regulatory required compliance from the business. Doing so effectively will enable businesses to be more compliant, credible, and effective, thus attracting more financial resources and therefore more funding opportunities.

### 7.3.2.3 Pressure to improve compliance (RL4)

As shown in Figure 7.6, the loop reflects the pressure imposed on the business in the quest for compliance attainment and the impact this has on managerial competence. The more the business is faced with the **pressure to comply**, the responsibilities of the managers

(**workload**) increase, thus increasing their workload and causing them to be unable to cope with all the demands, reducing **managerial competence**.

The loop presents an interesting feedback dynamic suggesting the impact external challenges (**pressure to improve**), the company's flexibility and responsiveness are not optimal (Figure 7.6). A change in strategy is required to enhance the responsiveness and flexibility level, which positively or negatively changes. Compliance attainment positively affects access to funds; therefore, its change develops towards achieving the optimal level of compliance by altering pressure to improve. The positive loop (RL3) ensures that an increase or deficit in compliance attainment, which causes an increase or decrease in pressure to improve variable is addressed by changing managerial competence, therefore, the level of compliance attainment will reach the optimal level of compliance required.

Understanding this dynamic is crucial because access to finance is a critical prerequisite for the development of dynamic and productive SMMEs in an increasingly globalised and digital world. However, longstanding challenges in access to finance limit SMME growth.

Despite existing policies on financial support for small businesses, very few entrepreneurs receive financial help when they need it. The lack of finance or credit has been termed as an impediment to such growth. In South Africa, SMMEs that are founded by individuals who are from disadvantaged societies bear most of the financing burden as their access is more limited than other businesses, as traditional financial institutions such as banks are still considered conservative and very risk-averse. These traditional financing avenues avoid lending to SMMEs, as these types of businesses are high risk, have no collateral, and cannot produce dependable financial track records. In addition, South Africa has several regulations that undermine entrepreneurship by hindering access to critical resources such as capital and business formation, which create an unstable and unpredictable business environment and erode the rewards of success. According to Baron (2013), compliance with governmental rules and laws is a greater encumbrance on small businesses than large ones, and regulation hinders small business formation, growth, and job creation.

In South Africa, some government regulatory laws are considered a threat to the SMME sector (Viviers 2004). The high start-up costs for businesses, including licensing and registration requirements, can impose excessive and unnecessary burdens on SMMEs (Abor and Quartey 2010:215-228; Kamara 2017:22). Lewis and Gasealah (2017:1-46.) seem to be correct in saying that licensing, registration and tax requirements can impose excessive and unnecessary burdens on SMMEs. The business regulatory environment is one of the key factors which had a negative impact on the growth and development of SMMEs. As a result, entrepreneurs cannot reach their set goals and objectives because of several impediments such as bureaucracy and red tape, cumbersome regulations, and tax increasing their workload. This, coupled with the high start-up costs for businesses and licensing and registration requirements, can impose an excessive and unnecessary burden on SMMEs (Abor and Quartey 2010:215-228).

#### **7.3.2.4 Leverage point advocating for alternative sources of funding**

Debt finance presents heightened barriers for businesses with a higher risk-return profile, such as new, innovative, and growth-oriented businesses, whose business model may rely on intangibles and whose profit patterns are often difficult to forecast (OECD 2015). Alternative financing instruments, including asset-based finance, alternative forms of debt, hybrid tools, and equity instruments such as Fintech, offer opportunities to mitigate the SMME financing gap and to serve the diverse needs of the SMME population. Fintech (combining technology and innovative business models in financial services) has gained considerable momentum and could have sizeable effects on SMME financing, offering unprecedented solutions to deal with the main barriers that SMMEs face in financial markets: information asymmetries and collateral shortage (OECD 2016). Policies that help broaden the range of financing instruments available to SMMEs and entrepreneurs can increase SMMEs' resilience to changing conditions in credit markets and improve their contribution to economic growth.

Financial instruments for SMMEs often operate in thin, illiquid markets, with a low number of market participants, which drive down demand from SMMEs and discourages potential suppliers of finance (OECD 2016; Nassr and Wehinger 2015). In parallel to the previous stage in addressing compliance complexity and challenges, entrepreneurs need to ensure that they have organisational competencies to enable the organisation to meet the challenges it is facing and move the organisation towards the desired state.

### 7.3.3 Managerial competence loop (LR 5, LR6, and LR7)

The variables identified as being influential in the managerial competence dynamics are tabulated in Table 7.3. These variables influence each other to create the following feedback structure.

Business growth	Funding and financial assistance programmes	Training and education
Ethical behaviour	Compliance attainment	Stringency of policy
Technology	Leadership skills	

Table 7.3 Influential variables in managerial competence dynamics

Source: Researcher's own compilation

Figure 7.7 represents managerial competence dynamics loops where the leadership responsibility and skill have formed a reinforcement loop 5. The technology-related loop forms another reinforcement loop (6 and 7) and represents the combined operations of regulatory compliances and funding dynamics which enhances compliance attainment within the business.



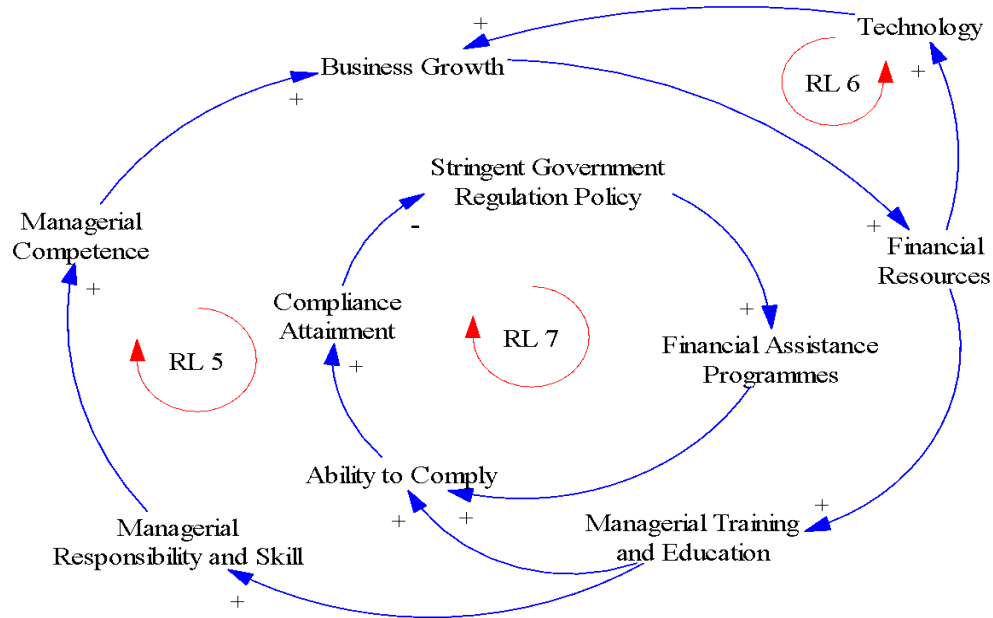


Figure 7.7: Managerial competence loop

Source: Researcher's own compilation

### 7.3.3.1 Managerial competency (RL5)

The managerial competency loop (RL5) reflects the impact **business growth** has on the availability of sufficient financial resources for use on **managerial training and education**, thus enhancing managerial competency. An increase in business growth leads to an increase the availability of finance and resources (**financial resources**) available for **managerial training and education programmes** which increase participation in training and education by entrepreneurs and leads to enhanced **managerial competence** and this leads to enhanced business growth. An increase in business growth leads to funds for **investments in technology growth**, which leads to reinforcing loop 5.

### 7.3.3.2 Technology loop (RL6)

**Managerial competence** has enhanced **business growth** and available financial resources for investing in technology, thus reinforcing the technology loop **RL6**. An increase in **access to funding** leads to investments in technology (**technology**), the use of technology enhances business profitability and **business growth**.

### 7.3.3.3 Compliance attainment (RL7)

**Managerial competence** and use of advanced technology within the business increase the prospect's ability to comply (compliance attainment). An increase in **compliance attainment** decreases the stringency of the regulation (stringent government regulation policy). Relaxed regulatory requirements mean more **funding** and financial assistance programmes, which **increases compliance attainment**.

The structure represents the importance of feedback towards desired change through enhancing entrepreneurial competencies. Entrepreneurial competencies include the managerial competencies that are vital for performing entrepreneurial activities successfully (Kyndt and Baert 2015; Baron and Markman 2003; Man *et al.* 2002). Entrepreneurial competencies have been identified as a higher-level ability that can be promoted through education and encompass the necessary skills, knowledge, and abilities to perform an innovative role successfully (Kyndt and Baert 2015; Man *et al.* 2002; Volery *et al.* 2015).

In general, entrepreneurs lack the skills required for managing their businesses. There is little evidence that entrepreneurs are being trained in managerial competencies. Mohammed and Nzelibe (2014) alluded to the fact that a lack of trained manpower and management skills constitutes major challenges to the survival of SMMEs. SMMEs are faced with important financial and human resource constraints concerning training, which are linked to the small size of the business, the starting level of education and skills of the

labour force, lack of information about appropriate training and the benefits of training more generally, and fears of not realising a return on the training investment. More specifically, SMMEs generally lack dedicated internal training or human resources departments and are also less likely to employ training managers or to have formal training policies. Direct financial costs of training are also much higher for SMMEs because trainers need to tailor their courses to the needs of smaller businesses. SMMEs also have smaller workforces, leaving less scope to release people from production, and tend to experience higher job turnover than larger businesses, constraining the capacity and willingness of SMMEs to invest in skills development.

The deficiency in management skills amongst SMME owners and managers can be explained by insufficient education and ongoing training resulting in a lack of managerial competency. The lack of managerial competence places significant barriers to and entrepreneurial activities, sustainability, and compliance attainment. In addition to managerial and business skills shortages, the growth and expansion of small businesses are limited by the lack of and use of technology or expertise to research and develop new business ideas. SMMEs have limited access to technology development partly because they lack the relevant information and continue to hold onto poor and obsolete technologies.

Entrepreneurs face impediments to gaining access to **appropriate technologies** and gathering information on the relevant and available techniques. Not only are SMMEs not innovative with their technology due to financial restraints, but also these entrepreneurs have limited know-how in the deployment of the technology within their businesses. Using the **latest appropriate technology** is one of the most important factors behind a successful SMME competitive advantage (Mahembe 2011; Rankhumise 2017).

To enhance entrepreneurial leadership, skills and competencies, entrepreneurs need to enhance administrative, knowledge, and technology and network building competencies. Administrative competency is defined as having a set of abilities and behaviours related to decision-making, identifying a problem, evaluating solutions, communicating, planning

and control, and organising, all of which allow entrepreneurs to perform tasks effectively (Zarefard and Cho 2017; Cho and Gumeta 2015:150-15; Kim and Cho 2014). It also includes the ability to be flexible when responding to changes in the business environment. In effect, entrepreneurs' administrative competency is the ability to perform entrepreneurial work at the level and quality required for innovative outcomes. Previous studies have revealed a direct relationship between an entrepreneur's administrative competency and their business's performance (Arasti *et al* 2014). In addition, knowledge and technology competencies are essential for business founders to survive in a competitive environment and knowledge-based economy (Zarefard and Cho 2017; Cho and Gumeta, 2015:150-15; Kim and Cho 2014).

Finally, the ability to build a large network of social contacts can empower entrepreneurs to obtain the necessary resources for their start-ups to prosper and grow (Liao, Welsch and Tan 2005: 1-22). Entrepreneurs can also reduce risks and transaction costs through social channels and the use of diverse formal and informal networks, both on and offline (Kristiansen and Ryne 2002:165-186). This is particularly useful when it comes to leveraging uncertainties during the early stages of a start-up when there is often a high risk of failure (Sullivan and Ford 2014:551–574). Therefore, establishing networks based on trust and social relations with other clients, organisations, and businesses can be conducive to venture creation. Moreover, it is vital not only to build networks but also to maintain them to retain customers and recruit clients (Baron and Markman 2003; Kyndt and Baert 2015; Baron and Markman 2003).

#### **7.3.3.1.1 Policy recommendation**

**Training subsidies** - Currently large businesses benefit disproportionately from training subsidies as they have more administrative capacity than small businesses (Müller and Behringer 2012). Overall, the evidence tends to support the view that small businesses are more inclined to invest in training if a subsidy is available. Müller and Behringer (2012)

conclude that direct subsidies are more effective than tax incentives at targeting businesses such as SMMEs, which also reduces the extent of training costs. Other studies have also argued that subsidies need to be substantial to engage SMMEs. This is necessary to compensate them adequately for both the direct and indirect costs (e.g., lost working time) of training.

**Training networks** – There is generally strong evidence that embedding businesses in wider networks can positively affect the number of training days undertaken by SMMEs; with even higher training inputs for those businesses involved in multiple networks (Cox, Sumption, Hillage and Sloan 2009).

The pooling of resources is commonly used to address various obstacles to training confronting individual SMMEs. This may involve local or sectoral cooperation among SMMEs themselves, or between larger businesses and their supply chain partners, including small businesses, in forms such as group training associations, sector skills councils, and business clubs. The use of collective funds (e.g. from levies) is also one example of pooling resources. Conceptually, developing networks strengthen the engagement of small businesses in training through educating managers about the value of training, diffusing management practices and behaviour, and discouraging poaching – but can also give rise to further dynamic benefits based on opportunities for knowledge exchange, and collaboration (Bosworth 2009). Group training associations, for example, offer to members various benefits related to economies of scale, specialist training expertise, and reduced transactions costs in handling administration (including in applying for public subsidies).

#### **7.3.4 Capacity and productivity loop (BL2, BL3, BL4, and BL5)**

The variables identified as being influential in the capacity and productivity dynamics is highlighted in Table 7.4.

Business growth	Financial constraints	Investments in technology
Capacity and productivity	Employee motivation	Financial probity
	Theft and fraud	

Table7.4: Influential variables in the capacity and productivity dynamics

Source: Researcher's own compilation

These variables influence each other to create the feedback structure presented in Figure 7.8. The loop highlights the impact of financial constraints on investment in technology and the ripple effect this has on the business capacity and productivity (**BL2**), employee motivation (**BL3**), financial probity (**BL4**), and incidence of theft and fraud (**BL5**).

Figure 7.8 depicts the capacity and productivity loop

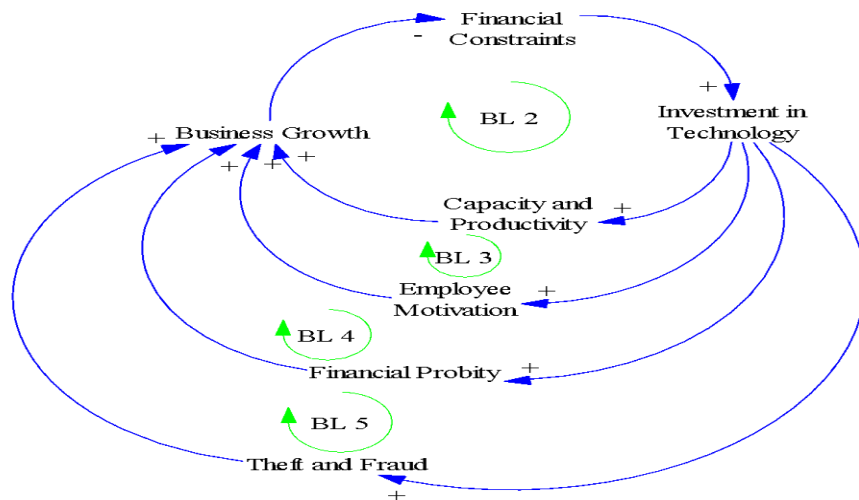


Figure 7.8: Capacity and productivity loop

Source: Researcher's own compilation

As shown in Figure 7.8, a decrease in business growth increases financial constraints within the business, leading to a decrease in investment in technology, thus decreasing capacity and productivity within the business leading to a decline in growth. Insufficient investment in technology also affects **employee motivation (BL3)** and **financial probity (BL4)**, and opens businesses to the risk of incidence of **theft and fraud (BL5)**.

At present, the SMME sector contributes a disproportionately small share to overall productivity gains. Their productivity tends to not only be much lower than that of large businesses, but it also tends to be particularly low compared to the productivity of SMMEs in other regions. Stronger productivity growth by SMMEs, and stronger support services and innovation performance, will not only help them to strengthen their performance in global value chains but also boost both regional trade and economic development.

Understanding the technology investments dynamics is important because the ability of businesses to increase their productivity while upgrading their technology and innovation capacity is regarded as an important determinant of competitiveness. Currently, many SMMEs are characterised using traditional technologies, limited technical skills, and a lack of information about markets and new technologies. Therefore, business-level intensification of productive and innovative activity, achieved with critical mass, can create an important spillover to the business.

A policy can play a role in ensuring that SMMEs reap the benefits of increased digitalisation. While affordable and widespread coverage of digital networks is essential, targeted policies can help diffuse digital technologies to SMMEs and enable their effective use, while addressing related risks. This can be done through the development of appropriate skills and complementary investments in organisational change and innovation.

Adopting innovative technologies can open new opportunities for SMMEs to participate in the global economy. Digital technologies allow SMMEs to improve market intelligence, reach scale without mass, and access distant markets and knowledge networks at relatively

low cost; however, SMMEs are only half as likely as large businesses to participate in e-commerce or use cloud computing. SMMEs have a lower propensity to innovate than larger ones. SMMEs might initiate innovation activities but find it difficult to carry them through on their own. The adoption lag is mainly due to a lack of investment in complementary knowledge-based assets such as research and development (R&D), human resources, organisational changes, and process innovation.

Collaboration with another entrepreneurial system can assist SMMEs with easier adoption of innovative technologies and digitalisation. SMMEs are considered to perform better when they are allied with each other or with large businesses, including multinational organisations. Business development services in the form of institutional support can also support this process, enabling SMMEs to compete on an equal footing with large businesses, access new markets, and increase their profits and efficiency (OECD 2016).

In addition, knowledge spillovers from other businesses and universities are important for the development of innovative businesses. Supportive policies and institutions adapted to the needs of SMMEs may strengthen their ability to get involved with innovation. Public policy can enhance innovation through measures to promote cooperation between businesses, and academia can do so by promoting collaboration mechanisms, developing the necessary infrastructure, and using capacity building, incentive packages, and support schemes with the commercialisation of outputs. Governments can also use direct financial instruments to promote innovation or provide innovation vouchers to allow SMMEs to benefit from specialised service providers. Policymakers could also play a central role in developing an “ecosystem” approach involving a variety of players. The focus should be on technology and innovation promotion policies and instruments for SMMEs. The innovation policy framework should be analysed and assessed on whether SMMEs are integrated into the framework. Since several different institutions are typically part of innovation systems, it also looks at the availability of a coordination body for innovation strategy.



Additionally, the availability of innovation infrastructures such as incubators, science and technology parks, technology transfer offices, and other relevant elements is crucial. The availability of government support mechanisms for institutional support services should be analysed, along with dedicated schemes directly focusing on SMMEs, such as co-financing and innovation vouchers, among others. Finally, the monitoring and evaluation should focus on ensuring the available mechanisms for evaluating the implementation of policies and how the findings are integrated into the policy cycle.

### 7.3.5 Competitiveness loop (BL6)

The variables identified as being influential in the competitiveness are shown in Table 7.5.

Business growth	Managerial ability	Business growth
Globalisation	Competition level	Quality of management
	Ability to compete	

Table 7.5: Influential variables in the capacity and productivity dynamics

Source: Researcher's own compilation

These variables influence each other to create the feedback structure presented in Figure 7.9 representing the competitiveness loop

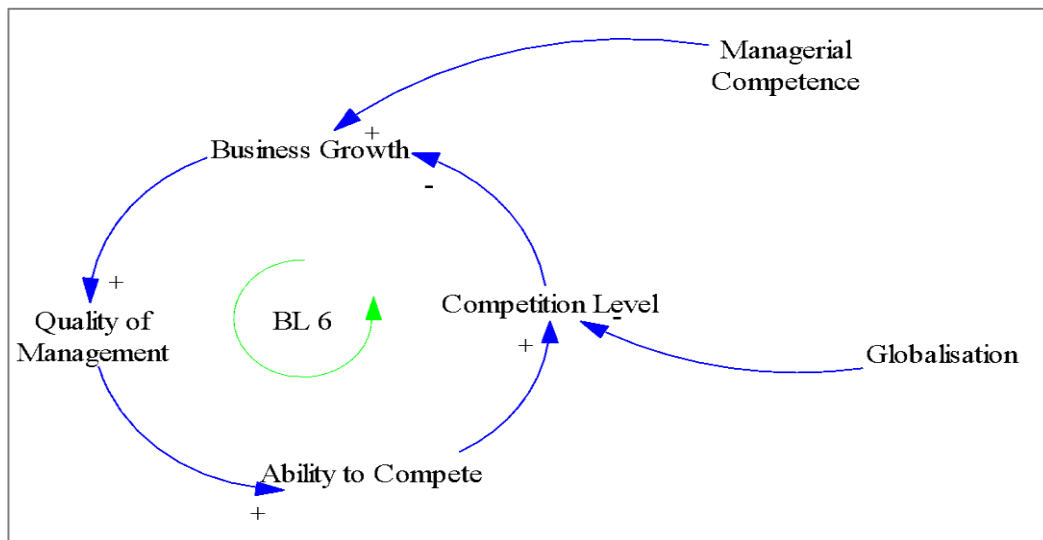


Figure 7.9: Competitiveness loop

Source: Researcher's own compilation

The loop demonstrates that although globalisation brings great benefits for the business as it offers the opportunity for a higher rate of sustainable growth, it has increased competitive pressures on businesses. Coupled with rapid technological change, it has altered the environment in which SMMEs operate. As a result, SMMEs are insufficiently equipped to face increasing pressures from globalisation. As a result of their limited resources and lower productivity, many have found it difficult to compete; thus, increasing SMME's competitiveness has become a major challenge.

**Globalisation** increases the competition (**competition level**) in the industry in which SMMEs operate in. For SMMEs to survive, thrive, and achieve success (**business growth**), the owners and management must reach a place where they have a full understanding of the dynamics at play, develop the skills and competencies (**quality management**) that will give them a competitive edge, (**ability to compete**) thus decreasing the **competition level**.

The internal factors constraining SMMEs' ability to be competitive are a lack of experience, managerial competency (**quality management**), insufficient resources, and an excessive

perception of risk (**ability to compete**). The major external factors are national information networks that are inadequate or poorly connected internationally, deficient complementary regional resources and assistance programmes that are maladapted to SMME requirements and thus decrease the competitiveness level of SMMEs (**competition level**) and leads to declining **business growth**.

Understanding this dynamic is significant because SMMEs find it difficult to compete on both local, regional, and the global levels as they lack the financial and technical resources that multinationals have. It is also difficult for smaller businesses to attract a highly skilled workforce because multinationals can pay better packages as they will have more financial resources. This would pose a challenge for smaller businesses to operate efficiently and effectively. SMMEs face a particular challenge in this regard, as their limited human resources are focused on the day-to-day running of the business (Hellman and Kavadia 2016). There is evidence that SMME training efforts are on average, significantly weaker per employee than in larger businesses (OECD 2013). Also, SMMEs appear to be relatively behind in the use of business -level learning strategies, i.e., the use of managerial practices and methods that promote workers' learning and autonomy (OECD 2015). Moreover, it is often very difficult for SMMEs both to find and retain skilled and high qualified personnel to sustain growth.

**Leverage point** upskilling of existing staff, including management, is key for SMMEs to achieve competitiveness and to undertake growth-orientated strategies. However, the digital economy opens a range of new opportunities for scaling up, reducing costs, and enabling the creation of new business models that can challenge existing ones in radically novel ways (Goldfarb and Tucker 2017). SMMEs can draw many potential benefits from digital technologies, such as better access to skills, talent, or markets, better collaboration and communication, or greater access to novel technologies and applications. Recent evidence shows that the use of digital tools enables access to the international market also for micro-businesses (OECD 2017). However, compared to large businesses, SMMEs'

uptake of ICT is lower, and they face higher barriers to the adoption of several digital technologies in their operational activities (OECD 2017).

### **7.3.6 Internal controls and ethical conduct loop -RL8, RL9, and RL10**

The variables identified as being influential in the internal controls and ethical conduct capacity are presented in Table 7.6.

Personal enrichment	Bribery	Corruption
Financial probity	Ethical behaviour	Operating costs
	Theft and fraud	

Table 7.5: Influential variables in the capacity and productivity dynamics

Source: Researcher's own compilation

These variables influence each other to create the feedback structure presented in Figure 7.10.

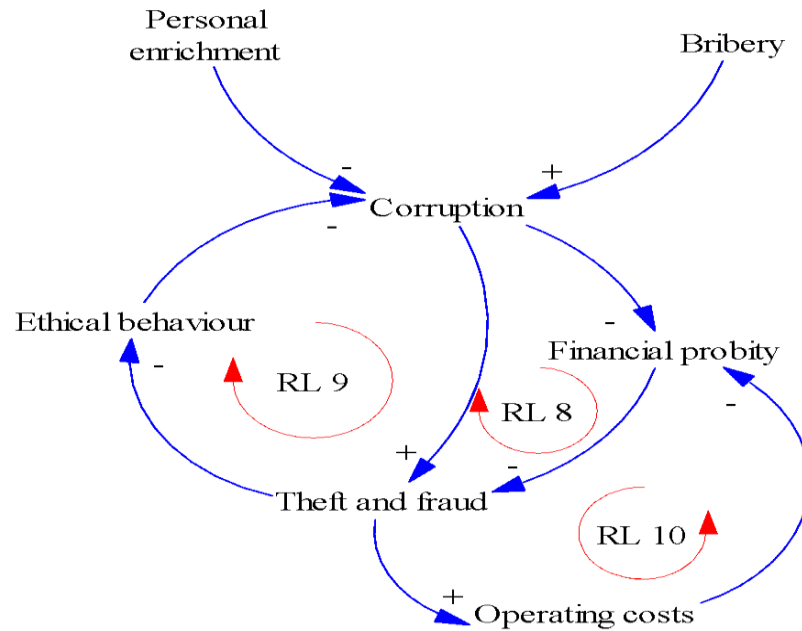


Figure 7.10: Internal controls and ethical conduct loop

Source: Researcher's own compilation

The loop demonstrates the inefficiency of internal controls that the mere size of the SMME limits its financial resources and capabilities and increases the lack of **internal controls (RL8)** and unethical business behaviour (**ethical behaviour RL9**), thus increasing business costs (**operating costs RL10**).

According to Wilkins and Haun (2014:48-51), many small business organisations view internal controls as expensive and unnecessary. SMMEs face issues, such as effectively using information technology and efficiently attaining the proper level of financial competence. Compounding the problem is the fact that entrepreneurs think of internal controls as a means of securities than as a system of achieving organisational goals and minimising errors.

Business environments are often characterised by systemic levels of administrative corruption - a situation where bribery and facilitation payments are used to resolve bureaucratic and administrative processes between businesses and state agents. According to research, this type of corruption constitutes one of the most important barriers for SMME development and sustainability as it raises the cost of doing business and thereby limits the prospects for business growth and development. This makes SMMEs prone to unethical behaviour in the form of bribery and corruption.

Among the commonly cited rationales for SMMEs to turn to corrupt practices are concerns about maximising profit, surviving among competitors, dealing with bureaucracy, and establishing themselves in new market segments. Some businesspeople continue to view bribery as constituting a commercial advantage in terms of “lower costs, greater efficiencies, or access to relationships or markets” (Nichols 2012:1-33). Dutt and Traca (2010:843-860) find some indication that collusion with corrupt officials can help businesses negotiate barriers to trade in extremely corrupt or bureaucratic environments. Most scholars concur that the long-term costs of bribery outweigh any short-term benefits accrued from by-passing bureaucratic or regulatory processes. Earning a reputation as a corrupt or dishonest business occurs over the course of several interactions and can have severe consequences for the business.

Understanding this dynamic is crucial in that internal controls in many small businesses are ineffective and lead to unethical behaviour and an increase in operational costs. It is also important for entrepreneurs to understand that high standards of organisational ethics can contribute to profitability by reducing the cost of business transactions and building a foundation of trust with important employees, customers, and suppliers. Businesses that are viewed as ethical by their key stakeholders enjoy several competitive advantages such as higher levels of efficiency in operations, higher levels of commitment and loyalty from employees, higher levels of perceived product quality, higher levels of customer loyalty and retention, and better financial performance.

**Leverage point:** Many benefits stem from behaving ethically in business. McMurrian and Matulich (2011:11-18) note that a business that demonstrates high ethical standards in all business practices maintains an ethical reputation. Their good reputation results in a high level of customer satisfaction and loyalty that translates into a higher profit, since customers are more inclined to buy from an ethical business (Wiid, Cant and Niekerk 2013). Being ethical reduces the transaction costs of generating new customers (Zhang 2009:28-35.) and enables businesses to attract more skilled employees (Larkin and Pierce 2015:1-27). These skilled employees put more effort into their work and thereby increase productivity.

### **7.3.7 Crime and security loop (RL11, a RL12 and BL7)**

The variables identified as being influential in the crime and security loop are presented in Table 7.7.

Business growth	Return on investment	Internal loss due to crime
Business crime	Level of safety and security	Service investment
	Funding	

Table 7.6 Variables in crime and security loop

Source: Researcher's own compilation

These variables influence each other to create the feedback structure-presented in Figure 7.11, depicting the crime and Security loops.

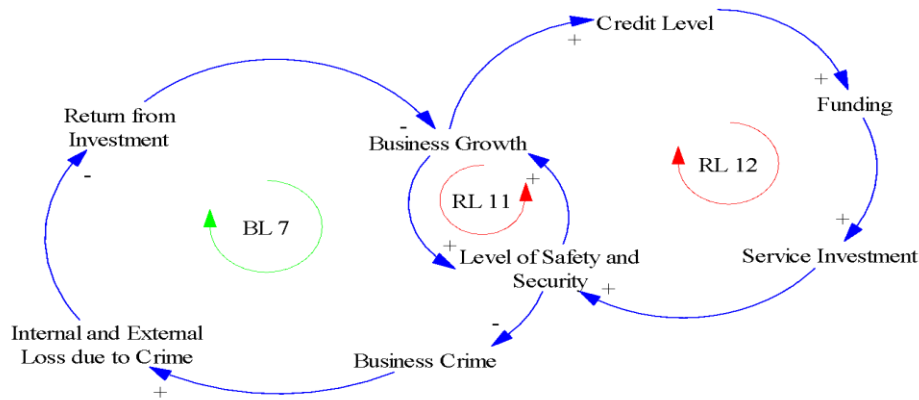


Figure 7.11: Crime and Security loops

Source: Researcher's own compilation

In Figure 7.11, **the crime and security loop** demonstrates the reinforcing loop of enhancing the business growth through enhancing safety and security (**level of safety and security RL11**). Common reinforcement loop are required for funding service investments (**RL12**), whereas the balancing loop **BL7** represents the loss and expenses because of crime within the organisational system.

The level of security increases and positively impacts business growth increases. A low level of crime and a high level of security are both preconditions for the survival and growth of any business. However, business crime (**BL7**) increases the internal and external loss to crime which decreases return on investments and business growth.

## 7.4 Identification of system archetypes

System archetypes can be used in two different ways. First, a more common use is for system diagnostics. The main aim is to reveal and describe the existing structures within the organisation together with finding the answers to questions of what happened and what the cause was. In the business management area, system archetypes reveal the current



structures and illustrate the rules of their functioning together with the emphasis on typical behaviours (Nguyen 2013). Second, it is possible to model the future development of the situation. The forward time movement is employed, for example, in business administration for planning and decision-making. The archetypes serve especially as a fundamental framework for the outlined situations. The detailed modelling discussed further can be easily based on archetypes. Nevertheless, it is necessary to add the indispensable values to appropriately complete the model as accurately as possible to the examined reality.

Analysing system archetypes can assist in the identification of system leverage points (Senge 2006) as a reference to generate strategies to improve the system. Nine systems archetypes are typically identified (Senge 2006): balancing process with delay, limits to growth (limits to success); shifting the burden; eroding goals; escalation; success to the successful; the tragedy of the commons; fixes that fail; and growth and underinvestment. Among these archetypes, four were identified: limits to growth, shifting the burden, success to success, and fixes that fail.

#### **7.4.1 Limits to growth archetype**

The Limits to Growth Archetype demonstrates the way initial growth may be slowed over time by a limiting factor (Figure 7.12). The limit to growth archetype describes a process in which a period of accelerating growth is followed by a period of deceleration (Senge 2006; Braun 2002). SMMEs interact with public institutions at the local, regional or national levels at all stages of their life cycle – from registering a company and obtaining a business licence to filing and paying taxes. Businesses of all sizes need to comply with an ever-increasing number of domestic and international regulations that carry high operational costs. The regulation aims to guarantee the operation of markets, promote business development, and permit a level playing field, including participation in public procurement tenders. However, regulatory burdens carry disproportionate costs to SMMEs related to record-keeping, employment, and tax regulations. Compliance costs can be so

high that they can either discourage entrepreneurs from starting up or drive SMMEs out of business.

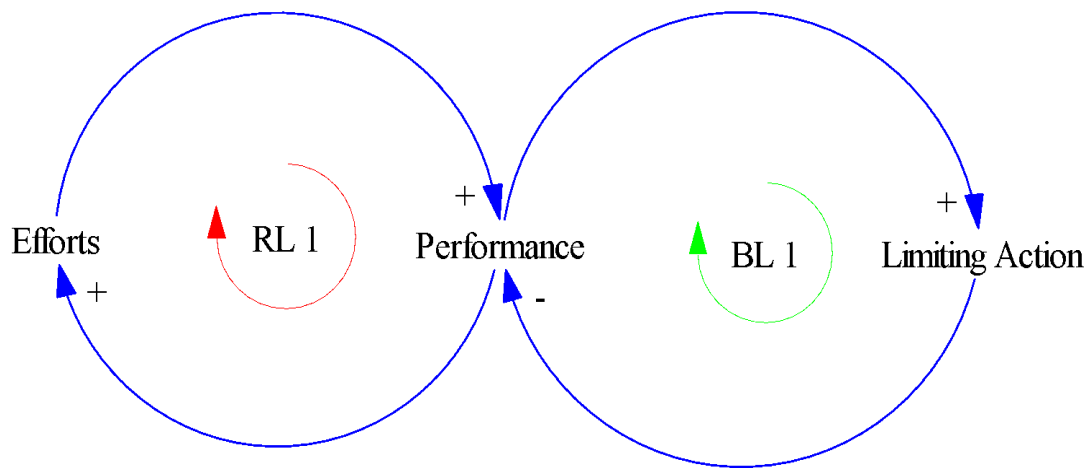


Figure 7.12: Generic Limits to Growth Archetype

Source: (Braun 2002)

Two problematic situations were identified to have this archetype: compliance attainment costs and stringency of regulation and policy.

#### 7.4.1.1 Compliance attainment costs

Increased compliance provides opportunities for entrepreneurs to receive more funding to use business growth and sustainability and the loop repeats as a reinforcing cycle (RL1 loop in Figure 7:13). However, this loop has an opposite balancing loop. As the compliance attainment increases, so do their costs associated with attaining compliance, thus decreasing financial resources (**Available funding** - Figure 7.13a,b).

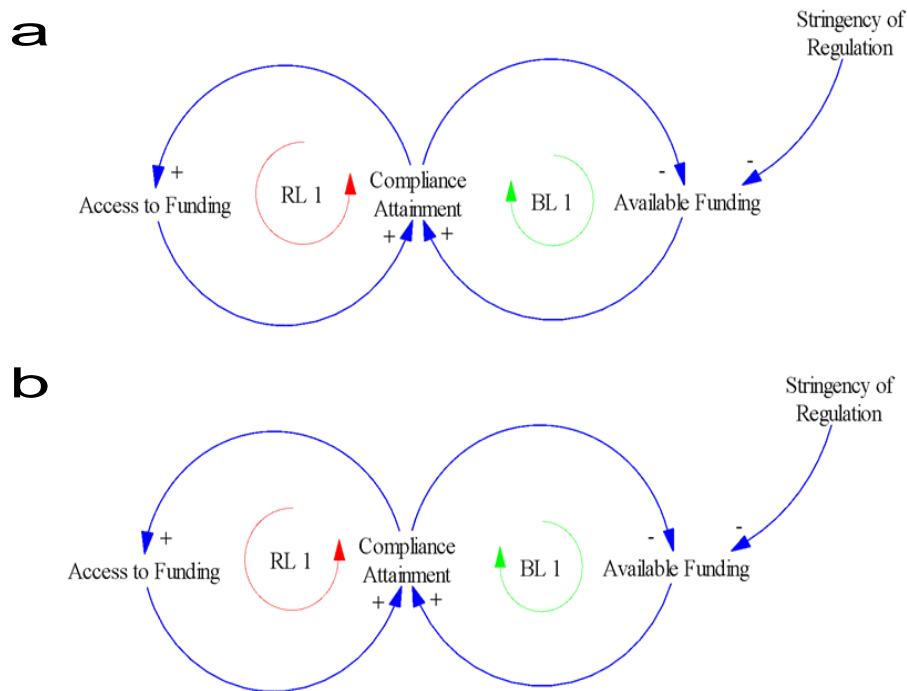


Figure 7.13(a) Compliance attainment cost and (b) stringency of regulation limits to growth archetype

Source: Researcher's own compilation

The complexity of regulatory procedures remain a major obstacle to entrepreneurial activity. While important progress has been made in the communication and simplification of rules and procedures, challenges persist related to complicated business licence and tax systems.

The key leverage point to this archetype is to find an intervention that relaxes or removes the constraint (Maani and Cavana 2007). Therefore, strategies to reduce compliance costs should be aimed primarily to cut red tape for businesses and to improve transparency and cost-efficiency of administrative regulations. The policies for SMMEs should be focused on the comply-or-explain principle, to identify business regulations that businesses perceive as the most burdensome and propose a simplification. The alternate strategies could also include “one-stop shops,” i.e., single-entry points for government services that

act as dedicated institutions that have been set up to help SMMEs and entrepreneurs to better navigate the regulatory environment, including through the provision of e-government services.

#### **7.4.1.2 Stringency of Regulation**

The loop diagram for the stringency of regulation as a limiting factor to growth archetype is presented in Figure 7.14b. Meanwhile, the stringent tax system for young businesses, which also tend to be small, high compliance costs and complexity of tax regimes can exacerbate the resource and cash-flow constraints often experienced in the early stages of business development and may act as a deterrent to formalisation. In some cases, tax compliance costs for small businesses may even exceed their tax cash payments. In recent years, policy approaches have focused on reducing compliance complexity for SMMEs, reflecting a more systemic perspective on the SMME business environment and activities. Greater emphasis is being placed on ensuring compliance from the outset, making tax compliance a by-product of the steps a business follows to transact.

Regulatory frameworks can support regulators in analysing the specific impact of legislation on SMMEs, and in considering flexible regulatory options that reduce costs for small businesses. The policy framework should also include Regulatory impact analyses (RIA) have also become a common practice in most OECD members including in most cases, SMME impact assessments. Regulatory Impact Analysis (RIA) is a systemic approach to critically assessing the positive and negative effects of proposed and existing regulations and non-regulatory alternatives through a range of methods.

#### **7.4.2 Fixes That Fail System Archetype**

Fixes that fail are characterised by one balancing loop and one reinforcing loop in Figure 7:14 and occurs when a problem symptom requires a fundamental change for it to be fixed.

Instead, a quick fix is applied, and whilst the problem symptom is temporarily alleviated (BL1), unintended consequences emerge and the problem symptom either returns (RL1) or worsens. Fixes that fail, are commonly used to identify recurring issues by developing an understanding of the system structure, contributing to specific situations (Kim 1994). Entrepreneurs are said to be confronted by complexity, unpredictability, ambiguity, competing interests, dilemmas, contradictions, wicked problems, turbulence, radical and rapid change, diminishing resources, and paradox (Boardman and Sauser 2008) .

Figure 7.14 depicts the generic fixes that fail system archetype

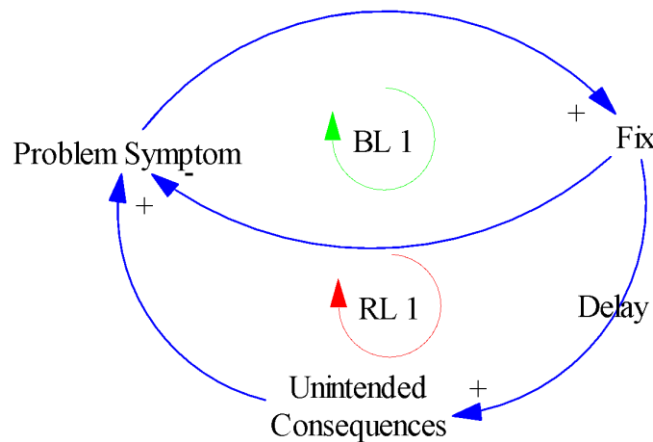


Figure 7.14: Generic fixes that fail system archetype

Source Braun (2002)

#### 7.4.2.1 Pressure to improve business sustainability for access to funding in CLD2

As a need to gain **access to funding** increases, there is greater pressure to improve proposal development, contract management, and reporting, and project implementation, delivery, and monitoring (**Pressure to improve** - Figure 7.15a). As management structures demand better work quality and output (**workload**), they inadvertently increase employees' workloads, as such employees must then devote more time and effort to their existing portfolios and tasks, while still dealing with incoming, and new projects and deliverables.

Having less time to focus on specific tasks together with the mental burden of having to juggle a greater number of tasks due to the backlog of tasks that remain partially or fully incomplete, means that eventually the output will suffer.

### **7.4.3 Shifting the burden archetype**

The shifting the burden archetype represents a situation where people tend to apply an easy fix, rather than a more fundamental solution. Unfortunately, the easy fix has only temporary benefits but results in altering the symptoms and leaving the real problem untouched and even worsening. Often, the easy fix has side effects that exacerbate the real problem (Senge 2006).

Figure 7.15(a) depicts: Generic fixes that fail system archetype, and (b): pressure to improve business sustainability fixes that fail archetype (based on this research)

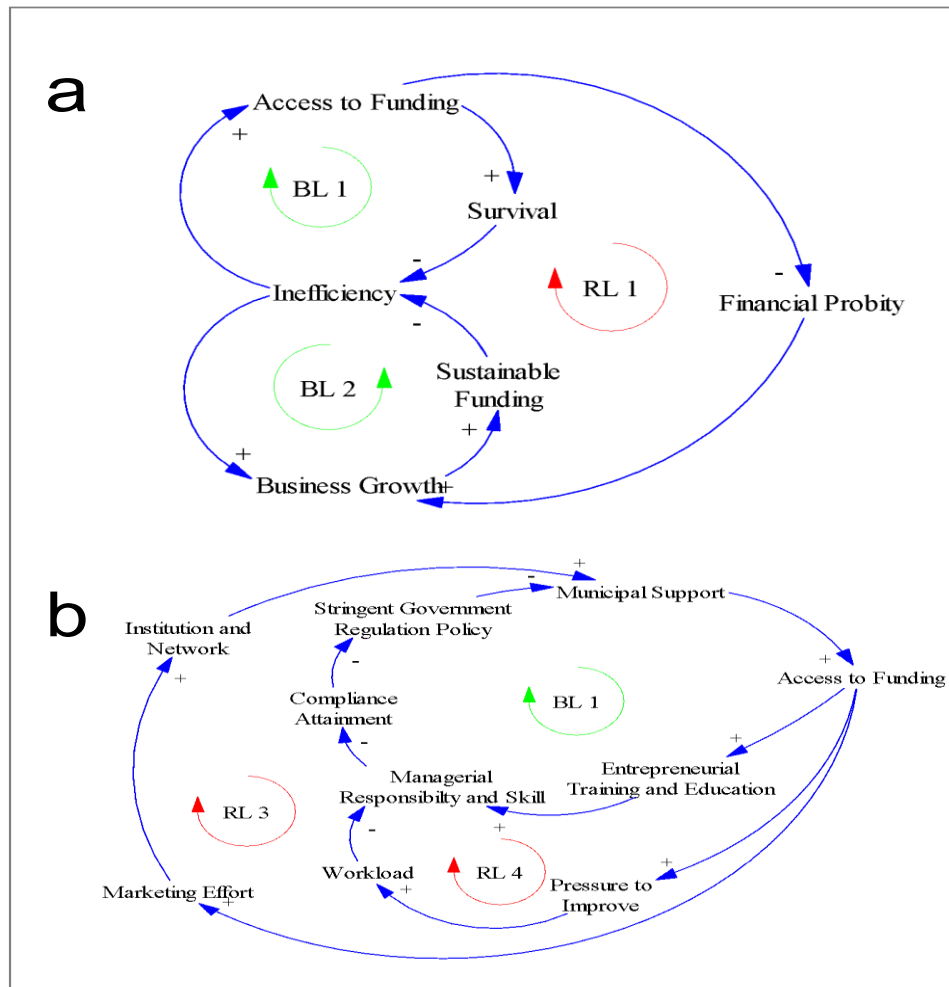


Figure 7.15(a) Generic fixes that fail system archetype, and (b): pressure to improve business sustainability fixes that fail archetype (based on this research)

Source: Researcher's own compilation

Shifting the burden archetype has been identified as a dependency of SMMEs on external funding. Access to finance is key to the creation, growth, and productivity of SMMEs (Figure 7.15b). Financing for SMMEs in the appropriate forms is important at all stages of the business life cycle, to enable these businesses to start up, develop and grow, and make contributions to employment, growth, and social inclusion. Access to finance improves the post-entry performance of start-ups and industries which are more dependent on external finance. They grow relatively faster in countries with more developed financial markets,

due to enhanced information sharing and risk management, and a better allocation of resources to profitable investment projects (Giovannini and Moran 2013:13).

Therefore, in the archetype above, as the entrepreneurs are unable to access funding (**Access to funding**), organisational functioning can be relatively unstable and lead to **inefficiencies** and lack of **business sustainability**. The more unsustainability the business experiences, the more likely it is to depend on and accept funding from institutions. These dynamics create a balancing loop (B1).

The more growth the business has also had the effect of encouraging the entrepreneurs to develop and institute activities that will enable it to generate more funding. As the business does this, its chances of generating a stream of funding that will persist into the future (**sustainable funding**) increases, although this may take some time. Sustainable sources of funding mean that the organisation will experience less poor performance and inefficiencies.

However, as the organisation becomes more dependent on the funding it receives (**access to funding**), it may see no, or less of a need, to institute activities and **internal control measures financial probity** that can generate an income and financial resources, with the result that it will not institute such activities or reduce its efforts to do so. This instead creates a dependency on external funding and on institutional support, reducing interest in managing internal controls and discipline, which will enhance their own income even further. This creates a vicious reinforcing loop that keeps entrenching dependency on external funding and institutions while at the same time reducing the business's desire and ability to generate its own sources of income.

**Leverage point** - against this backdrop, the long-standing need to strengthen SMME capital structures and decrease their dependence on borrowing has become more urgent. While bank financing will continue to be crucial for SMMEs, a more diversified set of financing options can contribute to reducing systemic risk, increasing the resilience of the



real economy to large shocks, and enable SMMEs to continue to play their role in investment, growth, innovation and employment.

There are opportunities for SMMEs to tap into a wide range of alternative financing instruments. In recent years, an increasing range of financing options has become available to SMMEs, although some of these are still at an early stage of development or, in their current form, only accessible to a small share of SMMEs.

The digital transformation offers new opportunities to improve SMME access to finance. Digital technologies, such as online and mobile banking and payment solutions, have had an important impact on traditional SMME financing. They allow financiers to considerably lower transaction costs when reaching out to unserved and underserved segments of the SMME population. They introduce accounting technology to help manage SMME financial statements, as well as alternative credit scoring mechanisms using non-traditional sources of information, such as payment history, usage and payment of utilities, online activities, and mobile history. These make lenders able to address information asymmetries cost-effectively and enable higher approval rates with a relatively low default rate.

Digitalisation has also allowed some innovative and inherently digital financial services to be offered to SMMEs. Peer-to-peer lending and equity crowdfunding provide alternative sources of financing and have experienced rapid growth in many parts of the world, as they enable investment projects that are too small or too risky for traditional banks to address (WEF 2015). They still represent a minor share of financing for businesses; however, they are rapidly expanding from the starting non-profit and small-scale entertainment niche to for-profit activities and businesses (OECD 2017).

#### **7.4.3.1 Dependency on institutional support**

The success of the business depends on the effective leadership skills of the management. Entrepreneurial leadership is one of these effective leadership skills. SMMEs in SA lack

entrepreneurial skills and education. Fatoki and Garwe (2010:131) and van Scheers (2016:349) identified lack of basic management skills such as business planning as one of the reasons why small businesses fail, while Lekhanya (2015:414) highlighted lack of entrepreneurship education as a major reason for SMME failure in South Africa.

If the problem is perceived as a lack of capacity building, then providing institutional support in the form of business support services and access to funding to reduce compliance costs and business inefficiency is an apparent quick fix. The solution is quicker than an effective capacity-building approach within the business. However, entrepreneurs will get support and temporary relief and would rely on institutional support as opposed to embarking on capacity-building initiatives (Figure 7.16). SMME skills and strategic vision are key ingredients to broaden the range of financing instruments. Targeted financial education programmes are not only a matter of increasing knowledge about individual instruments. They can also help entrepreneurs to develop a long-term strategic approach to business financing, enhance understanding of the economic and financial landscape of relevance to their business, identify and approach providers of finance and investors as well as understand and manage financial risk for different instruments. Complementing financial support for SMMEs with non-financial elements, such as counselling and mentoring, can enhance SMME financial skills and planning. In this regard, the providers of SMME-targeted programmes, including governments, public financial institutions, multilateral development banks (MDBs), and relevant non-for-profit institutions, can play a key role to foster SMME financial capabilities.

Figure 7.16 depicts the shifting the burden archetype: dependency on institutional support

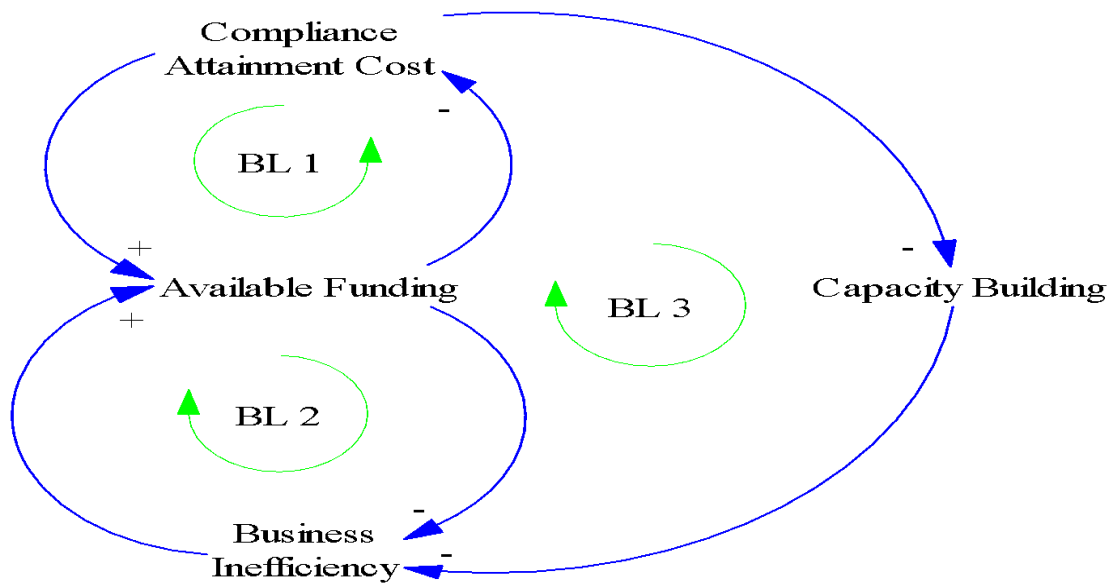


Figure 7.16: Shifting the burden archetype: Dependency on institutional support

Source: Researcher's own compilation

#### 7.4.4 Success to the successful archetype

The success of the successful archetype represents a situation when two activities compete for scarce resources. One activity has relatively greater success than the other, and consequently gains more support, while the poorer performer receives less support (Senge 2006). Figure 7:17 depicts the identified success to successful archetypes relating to investments in technology instead of investing in capacity building within the business.

Small businesses are less likely to provide their employees with formal training which can be ascribed to several reasons. These reasons may be time-related or cost-related – both elements of which SMME's traditionally have limited resources for. The smaller the size of the business, the wider the gap in participating in training and development initiatives.

Figure 7:17 depicts the identified success to successful archetypes

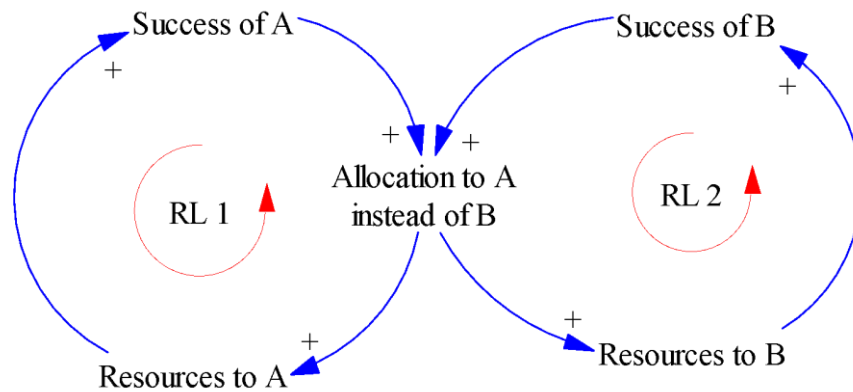


Figure 7.17: Generic success to successful archetype-impact of resources

Source (Braun 2002)

Figure 7.18 demonstrates that SMME owners generally underestimate the benefits that training can offer to the business, the workforce, and managers in favour of investing in technology. SMME owners generally provide less training and development initiatives to staff as the perception is that the costs are higher and the benefits lower than with larger organisations. Figure 7.18 depicts the success to successful archetype-impact of leadership development.

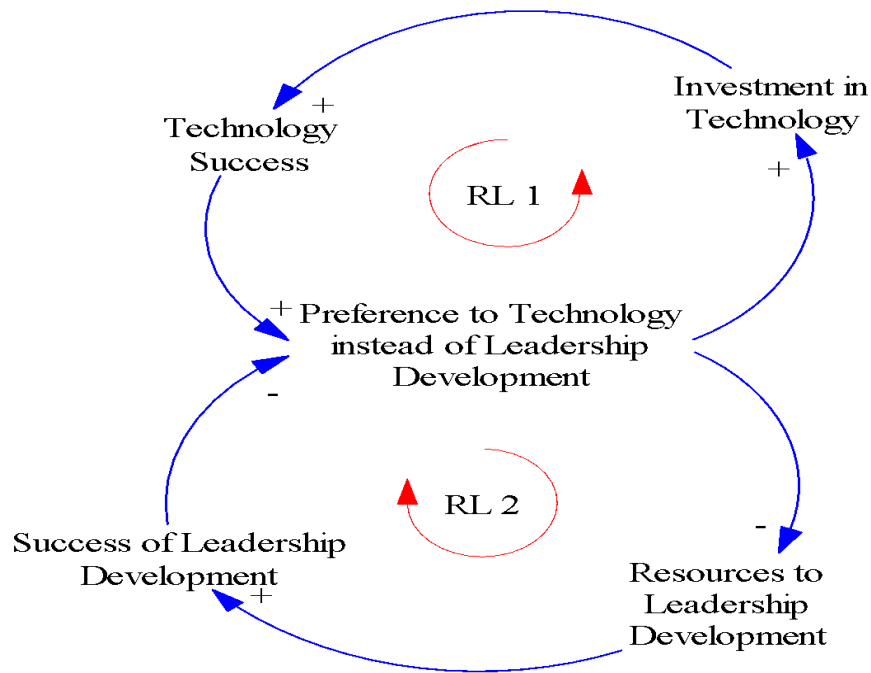


Figure 7.18: Success to successful archetype impact of leadership development

Source: Researcher's own compilation

#### 7.4.5 Tragedy of Commons

In this archetype, each actor pursues individually beneficial actions, but that eventually culminate in a situation that is worse for all involved. When the individual gains and the activities become too large for the system to support, the commons become overloaded and everyone experiences diminishing benefit. “Tragedy of the Commons” contains numerous loops and so appears to be especially complex and the underlying concepts and processes are not difficult to understand.

Figure 7.19 depicts the Generic tragedy of the common's archetype

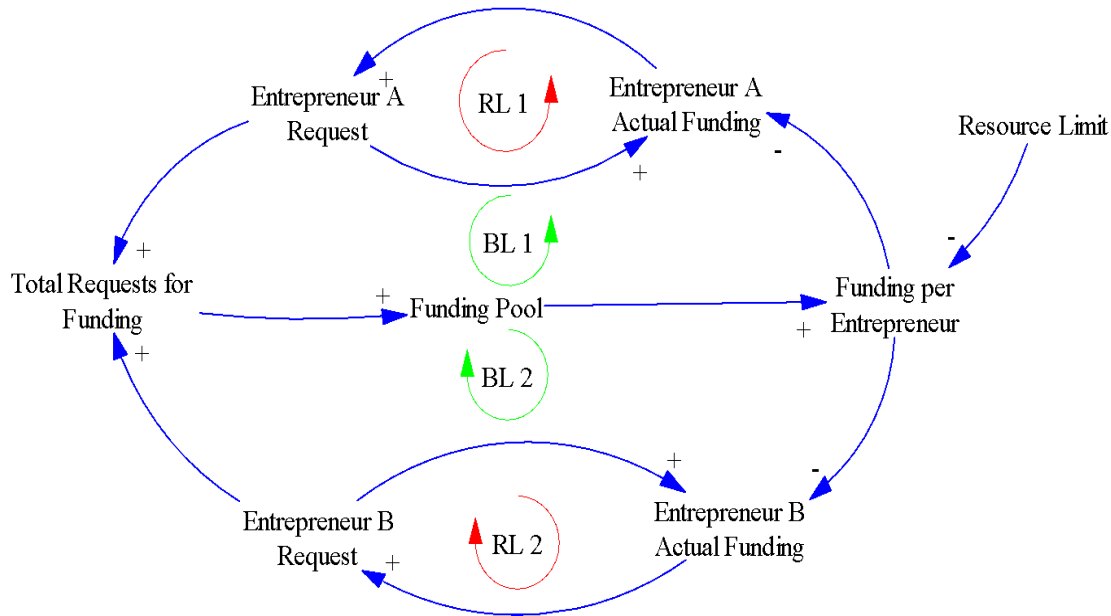


Figure 7.19: Generic tragedy of the common's archetype

Source: Braun (2002)

As evident from Figure 7.19 “Accidental Adversaries,” the top and bottom reinforcing loops are analogous growth engines, showing how A’s Activity produces more Net Gains for A, which in turn leads to more A’s Activity to further increase Net Gains for A. However, because the “commons” is a shared resource, the activities of A and B are not independent but are instead tightly linked, as shown in the centre reinforcing loops. Here researchers see that as A’s Activity and B’s Activity increase, the Total Activity increases, but due to the Resource Limit inherent in the shared resource this means that, after a delay, the net Gain Per Individual Activity decreases. When this occurs, A and B are both forced to increase their levels of activity, presumably to make up for the shortfall in expected gain. At the same time, the decline in Gain Per Individual Activity also decreases the Net Gains for each party. In short, too much activity by the parties involved (who make use of the shared resource) eventually starts to deplete the resource, spurring the parties on to even greater activity to make up the shortfall, which only depletes the resource more, further reducing their Net Gains.

#### **7.4.5.1 Access to funding**

Reinforcing loops 1 and 2 of the archetype, present in Figure 7.20, depict that entrepreneur A and entrepreneur B make requests for funding via proposals to institutions that can grant their requests for such funding. As their requests for funding increase, so too will the actual funding they receive (actual funding). As their requests are met, they are more likely to request funding once again, as the receipt of funding tends to make entrepreneurs dependent on applying for more funding. However, as entrepreneurs make more requests for funding, they increase the Total requests for funding, and as these requests increase, the Funding per entrepreneur decreases over time because there are more entrepreneurs making requests for the same funding. Therefore, each entrepreneur begins to receive less when they make further requests for funding. This creates Balancing loops 1 and 2. Another tragedy of the common archetype in the entrepreneurial system is institutional support and resources provided to entrepreneurs to support their business growth and sustainability. Figure 7.20 depicts the tragedy of the commons -dependency on access to funding.

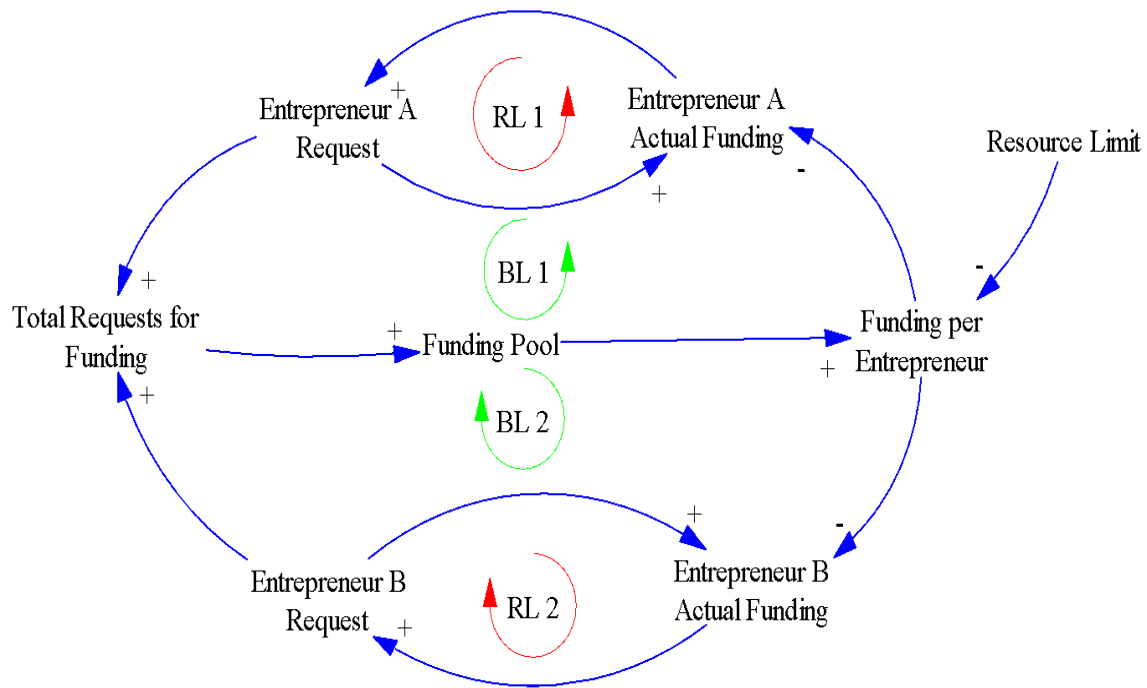


Figure 7.20: Tragedy of the commons dependency on access to funding

Source: Researcher's own compilation

#### 7.4.5.2 Institutional support programmes

The CLD diagram of the architecture depicting the institutional support programme is presented in Figure 7.21.



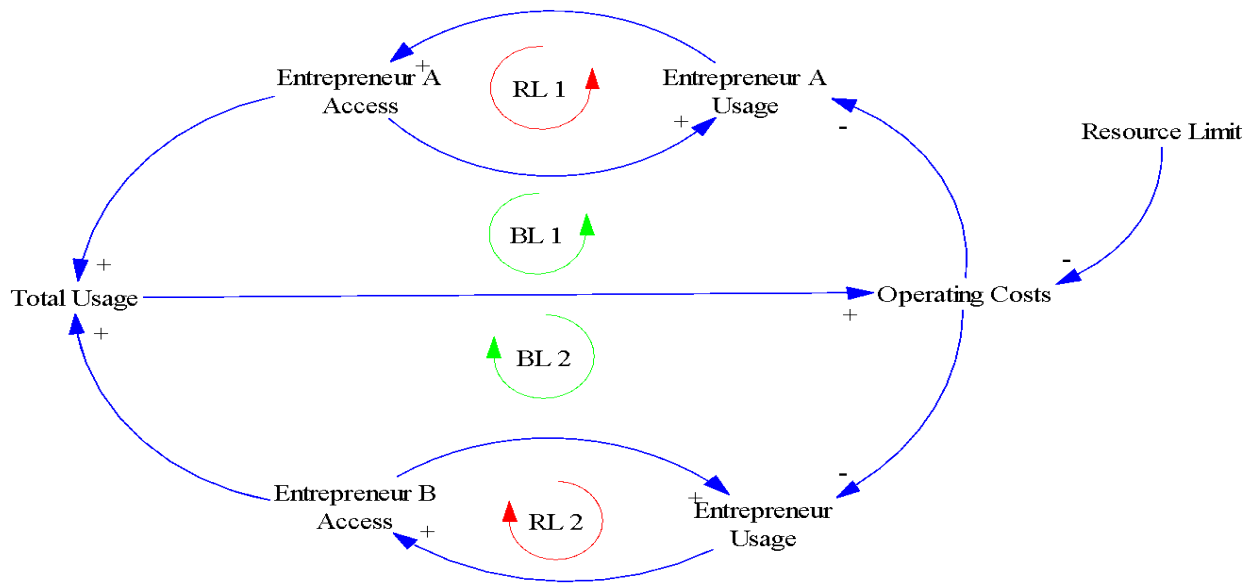


Figure 7.21: Tragedy of the commons archetype dependency on access on institutional support

Source: Researcher's own compilation

Reinforcing loops 1 and 2 of this archetype depict that entrepreneur A and entrepreneur B use business support resources from institutions and networks aimed at supporting the start-up and development of businesses to institutions that can grant their requests for such funding. As their usage of these resources increase, so too will the total usage/consumption increase. As support services are deemed beneficial to the entrepreneurs, they are more likely to increase access and usage of the business support provided by the institutions and networks. However, as entrepreneurs continue to use these services from the institutions and networks funding, they increase operational costs for these institutions and networks, and as these costs increase, the resources and access available per entrepreneur decreases over time because more entrepreneurs are accessing and using the same resources. Therefore, each entrepreneur begins to receive less access and assistance and business support; this creates Balancing loops 1 and 2.

## 7.5 Chapter Summary

This chapter presented a conceptual model, which is based on empirical findings of the exploratory study. A conceptual systems model based on the interaction and feedback structure from the entrepreneurial system was developed using causal loops diagrams. The combined and merged system model presents the merged loops in entrepreneurial leadership dynamics comprising 12 reinforcing and 7 balancing loops, as the major components of the merged model.

The findings reveal that the environmental and change loop reveals the conventional leadership behaviour and an attempt to explain its consequences, including and particularly its self-reinforcing nature. It found that the insidious and limiting nature of the self-reinforcing tendency of conventional leadership behaviour, especially given the emerging 21st century with its turbulence, rapidity of change, and dire need to solve complex, wicked problems in sustainable ways. Thus, understanding the dynamics in environmental complexity and change and the limiting factor of conventional leadership approaches are crucial to manage the change and complexity in entrepreneurial contexts.

The regulatory compliance loop reveals that the business regulatory environment is one of the key factors which had a negative impact on the growth and development of SMMEs. SMMEs cannot reach their set goals and objectives because of several impediments such as bureaucracy and red tape, cumbersome regulations, and tax. This, coupled with the high start-up costs for businesses and licensing and registration requirements, can impose an excessive and unnecessary burden on SMMEs. The managerial competence loop reveals that the managerial competence is a major challenge facing SMMEs. The lack of sustainability efforts in SMMEs can be linked to poor management skills attributed to inadequate training and education and lack of business sustainability skills. Entrepreneurs face impediments to gaining access to appropriate technologies and gathering information on the relevant and available techniques. Not only are SMMEs not innovative with their technology due to financial restraints, but also these entrepreneurs have limited know-how in the deployment of the technology within their businesses, thus impacting the capacity

and productivity of SMMEs (capacity and productivity loop). Currently, many SMMEs are characterised by using traditional technologies, limited technical skills, and a lack of information about markets and new technologies. As such, the SMME sector contributes a disproportionately small share to overall productivity gains.

The Competitiveness loop reveals that SMMEs are insufficiently equipped to face increasing pressures from globalisation. As a result of their limited resources and lower productivity, many have found it difficult to compete; thus, increasing SMME's competitiveness has become a major challenge. The internal factors constraining SMMEs' ability to be competitive are a lack of experience, managerial competency insufficient resources, and an excessive perception of risk and ability to compete. Lastly, the poor Internal controls and ethical conduct loop demonstrates the inefficiency of internal controls that the mere size of the SMME limits its financial resources and capabilities and increases the lack of internal controls and unethical business behaviour. This type of corruption constitutes one of the most important barriers for SMME development and sustainability as it raises the cost of doing business and thereby limits the prospects for business growth and development. This makes SMMEs prone to unethical behaviour in the form of bribery and corruption.

The next chapter presents the outcome of the simulation scenarios of the entrepreneurial leadership adoption model.

## **Chapter Eight - Formulation of Entrepreneurial Leadership Model**

### **8.1 Introduction**

The entrepreneurial system is made up of entities, interactions, and delays, each characterised by key variables that have been characterised and quantified. The identified variables in Chapters 2 and 3 were used to develop causal loop diagrams to provide insight into how these variables behave as presented in chapter seven. However, Coyle (2000) is of the view that behaviour of complex systems cannot be credibly inferred from a purely qualitative perspective hence, a quantitative simulation model that makes behavioural inferences possible, is needed. To understand the systemic behaviours of how the entrepreneurial system operates, and crucially how entrepreneurial leadership adoption variables influence each other, this study needs to construct a model of the entrepreneurial leadership adoption referred to as the entrepreneurial leadership adoption model.

In this chapter, the dynamic hypothesis is translated into a formal simulation model with the aim of exploring factors that would impact entrepreneurial leadership adoption allowing alternative policy scenarios to be designed, analysed, and compared. The aim of this chapter firstly is to utilise simulation to explore factors that impact on entrepreneurial leadership adoption and secondly to identify and evaluate the effects of different policy scenarios to support entrepreneurial leadership adoption. The aim of this chapter is to understand the most important leverage points to enable the adoption of entrepreneurial leadership by entrepreneurs.

## 8.2 System dynamics simulation modelling

A system dynamics simulation model is distinguished from CLD (i.e., qualitative mode/dynamic hypothesis) in several significant ways. CLDs, as depicted and described in Chapter 7 of this study, are essentially problem structuring tools, and can yield qualitative models, showing the causal relationships among the main system variables (Sterman 2000). As for influence diagrams, “they put a very complex problem, which may require complex pages of narrative explanation, onto one piece of paper” (Coyle 2000:240). However, they do not incorporate model parameters, functional forms, external inputs, and initial conditions required to complete parametrised and test the model (Sterman 2000). A simulation or a formal model captures these essential features. Also, insights drawn from CLDs are usually based on our mental models, and thus, have some major limitations: “they are vague, implicit, often biased, ambiguous, and non-testable” (Barlas 2007:12) and ignores feedbacks, time delays, accumulations, flows, and nonlinearities (Sterman 2000:1-29.). A formal simulation model is explicit, less biased, unambiguous, and testable (Barlas 2007:1-29.), making it possible to draw behavioural and policy inferences reliably, which is impossible using qualitative diagrams or maps (Homer and Oliva 2001). Further, CLDs do not allow modellers to infer the dynamic behaviour of complex systems; rather, the dynamic behaviour of systems can be observed via quantified simulation (Coyle 2000; Barlas 2007:1-29).

System dynamics modelling represents the changes in a complex system and is useful for simulating stock-flow-feedback processes that typically underlie the behaviour of complex systems such as the entrepreneurial system. Simulation allows modellers to experiment with the model of the real problem, rather than experimenting with the real system (Barlas 2007:1-29). Simulation illuminates and strengthens the governing feedback in the dynamic hypothesis (Sterman 2000). A simulation modelling is, therefore, the refinement, formalising, testing alternative assumptions, and putting finality on the dynamic hypothesis or the conceptual models using an explicit set of mathematical relationships. A formal simulation model is usually developed to clarify our mental model, to make it rigorously

possible to analyse and testable, and for making scientific improvement possible (Barlas, 2007:1-29). Formalising qualitative models and testing them via simulation often lead to radical changes in the way researchers understand complex dynamic systems from which insights could be generated into strategic policy scenarios to improve system behaviour (Coyle 2000; Sterman 2000).

The following sub-sections will discuss an entrepreneurial system map or rich picture, system conceptualisation, exploratory interviews and model boundary.

### **8.2.1 An entrepreneurial system map or rich picture**

There are several feedback loops in a high-level diagram of an entrepreneurial model. The primary task in identifying the systems approach to modelling entrepreneurial systems is to define the key system features and to construct a high-level causal loop diagram that captures the key elements of the system in question, including the major feedback loops. There is a whole range of potentially significant joint dependencies (and feedback dynamics) that capture overall system behaviour and performance over time rather than one 'dependent variable', which differs from traditional social sciences. It is therefore essentially a systemic framework of analysis that provides a useful mechanism for understanding variables governing entrepreneurial systems in different systems: the complex nature of change in a continuing crisis of accumulation, and the impact of that change on regulated legal, economic, and social institutions.

Literature was reviewed to identify and map the key variables, their interdependence, and their interaction in shaping behaviour in adoption decision-making. This was done through the semi-structured interview method, within the framework of Soft Systems Methodology and creation of causal loop diagrams. Aspects of this component have been presented in Chapter 2 and 3 and system dynamics modelling (Chapter 7).

### **8.2.2 System conceptualisation**

This step includes defining the problem dynamically with or without the use of data since the behaviour of a system variable over time follows a pattern that can be illustrated. After identifying the problem, key variables, and reference modes (historical data/behaviour of variables) and feedback structures are identified.

As part of the problem definition, a scoping review was performed to understand the context of the study and its underlying problem issues. Specifically, this task involved a literature review, the definition of the spatial and temporal scale (i.e., the model boundaries), selection of time horizon, identification of key variables, dynamic problem definition (reference modes), and identification of the stakeholder groups (Sterman 2000; Ford 2010).

### **8.2.3 Exploratory interviews**

A semi-structured interview process was used to engage with a selection of entrepreneurs in the case study area. Aligned with the principles of grounded theory, the aim was to elicit data with no preconceptions or predetermined hypotheses. A purposive sampling technique was used to select a group of stakeholders from the pool based on their professional standing, prolonged years of experience through research or practice, and their likely ability to discuss problems of entrepreneurial leadership. The selection process was designed to ensure that a range of stakeholders with entrepreneurial backgrounds, as described in Chapter 5, were represented.

The exploratory interviews permitted the researcher to gather relevant background information about the participants and offered participants' views on entrepreneurial leadership challenges in the entrepreneurial systems derived from interviews as depicted in Figure 8.1.

Name	Sources	
Leadership Challenges and Complexities		49
External Leadership Challenges		48
Factors Resulting in Business Failure		45
Internal Leadership Challenges		42
Entrepreneurial Leadership		46
Application of Knowledge and Skills from Leadership Development		71
Career Plan		63
Alignment of Performance Management and Leadership Development		54
Meaning of Leadership		50
Entrepreneurial Responsibilities		50
Views on Leadership Development		47
Participation in Leadership Development Activities		42
Leadership Journey		38
Measurement and Evaluation of the Impact of Leadership Development Initiatives		36
Leadership Development Interventions Offered		28
Leadership Development Activities		17

Figure 8.1: Variables impacting entrepreneurial leadership

Source: Researcher's own compilation

#### 8.2.4 Model boundary

In delimiting system and model boundaries, all potential significant elements which influence other parts of the system and are influenced by elements of the system are modelled as endogenous variables while all the elements that could seriously affect the system but are not influenced by the system become exogenous variables and all other elements are omitted (Pruyt 2013). In system dynamics modelling, a modeller must clearly define the model boundary and separate the initial components list into two groups, namely endogenous variables which are dynamic variables involved in the feedback loops of the system, and exogenous variables which are not directly affected by the system as depicted in Chapter 6. According to the results of the exploratory study, as described in Chapter 6 and further analysed in section, the model variables identified through the exploratory study in this research were fairly similar to those identified in the literature.



### **8.3 Entrepreneurial leadership adoption model**

In this section, a formal system dynamics model capturing the word-of-mouth phenomenon is presented. The structure and logical formulation of the model are first presented, followed by results from simulation experiments. The system dynamics model represents the key dynamics that enable entrepreneurial leadership adoption by entrepreneurs. The development of a simulation model is necessary because a simulation model enables the system stakeholders to gain a deeper insight into the dynamics of the problem they have defined with their qualitative or conceptual model (Beall and Ford2010).

Research findings reveal that entrepreneurs lack entrepreneurial leadership skills required for managing their businesses. There is little evidence of entrepreneurs being trained in entrepreneurial leadership competencies. Mohammed and Nzelibe (2014) alluded to the fact that the lack of trained human resources and management/leadership skills constitutes major challenges to the survival of SMMEs. SMMEs face important financial and human resource constraints regarding training, which are linked to the small size of the business, the starting level of education and skills of the labour force, lack of information about training and the benefits of training and fears of not realising a return on the training investment. SMMEs lack dedicated internal training or human resources departments and are also less likely to employ training managers or to have formal training policies. Direct financial costs of training are also much higher for SMMEs because trainers need to tailor their courses to the needs of smaller businesses. SMMEs also have smaller workforces, leaving less scope to release people from production, and experience higher job turnover than larger businesses, constraining the capacity and willingness of SMMEs to invest in skills development.

Some participants emphasised that lack of training contributes to SMMEs not being able to deal with competitive environmental challenges. Participants showed that insufficient training in entrepreneurial leadership affects SMMEs and most of them cannot cope with the latest accounting systems, information technology, management concepts, and production techniques. While institutions provide institutional support such as education

and training, there is not much information available at the entrepreneur's disposal, coupled with a lack of funding and support. The dynamic hypothesis is translated into an integrated entrepreneurial leadership, allowing alternative policy scenarios to be designed, analysed, and compared.

The area of interest in this research was to study, structurally, how interested, and aware entrepreneurs convert to become adopters of entrepreneurial leadership. The key dynamic is the movement of entrepreneurs from the stock of non-adopting entrepreneurs (aware entrepreneurs) to the stock of adopting entrepreneurs, and this represents a key desired behaviour change in which entrepreneurs choose to adopt entrepreneurial leadership to assist them to cope with complexities in the entrepreneurial system in Gauteng. The next section describes the creation of stock and flows

### 8.3.1 Creation of stock and flows

The graphical language of system dynamics models used in this thesis is stock and flow diagrams, and the stocks are the square blocks (Figure 8.2). Here, the stocks represent the number of entrepreneurs at the various stages of the decision-making process. Flows are represented by the pipelines and flow control valves in between the stocks. The modelling platform dictates that only flows can cause a stock to either increase (inflow) or decrease (outflow). Figure 8.2 depicts stock and flows diagram.

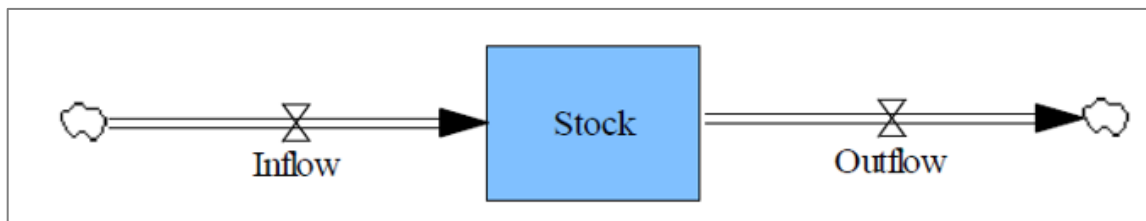


Figure 8.2: Stock and flows

Source: Researcher's own compilation

One of the important limitations of causal loop diagrams is their inability to capture the stock and flow structure of systems. Stock and flows along with feedback are two central

concepts of the systems theory. Stock accumulations characterise the state of the system and generate the information upon which decisions and actions are based.

A system stock is a store, a quantity, an accumulation of material or information that has been built. Many of the interconnections in the system operate through the flow of information. Information holds the system together and plays a prominent role in determining how they operate.

Stock and flows provide the numerical basis of a system dynamics model (Sterman, 2000). The key assumption of stock and flows is that systems can be represented as a collection of stocks (levels, accumulations) and flows (rates), so material or energy accumulate in stocks and moves between them through flows. The CLD in this study was numerically structured in terms of stock and flows diagrams (SFDs) comprising three sub-sectors, all linked into a single system model simulating the interaction between the system dynamics over 25 years (2020-2045). The year 2045 is chosen for the model, as it represents a long-term perspective to observe the dynamic behaviour. SMME sustainability problems are expected to exacerbate by 2020 and 2045 and the consequences of policies on long-term outcomes. The complete simulation model was built using Vensim modeling software as depicted in Figure 8.3.

#### **8.4 Model description**

The flow of entrepreneurs from a group aware of entrepreneurial leadership to be adopted is depicted in Figure 8.3. The units for the stock and the flow variables are entrepreneurs and the number of entrepreneurs per year, respectively. The data was used to populate the stocks in the model with their respective initial values as reflected in Figure 8.3.



Figure 8.3: Stock and flows diagram of the entrepreneurial leadership adoption and disadoption process

Source: Researcher's own compilation

The flow of entrepreneurs from a group who are simply not aware of entrepreneurial leadership to becoming aware, generating interest and eventually adopting. The units for the stock and the flow variables, are a number of entrepreneurs and the number of entrepreneurs per year, respectively.

- Aware entrepreneurs = 43
- Unaware entrepreneurs = 4
- Interested entrepreneurs = 1
- Total population of entrepreneurs = 46

The function description of the total model is given below and in Figure 8.4.

1. **Aware entrepreneurs** are the rate of entrepreneurs becoming interested based on views on leadership development and the availability of the financial resourced.  $(Aware\ Entrepreneurs - Interested\ rate) * 0$
2. **Interested entrepreneurs** are aware entrepreneurs who become interested in entrepreneurial leadership due to effect of views on leadership development and participation in leadership development.  $(Aware\ entrepreneurs * Fraction\ becoming\ interested)$ .
3. **Adoption rate** is the percentage of the potential adopters per year. This fraction is based on the willingness to adopt.
4. **Adopting entrepreneurs** is the number of entrepreneurs adopting.

5. **Uninterested rate** is the percentage of entrepreneurs who has potential to un-adopt because of either price or access combined with other reasons.
6. **Uninterested entrepreneurs** are the number of entrepreneurs who have potential to un-adopt because of either price or access combined with other reasons.
7. **Disadoption rate** represents the process of disadoption which is the fraction of the “adopters” (adopting entrepreneurs) becoming disadopters every year.
8. **Disadopted entrepreneurs** are the number of entrepreneurs who will not adopt.

Figure 8.4 depicts the entrepreneurial leadership model

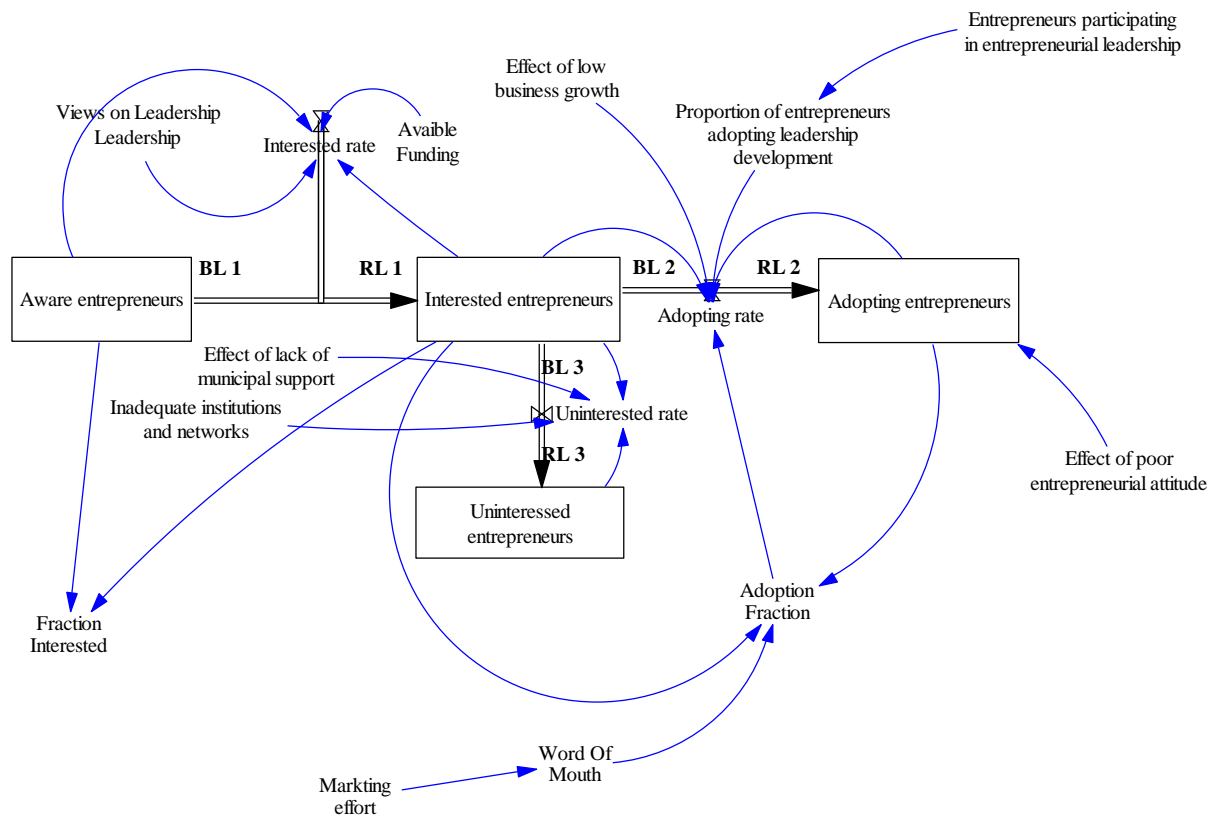


Figure 8.4: entrepreneurial leadership model

Source: Researcher's own compilation

As per Figure 8.4 there are two steps in the adoption process namely, the non-adopting and unaware entrepreneurs first learn about the value of entrepreneurial leadership and then choose to participate and become adopting entrepreneurs. In the first step, entrepreneurs

first must learn the value of entrepreneurial leadership development initiatives and then choose to participate in leadership development (RL1).

In the second step, aware entrepreneurs in the stock of “*interested entrepreneurs*” may then choose to adopt entrepreneurial leadership development initiatives (RL2). The rate at which they choose to adopt entrepreneurial leadership development initiatives is influenced by four factors, which were identified in the interviews as the key barriers for entrepreneurs adopting entrepreneurial leadership development initiatives.

However, adoption is constrained by variables such as views on entrepreneurial leadership, lack of funding, access to leadership development programmes and initiatives, institutional support to participate in these capacity-building/leadership development programmes, knowledge of institutions that provide these programmes, and costs of the development programmes.

The proportion of entrepreneurs with access – namely information about the availability of these programmes and information regarding the institutions is driven by the number of programmes accessible to them and the proportion of institutions who provide these training programmes. Adoption is influenced by the percentage of entrepreneurs who see entrepreneurial leadership development initiatives as either cumbersome, requiring too much time and effort and the proportion of entrepreneurs who can verify that entrepreneurial leadership development initiatives available in the market are beneficial. Lastly, adoption is influenced primarily by price and access, along with other reasons provided by entrepreneurs in this study.

The rate at which entrepreneurs become informed about the value of entrepreneurial leadership development initiatives is influenced by two factors namely marketing effort - awareness and information on entrepreneurial leadership development interventions and the number and effectiveness of training which may be offered by institutions who provide entrepreneurial leadership development initiatives; and word of mouth effect, in which contacts with entrepreneurs enable non-adopting entrepreneurs to learn about the value of

entrepreneurial leadership development initiatives. Word of mouth is the positive feedback or reinforcement loop that generates the initial exponential growth. The more entrepreneurs participate in entrepreneurial leadership training and development the higher the chances that contact is made with other entrepreneurs and is triggered to adopt. The external sources of awareness and adoption are usually interpreted as the effect of advertising and marketing which is a balancing loop.

*Uninterested entrepreneurs* (RL3) occur when entrepreneurial leadership course prices are too high, or when they cannot access institutions which provide entrepreneurial leadership development initiatives. The rates of uninterested entrepreneurs are based on the percentage of entrepreneurs who have potential to un-adopt because of either price or access combined with other reasons.

The model was extended to model the effects of various variables of entrepreneurial challenges and complexities on the adoption as reflected in Figure 8.5. The variables were derived from the literature and conceptual models presented in Chapter 7. The fundamental equations behind major variables are:

$$\text{Aware Entrepreneurs INTEGRAL } (-\text{Adoption rate}, \text{Initial Aware Entrepreneurs}) \quad \text{eq 1}$$

$$\text{Adoption rate} = \text{Promotion} \times \text{Available Funding} \times \text{Views on Leadership} \quad \text{eq 2}$$

$$\text{Available Funding} = \text{Normal Funding Index} \times \text{Experience Effect on Funding} \quad \text{eq 3}$$

$$\begin{aligned} \text{Experience Effect on Funding} = \\ \text{GRAPH (Relative Experience)} \quad \text{eq 4} \\ (0.00, 0.00), (0.07, 0.25), (0.20, 0.60), (0.35, 0.95), (0.50, 1.20), (0.70, 1.35), (1.00, 1.45), \\ (1.20, 1.50), (1.44, 1.54) \end{aligned}$$

A plausible function is shown in Figure 8.5. The horizontal axis is *Relative Experience* on a scale from 0 to 1.44. The vertical axis is the effect of experience on funding defined on a scale from zero 0 1.54. The numerical values of the figure correspond to the shape of the function. The general shape is upward sloping—gradual at first, then steep, and ending gradually. A *Relative Experience* of zero implies no savings in cost, which eventually will not cause an increase in funding. When *Relative Experience* is equal to one, then the effect takes a value of 1.45. As experience increases, the effect becomes stronger. *Relative Experience* value of 1.20 which is a 20% increase in experience, increases the available funding to 50% of what the available funding could otherwise be increased.

Figure 8.5: Graph for the effect of experience on funding

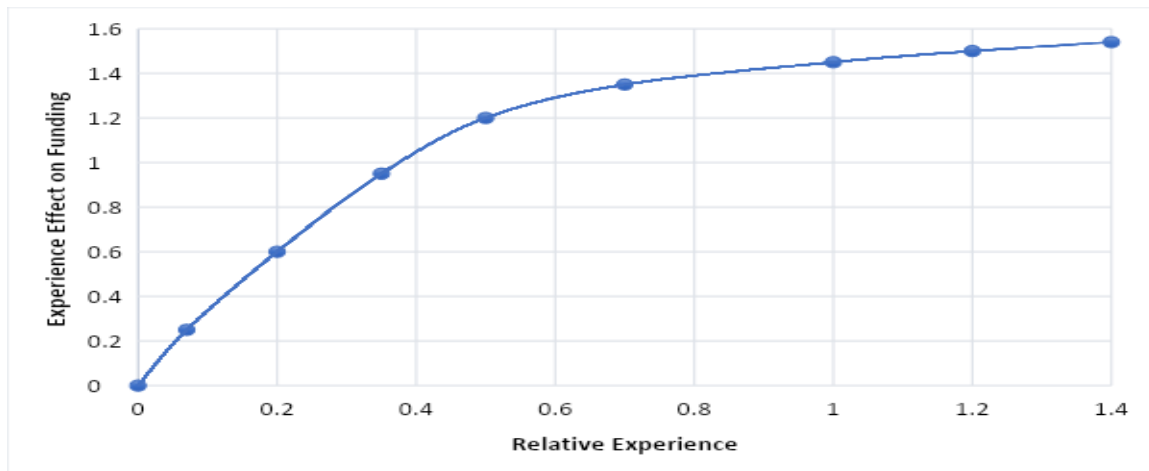


Figure 8.5: Graph for the effect of experience on funding

Source: Researcher's own compilation

$$\text{Relative Experience} = \text{Cumulative Experience} / \text{Initial Experience} \quad \text{eq 5}$$

$$\text{Cumulative Experience} =$$

$$\text{INTEGRAL} (\text{Experience rate}, \text{Initial Cumulative Experience}) \quad \text{eq 6}$$

$$\text{Adopted Entrepreneurs} = \text{Adoption rate} - \text{Disadoption rate} \quad \text{eq 7}$$



Aware entrepreneurs in the stock of “interested entrepreneurs” may then choose to adopt entrepreneurial leadership development initiatives based on the available funding. The rate at which they choose to adopt entrepreneurial leadership development initiatives (Adoption Rate) is influenced by available funding.

This adoption rate influences the experience rate, which is also affected by experience in delay. The rate at which entrepreneurs experience adoption increases the stock's cumulative experience. The cumulative experience affects the *Relative Experience*, which is also affected by *Initial Experience* which affects the experience effect on funding. The experience effect on funding influences available funding which is also affected by the normal funding index. Available funding affects the achievement of adoption rate and first-order feedback as adoption rate affects the experience rate leading to a reinforcing loop.

Lastly, the adoption rate affects the stock *Adopted Entrepreneurs*, and the adopted entrepreneurs increase the proportion of adopted leadership development programmes/initiatives which is affected by total entrepreneurs. This affects promotion, which affects the adoption rate, hence the first order feedback is achieved as the adoption rate affects the adopted entrepreneurs, hence a reinforcing loop.

## **8.5 Factors affecting disadoption**

The outflow, and the disadoption rate, represent the process of disadoption which is the fraction of the “adopters” (adopting entrepreneurs) become disadopters every year (Figure 8.6). The dis-adoption rate is driven by a balancing feedback loop B. As the number of “adopters” increases, the “dis-adoption rate” will increase, which in turn will reduce (drain) the number of “adopters” in the adopter stock.

The disadoption rate is affected by negative factors such as inadequate institutions and networks, effects of low business growth, available funding, disadoption delay, the effect of poor entrepreneurial attitude, lack of municipal support and including the adopted

entrepreneurs who now have adopted affecting the disadoption rate. This creates a stock of disadopted entrepreneurs in a zero-order system. The model in Figure 8.6 was refined to incorporate disadoption, an outflow from the *Adopter Entrepreneurs* stock to a *Disadopted Entrepreneurs* stock as per Figure 8.6.

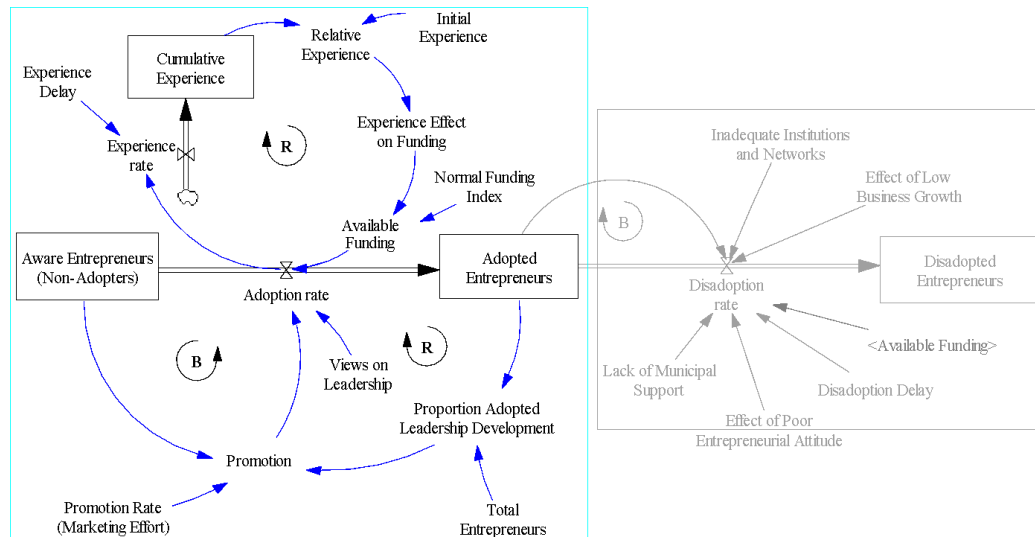


Figure 8.6: Factors affecting the disadoption

Source: Researcher's own compilation

As depicted in Figure 8.6, the outflow, the disadoption rate, represents the process of disadoption which is the fraction of the “adopters” (**adopting entrepreneurs**) who become disadopters every year. The dis-adoption rate is driven by a balancing feedback loop **B**. As the number of “adopters” increases, the “dis-adoption rate” will increase, which will reduce (drain) the number of “adopters” in the adopter stock.

The disadoption rate is affected by negative factors such inadequate institutions and networks, effects of low business growth, available funding, disadoption delay, effect of poor entrepreneurial attitude, lack of municipal support and including the adopted entrepreneurs who now have adopted affecting the disadoption rate. The logical and

descriptive explanations for this model fragment is that If an individual finds that new entrepreneurial leadership is failing or not the individual will most likely dis-adopt entrepreneurial leadership. Similarly, if an individual finds that entrepreneurial leadership is failing, there is every chance that the individual will also dis-adopt even before the entrepreneurial leadership has failed.

## **8.6 Validation and model testing**

There is no empirical data on the uptake of entrepreneurial leadership because it is not being practiced at any measurable scale in the Gauteng province. The conceptual framework was presented to scientists, experts, and supervisors. The model was subjected to a series of extreme behaviour tests to ensure sound results.

Dimensional consistency is one test that should be among the very first to check. Units of measure should be specified for each variable and parameter as the model is built. More often, units' errors reveal important flaws in the structure's understanding or decision process. The model successfully passed the dimensional consistency test.

Introducing detailed structure *for model parameters such as* inadequate institutions and networks, business growth, lack of municipal support, and poor entrepreneurial attitude *has fewer barriers*. For this reason, the model's application is relatively limited to the *dis-adoption rate*. Many other factors would need to be considered for incorporating the detailed structure of those parameters. For that reason, most of those parameters are given as an index.

Inputs of the system dynamics model are collected from scientific publications, key informant interviews, and consultation with experts. The parameters and their values are presented in Table 8.1.

Variable and parameter	Value	Unit
Aware Entrepreneurs	45	Entrepreneurs
Adopted Entrepreneurs	1	Entrepreneurs
Promotion Rate (Marketing Effort)	0.6	Dimensionless
Total Entrepreneurs	46	Entrepreneurs
Experience Delay	1	Year
Disadoption Delay	3	Year
Disadopted Entrepreneurs	0	Entrepreneurs
Lack of Municipal Support	1	Dimensionless

Table 8.1: Initial condition and default values for variables in the model

Source: Researcher's own compilation

Tests were also conducted to build up confidence in the model, such as validation, sensitivity analysis, and policy analysis (Sterman 2000). Modelling experiments are used to discover what is causing the current undesired behaviour and to consider what variables are available for adjusting the behaviour towards the desired state.

Before conducting any simulation, certain model variables must be configured with reasonable default or representative initial condition values. Over and above setting the initial conditions and default values, the model user must also take cognisance of certain variables which can function like levers that control or influence the behaviour of the system. These levers are used for model testing and experimental learning. The baseline scenario is based on the values explained in Table 8.1. Policy scenarios use the same values for the model as in the basic situation, except for the variable that is tested or changed to simulate a particular scenario. An outline of the values used in the basic model is tabulated in Table 8.1.

The results of the baseline scenario are depicted in Figure 8.7.

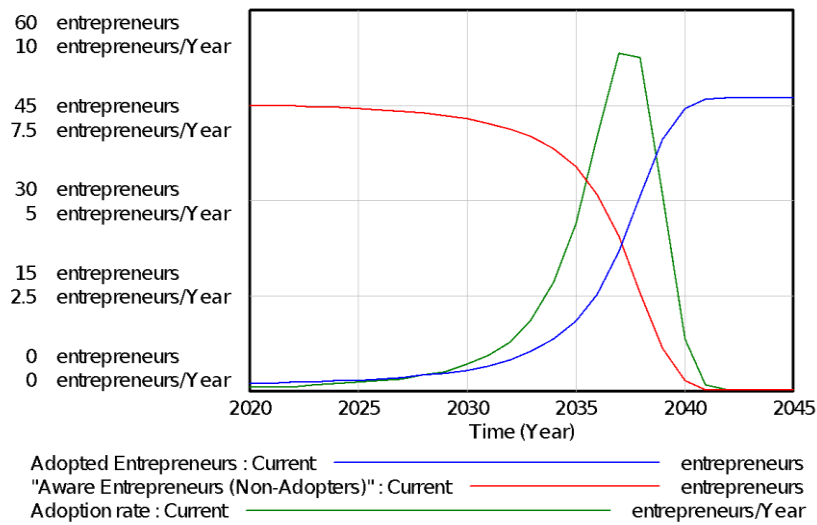


Figure 8.7: Entrepreneurial leadership adoption of simulation

Source: Researcher's own compilation

The model is demonstrative. In Figure 8.7, the *Adopted Entrepreneurs* stock initially increases gradually from only 1 entrepreneur adopting. The simulation results further reveal that when the *Adopted Entrepreneur* stock level accumulates to a critical mass of 30 entrepreneurs, achieved by the year 2040, the effect of promotion appears to kick in. After year 10, the adopting entrepreneur stock level rapidly rises, reaching 46 entrepreneurs and virtually all entrepreneurs by the year 2045. The results suggest that if enough years pass by all entrepreneurs will adopt. Simulated behaviours are numerically sensitive to the parameters and shapes of the table functions.

Thus, researchers conducted a Monte Carlo simulation depicted in figure 8.8 using related parameters to check for consistency and robustness of the model behaviour.

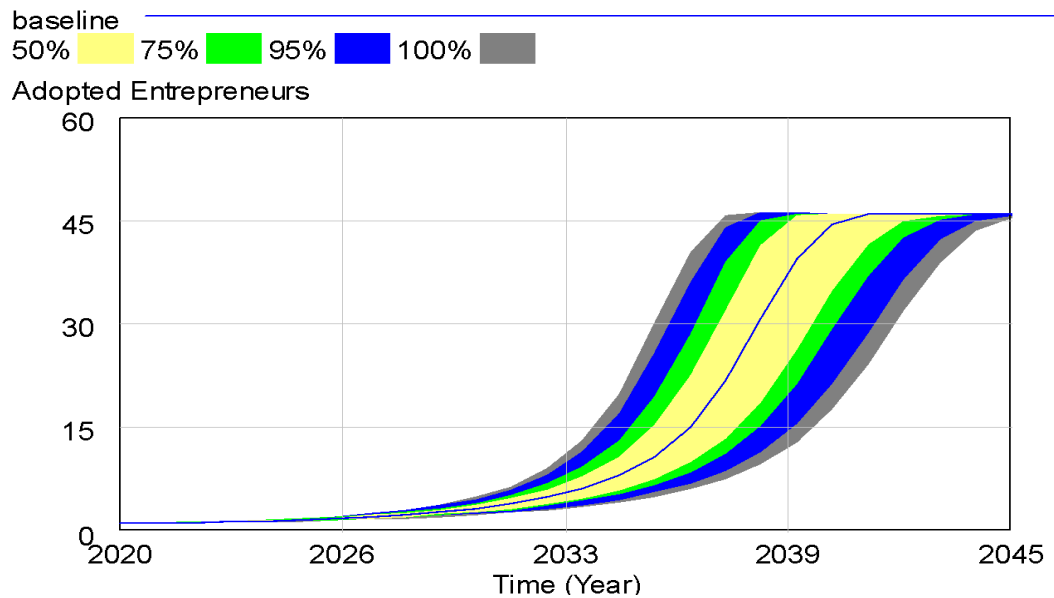


Figure 8.8: Monte carlo simulation

Source: Researcher's own compilation

The results of Monte carlo simulation are presented in Figure 8.8. Dynamics confidence bounds from multivariate sensitivity analysis with a standard deviation of about 25%. Figure 8.8 shows the 50%, 75%, and 95% confidence bounds for *Adopted Entrepreneurs*. Researchers found that *initial experience*, *promotion rate*, and *experience delay* are important parameters affecting *adopted entrepreneurs*. Given these assumptions, there is a 50% chance that *Adopted Entrepreneurs* will be between about 15 and 45 entrepreneurs in the year 2040 and a 95% chance that will be between 18 and 46 entrepreneurs.

## 8.7 Formulating policy scenarios

This section will investigate various scenarios. In this study, scenarios were utilised on the model to assess some assumptions about the effectiveness of different policies. Following the model, different policy scenarios were designed and simulated over 25 years (i.e., between 2020-2045) to assess the impact of promotion (marketing effort/advertising),

funding for leadership development courses and initiatives, impact institutions and implications for entrepreneurial leadership adoption within the Gauteng entrepreneurial system.

As per Table 8.2, besides the baseline scenario, two additional policy scenarios were designed and simulated. These scenarios were designed based on inputs received from interviews, and information drawn from the existing literature concerning entrepreneurial leadership development.

Scenario	Description
Baseline	The baseline of the simulation model is a “no-intervention” scenario, assuming that people continue to make decisions as they used to do. The outcome is not a forecast, but rather a base against which alternative scenarios can be compared. <i>Entrepreneur Promotion</i> rate is 60%, while <i>Experience Delay</i> is 1 year, and the <i>Normal Funding Index</i> is an index parameter with a starting value of 1 in the initial period.
S1: Promotion Rate and Funding	Since the promotion and available funding are the main signals to the entrepreneurs, the level at which they are set is critical. It is assumed that some outside force (such as development project) would be able to promote 75% (increase by 25% than the baseline value) of the <i>Aware Entrepreneurs</i> a year with sufficient trust in the entrepreneurial leadership that they would adopt. The promotion is important for catalysing the adoption. It is further assumed that funding increases by 20% than the baseline value starting in 2020.
S2: Institutions and Networks	In this scenario, it is assumed that institutions and networking to be 5% less effective than they used to be in the past.

Table 8.2 Baseline and Policy Intervention Scenarios Description

Source: Researcher’s own compilation

***Scenario 1: Increase of marketing and promotion of leadership development programmes and funding available for training and development***

This scenario represents a policy change impact which assumes an increase in marketing and promotion of entrepreneurial leadership development programmes by institutions and networks and an investment in funding for entrepreneurial leadership training and development initiatives and considered a 20% increase and an assumed 20% of the baseline values.

In figures 8.9 and 8.10 the baseline scenarios reflect that the positive marketing effort feedback loop drives the growth of the “adoption” stock in a compounding manner initially, until the balancing saturation feedback loop begins to dominate, shaping the “adoption” stock curve to a goal-seeking behaviour mode in the later stages.

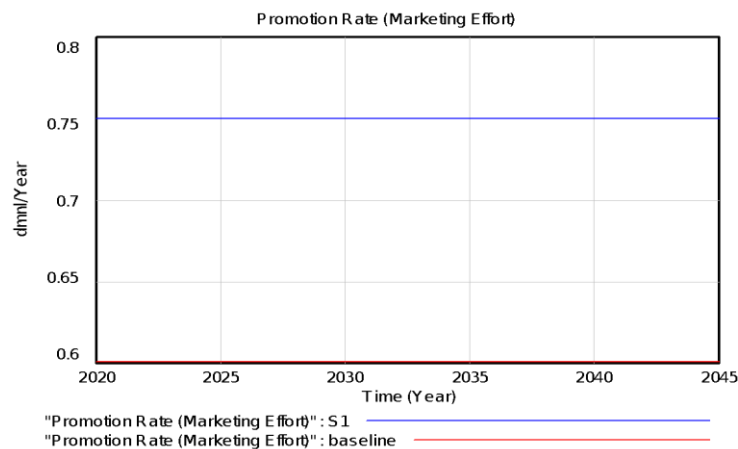


Figure 8.9: Baseline marketing effort: promotion rate (marketing effort)

Source: Researcher’s own compilation



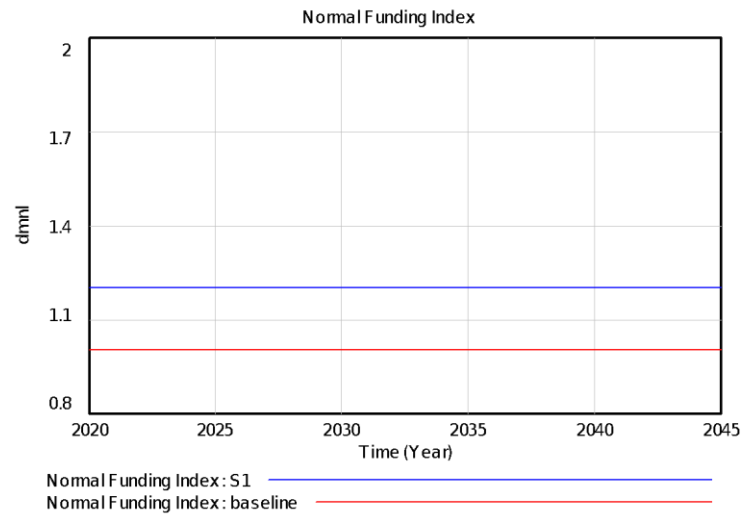


Figure 8.10: Baseline funding effect -normal funding index

Source: Researcher's own compilation

More entrepreneurs are adopting reflecting an increase from 480 from 2035 to 2045, an exponential increase of adopting entrepreneurs. Saturation reached in 2035 as per S-shaped/sigmoid graph. As expected, the adopter curve exhibited the s-shaped mode of behaviour. While entrepreneurs decreased from 46 to 0 around 2028 and remain at 0, there is a gradual increase and peak reached around 2025. There is a sudden decrease because of an exponential increase of the adopting entrepreneurs because of the word-of-mouth effect. Uninterested increase correspondingly with adopting.

The combined simulated results for scenario 1 as per Figure 8.11, shows a more aggressive strategy and an increase in the marketing effort by 20% which increases the adopters from 1 to 600 as compared from 1 to 480 from the baseline. The more aggressive extension strategy essentially creates the opportunity for more awareness of entrepreneurial leadership courses and initiatives through increased marketing and advertising. The increased marketing helps an entrepreneur to accumulate information on entrepreneurial leadership courses. Since 70% of the budget was still being proportioned towards marketing and advertising, the knowledge of entrepreneurial leadership education and programmes

grew more quickly. The result of which is both an increase in the inflow and a simultaneous decrease in the outflow of the adopting entrepreneurs' stock. The net effect is a relatively higher and more rapid accumulation of adoption.

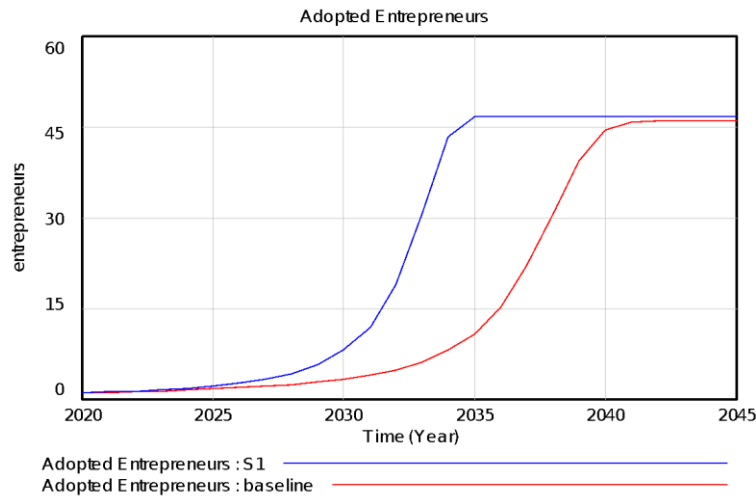


Figure 8.11 The results for scenario 1 case adopted entrepreneurs

Source: Researcher's own compilation

The first steep increase in interested entrepreneurs, between 0 and 5 years, was attributed to the rapidly increasing knowledge and awareness of entrepreneurial leadership development courses and initiatives and subsequent increase in awareness in the available courses. However, after year 5, knowledge of leadership courses increased substantially to 45%. The growth however slowed down between 2025 and 2028. The increasing adopting of entrepreneurs and a simultaneous slowing down of growth of the aware entrepreneur's stock is counterintuitive, meaning that the impact of change disappears. The downside to such an approach is that if funding and investing in entrepreneurial leadership development is not sustained and repeated, with time entrepreneurs will lose interest and not adopt. Such behaviour is in agreement with findings in literature.

In summary, scenario 1 reveals that the more aggressive funding strategy creates the opportunity for more awareness of entrepreneurial leadership courses and initiatives through increased marketing and advertising. The increased marketing helps entrepreneurs to accumulate information on entrepreneurial leadership courses. Since 70% of the budget was still being proportioned towards marketing and advertising, the knowledge of entrepreneurial leadership education and programmes grew more quickly and more entrepreneurs adopted entrepreneurial leadership.

### Scenario 2: Inadequate institutions and networks

In this scenario, it is assumed that institutions and networking to be 5% less effective than they used to be in the past. Figure 8.12 , the baseline scenario and institutions and networks, were set at 30%, and 20% respectively.

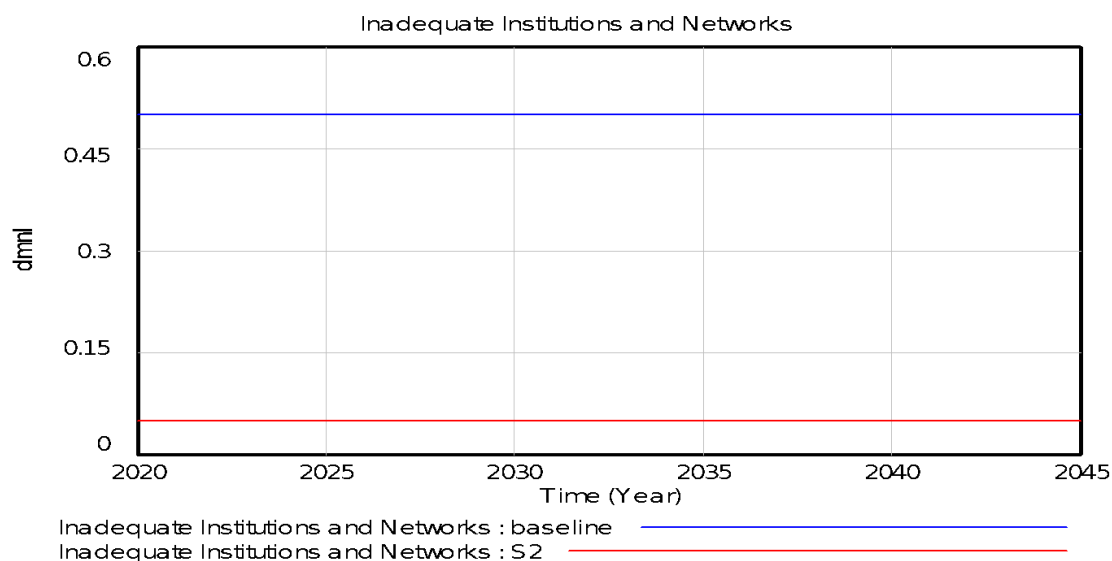


Figure 8.12 Baseline scenario

Source: Researcher's own compilation

Figure 8.12 shows a baseline scenario showing exponential growth of the population of adopting entrepreneurs, characterised by slow but steady growth in the beginning (2020-

2025), and a large growth in the end (2030-2040). In this baseline scenario more entrepreneurs adopting 590 adopting entrepreneurs and reaching saturation by 2035, exponential growth–S-shaped graph.

Figure 8.1.3 reflects scenario of the effect of increasing institutions and networks decrease in adopting entrepreneurs.

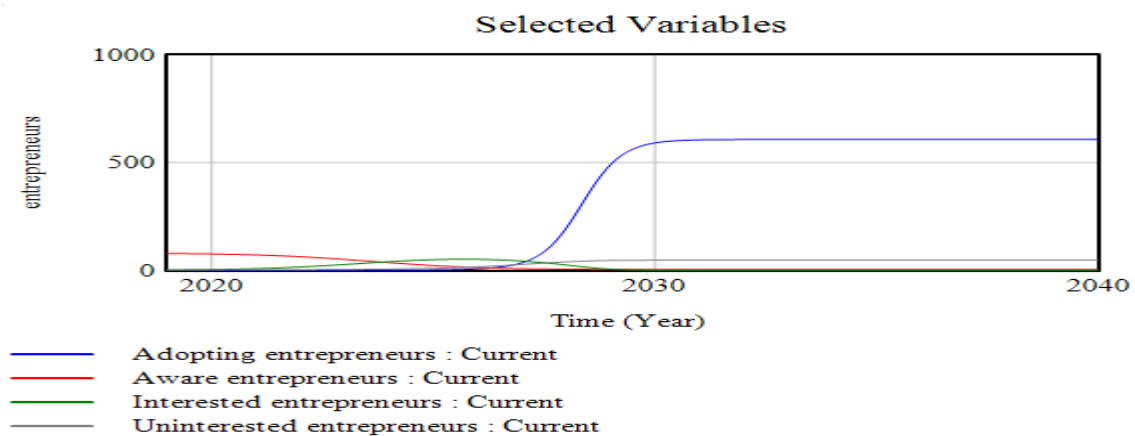


Figure 8.13: decrease in institutions and networks

Figure 8.14 reflects a scenario which reflects a increase in the institutions and networks in an increase in adopting entrepreneurs

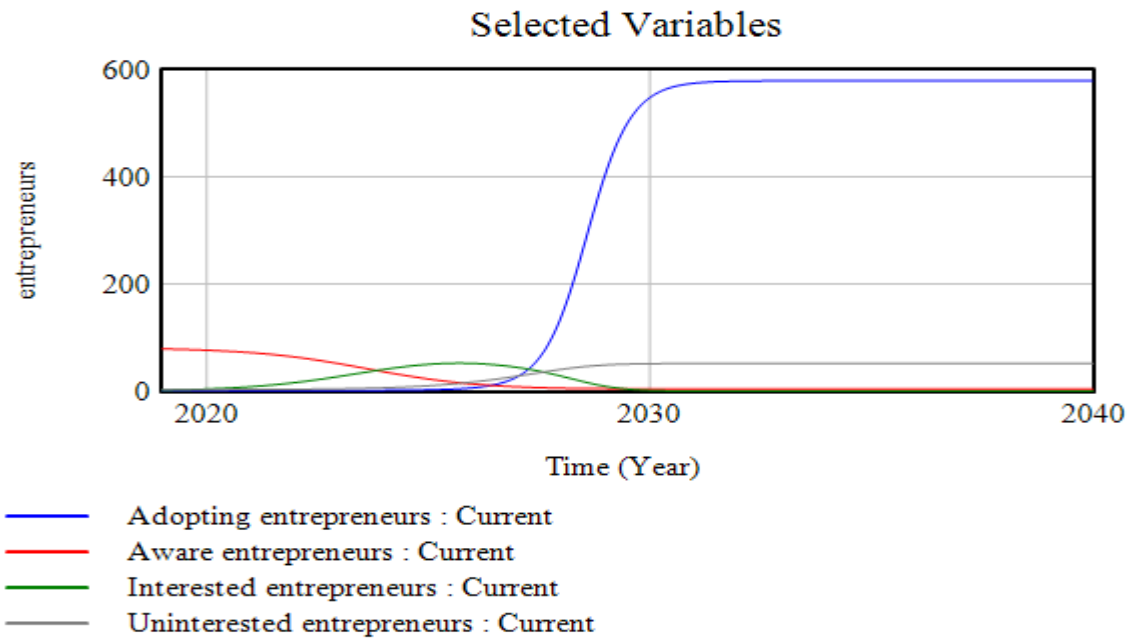


Figure 8.14: Increase in institutions

Source: Researcher's own compilation

In summary, the specific objectives of the study were to use the model as a learning tool to improve our understanding of the long-term dynamics of entrepreneurial leadership within the Gauteng entrepreneurial system and as a basis for exploring alternative policy scenarios for entrepreneurial leadership adoption. The model was tested using both structural and behavioural pattern tests, and extreme conditions tests. The SDM was used to simulate the outcomes of two different policy scenarios.

This chapter presented the outcome of the simulation of scenarios. The results of the first scenario seem to work as per the predictions of the model entrepreneurial leadership model, as the more aggressive funding strategy essentially creates the opportunity for more awareness of entrepreneurial leadership courses and initiatives through increased marketing and advertising and entrepreneurial adoption. On the other hand, the changes proposed in scenario 2 do not produce positive results. As institutions and networks become

less effective i.e., slow effectiveness of entrepreneurial leadership programmes/initiatives, this impacts entrepreneurial leadership adoption.

## **8.8 Chapter summary**

This chapter addressed the fourth objective of this study. In this chapter, simulation was utilised to understand the dynamic behaviour impacting on entrepreneurial leadership adoption and secondly to identify and evaluate the effects of different policy scenarios to support entrepreneurial leadership adoption. The dynamic hypothesis was translated into a formal simulation model, allowing alternative policy scenarios to be designed, analysed, and compared. The model was tested using both structural and behavioural pattern tests, and extreme conditions tests. Modelling was used to simulate the outcomes of two different policy scenarios: scenario 1 (promotion rate and funding) and scenario 2 (institutions and networks) over 25 years (i.e., between 2020-2045).

Key findings from this chapter reveal that in the case of entrepreneurial leadership adoption in Gauteng, pursuing an aggressive investment strategy (increasing funding and marketing of entrepreneurial leadership programmes/initiatives) in scenario 1 is likely to lead to a favourable outcome of increase in entrepreneurial leadership adoption by entrepreneurs. However, an increase in investments would be counterproductive if the institutions and networks continue to remain ineffective in providing entrepreneurial leadership programmes/initiatives and support (scenario 2). The impact of this scenario produces unintended outcomes in that despite investments and promotion of entrepreneurial leadership, the inadequate support and capacity provided by the institutions and networks impact entrepreneurial leadership adversely. This suggests that a systematic and system-wide institutional programme must be part of the entrepreneurial leadership development strategies. An important consideration is that the institutional and network improvements would come at a cost as it would compete with other spending priorities and would require associated funding and investments. Overall, the model results presented in this chapter are likely to play an important role in entrepreneurial leadership and institutional development.

Using the modelling approach, this study implemented a process aimed at enhancing the understanding of the dynamic behaviour of the entrepreneurial leadership adoption over time, and more importantly, the interactions between the entrepreneurial system that determine this behaviour over time.

# **Chapter Nine - Conclusions, Contribution and Research Limitations**

## **9.1 Introduction**

This final chapter summarises and synthesises the key findings of this thesis as they relate to the aim and objectives as outlined in Chapter 1. The theoretical and practical implications and the fundamental contribution of the research are also presented and discussed. Finally, the key limitations of the work and potential areas for further research are discussed.

## **9.2 Study objectives**

The aim of this study is to develop a system dynamics conceptual model that captures the systemic feedback loops, processes, and structures impacting on the EL dynamics within the entrepreneurial system behaviour for the purpose of understanding influences of various policy interventions on EL adoption. To achieve this, the aim of this study, and research objectives are outlined:

- To examine the concept of entrepreneurial leadership.
- To explore how the prevailing leadership challenges and complexities interact with each other in an entrepreneurial system.
- To develop an integrated conceptual system model that captures the systemic feedback loops, processes, and structures governing the system behaviour, and their implications for current and future leadership development.
- To develop an entrepreneurial leadership adoption model and simulate different scenarios and strategies that allows for different policy enhancements.



### 9.3 Synthesis

Chapters 2 and 3 presented an analysis of literature relevant to this study. The review of literature explored key themes to address research objectives. In discussing the findings from this research, it is important to note that entrepreneurship and SMMEs play a crucial role in economic development. Thus, entrepreneurship is regarded as a panacea for empowerment, job creation, economic transformation, and poverty reduction, particularly in emerging markets. However, findings reveal that the context in which entrepreneurship in emerging markets is embedded, differs vastly from developed countries. Emerging countries lack well-developed institutions, face various institutional challenges when starting their businesses, often resulting in lower entrepreneurial activity. These constraints make entrepreneurship in emerging markets uncertain and risky.

In developing leadership in entrepreneurial contexts with respect to a competitive environment, there is consensus on the ineffectiveness of most traditional leadership theories, thus, highlighting the need for entrepreneurial leadership to be explored within the entrepreneurial context. Despite the growing interest and developing perspectives related to entrepreneurial leadership, empirical development of the concept has been hindered by the lack of focused research and the absence of adequate tools for assessing a leader's entrepreneurial characteristics and behaviours.

Additionally, entrepreneurship research has tended to neglect the role of context in promoting or hindering entrepreneurship. The contextual and entrepreneurial ecosystem approach to entrepreneurship promotes the understanding of entrepreneurship in broader settings, such as their regional, temporal and social contexts, focusing on the systemic nature of entrepreneurial activity. As such, entrepreneurial ecosystems are evolving, socially interactive and non-linear systems and considered as a system that is complex, dynamic and adaptive. Identifying and understanding the main sub-systems of an entrepreneurial system and, accordingly, studying their interactions, is potentially a promising avenue for policy makers.

An examination of the general state of entrepreneurship reveals that despite the efforts of the South African government to stimulate entrepreneurial opportunities through policies, strategies, and programmes, several internal and external factors contribute to the high failure rate of SMMEs in South Africa. The pressing ones are limited access to finance and managerial and leadership skills, and an unfavourable business climate with the stringent regulatory framework. The competitiveness is being held back by relatively low business dynamism which is inhibited by administrative burdens to start a business, insolvency regulation, and a persistently insufficient labour market flexibility.

As demonstrated in the literature, conventional approaches to managing leadership in entrepreneurial systems, founded on traditional science paradigm, linear and reductionist, are inadequate in dealing with the uncertainties, complexities, and dynamics inherent in such systems. Moving from the conventional kinds of thinking to contemporary thinking necessitates alternative frameworks and theories to guide the choice of an appropriate analytical tools. A systems-based approach is proposed as an alternative method of thinking since it is more suitable in dealing with the complex dynamics of the real world and entrepreneurial complexities are best viewed and discussed using dynamic approaches. In entrepreneurial contexts, systems thinking moves entrepreneurs away from focusing primarily on the individual parts of their businesses to viewing the whole business and entrepreneurial system as having its own set of unique characteristics, qualities and dynamics. Findings reveal that having a better understanding and insight into the various leadership problems and dynamics encountered by SMMEs allows entrepreneurs to develop systems thinking strategies and interventions that can enhance the performances and sustainability of their SMMEs.

## **9.4 Research summary and findings**

The research findings are described below.

## **Objective 1: Examining the concept of entrepreneurial leadership**

The participants in the study revealed that they were able to traverse and understand the concept of entrepreneurial leadership. Most of them contended that acquiring entrepreneurship or leadership standards by entrepreneurs alone cannot guarantee the success of these small businesses. Information presented indicated that entrepreneurial skills are characteristics for their organisations to flourish.

From the results of the research study, it can be observed that participants view entrepreneurial leadership as a combination of entrepreneurship and leadership which applied effectively and efficiently to enhance business opportunities for them to acquire a competitive advantage. Some participants mentioned that the success of a profitable business depends on the effective entrepreneurial leadership of business management. Most participants asserted that the entrepreneurial leadership concept is a peculiar and modern type of leadership that is composed of leadership qualities with the spirit of entrepreneurship.

The areas of leadership and entrepreneurship provide a critical insight into the way in which individuals and organisations function and perform across complex environments. Subsequently, entrepreneurial leadership has developed as a convergence of these fields and reflects the need to adapt to opportunities and challenges within entrepreneurial settings (Fernald *et al.* 2005:1-10). This new paradigm of leadership extends beyond a convergence of the fields and relates to the attributes of leadership across diverse conditions and contexts (Harrison *et al.* 2015:693-713). Entrepreneurial leadership as a relatively new concept, is directly located at the nexus of entrepreneurship and leadership (Renko *et al* 2015: 54-74; Leitch, Volery, 2017: 147-156).

Additionally, SMMEs in Gauteng suffer from limited entrepreneurial leadership expertise and operational practices necessary for the development of the small business. Participants expressed that a lack of qualifications and the required knowledge is a barrier that leads to

leadership failure of these small businesses. The findings reveal that “a deficiency of leadership skills and lack of knowledge of the entrepreneurial system influences the entrepreneurs and leads to the collapse of the business.” From the analysis, entrepreneurial leadership is an approach that creates value for organisational stakeholders by putting together special innovation of resources to react to notable opportunities within the entrepreneurial system. The literature on entrepreneurial leadership has acknowledged that entrepreneurial leaders not only create new ideas themselves, but also facilitate and encourage their employees to show their potential in solving complex issues and performing challenging tasks through innovative means. It can be observed that entrepreneurial leadership can be applied effectively and efficiently to enhance business opportunities for entrepreneurs to acquire a competitive advantage. Some participants mentioned that the success of a profitable business depends on the effective entrepreneurial leadership of business management.

Relating to entrepreneurial leadership development, participants highlighted the importance of leadership and strategic development within SMMEs and most of the entrepreneurial leadership is viewed as central to business success and growth. Although most of the participants agreed that entrepreneurial leadership development is vital for the success of each business, participants indicated the importance of having various programmes on entrepreneurial leadership and mentoring and coaching. The participants highlighted that this must take the form of various programmes in the leadership coaching facilitated by the City of Johannesburg with skills development programmes for both business coaches to filter down entrepreneurs.

**Objective 2: To evaluate how the leadership challenges and complexities interact with each other in an entrepreneurial system.**

Rungani and Porgieter (2018) highlight that more than 85% of entrepreneurial ventures encounter significant challenges that hinder their survival. The research concerns relevant to SMMEs operating within Gauteng are outlined below.

### **Internal factors affecting entrepreneurs**

This study identified a number of internal factors that pose leadership challenges namely (i) crime and corruption, (ii) lack of financial resources/finance (iii) lack of financial education, (iv) infrastructure constraints, (v) lack of training, (vi) lack of technology and (vii) lack of entrepreneurial leadership skills.

The study findings reveal that crime and corruption impact the entrepreneurial system entrepreneurs operate in. Entrepreneurs experience a wide variety of problems, some which are specific to their businesses such as corruption, lack of infrastructure, and high levels of crime. Crime appeared to be mentioned as one of the challenges faced by entrepreneurs who participated in the study. Therefore, crime may erode the advantages such as the convenience that comes along with their location.

Lack of financial resources/finance is one of the main problems that was pointed out as hindering the growth and survival of SMMEs in Gauteng. Lack of financial assistance from banks is a major challenge for entrepreneurs. Some of the entrepreneurs across Gauteng province have expressed how hard it was for them to get assistance from the banks. For the entrepreneurs to acquire substantial assets, entrepreneurs either need private access to finance or they need access to credit to finance their businesses. The enormous amount of time required to obtain financial support, are major problems for the Gauteng entrepreneurs. This finding was supported and clarified in the literature. Mazanai and Fatoki (2012) outline that one of the major challenges pointed out as hindering the growth and survival of start-up SMMEs in SA is access to finance and that banks do not provide SMMEs with adequate capital (Dalberg 2011). The requirements by the lending banks and other funding institutions pose barriers to accessing funding and loan services (Harrington 2010). A study by Chimucheka and Rungani (2011:5509-5517) of South African SMMEs

shows that of the 84% of SMMEs who applied for loans, 25% were successful. However, from the 25% successful applications, about 85% accepted the loan and 18% ended up getting the loan. This was due to SMME failure to meet some of the terms and conditions of the loan application such as lack of collateral and lack of financial deposit (Herrington 2010).

This study found that lack of financial education and the failure to use or lack of access to business support systems by new entrepreneurs is another major issue that creates leadership problems that are experienced within the entrepreneurial system by most SMMEs. It was clear that business failure with the entrepreneurial system is also due to a lack of financial education and that the government does not have enough mechanisms in place to support small businesses and coach to entrepreneurs on how to effectively operate a business. In the business context, poor financial decisions result in reduced profitability and growth, thus diminishing the ability to realise entrepreneurial success. This is confirmed in a study by Dzomonda *et al.* (2014:104-113) who, through a review of existing literature on financial literacy in South Africa, spanning from 2006 to 2014, found that financial literacy is crucial insofar as sound financial decisions and financial well-being are concerned.

The findings show that a lack of educational qualifications of entrepreneurs poses a major challenge to the growth of their small business. Entrepreneurs have lower levels of education compared to large business owners. Most participants claimed that for entrepreneurs to efficiently start and nurture a business, they require certain competencies that can be developed through education and training initiatives. Insufficiency or a shortfall in education thereof can present a major constraint for entrepreneurs that lead to business failure. Van Scheers (2016:349) agrees that lack of skills leads to reduced success – or more precisely to failure. Moreover, with poor managerial skills, decisions made for the enterprise can well be to the detriment of the enterprise, thus leading to reduced success.

Lack of training is among the factors that led to business failure within the SMMEs in the province as indicated in the findings of this study. The study derived that due to a lack of training in financial management, many entrepreneurs had no expertise with running their businesses. Some of the participants claimed that they do not keep financial data and that they did have financial records. They did not receive any training assistance with their record-keeping practices in their businesses. Entrepreneurs emphasised that they have not been exposed to any financial literacy courses. Most of the entrepreneurs fail to adapt with the latest accounting systems, information technology, management ideas, and production approaches. Research findings reveal that lack of entrepreneurial leadership impacts SMMEs and largely affects the daily operations business performance.

Therefore, a lack of entrepreneurial leadership skills impacts negatively on the business and affects the sustainability of their businesses. These findings are supported by the 2015 SMMEs Growth Index Report that shows that inadequate skills, particularly in leadership and management are a barrier for small businesses to grow and survive in South Africa (SBP 2015). The DSBD (2018) points out that many small businesses cannot effectively address the various problems they encounter. Lower levels of entrepreneurial skills and expertise regarding financial and business management of SMMEs defines the SMME environment in South Africa (DSBD 2018).

This study found that constraints in infrastructure is a challenge to the SMMEs' business growth. Entrepreneurs cited infrastructure challenges they are faced with when transporting their workers' and also when entrepreneurs have to access markets. Participants emphasised on poor infrastructure as a challenge faced by most entrepreneurs in running their everyday businesses. Because of this, it was found that transportation is a relatively higher constraint on SMMEs. This finding is supported in research by Fatoki and Garwe (2010), who found that poor infrastructure leads to business failure. They assert that although entrepreneurs attempt to apply alternative techniques to keep their businesses running, it does affect their growth prospects. Mahadea *et al.* (2013: 203-226) assert that poorly maintained transport infrastructure can be the downfall of a small business and that

toll fees on major roads in the Gauteng Province, compounds the infrastructure problem. The poor state of transportation, information communication and technology, and erratic electricity supply hampers businesses to a considerable degree (Fatoki and Garwe 2010:131).

The findings point out that inadequate technology and low productivity is a hurdle for the growth and development of the small businesses. Communication technology are indispensable in today's businesses as it enhances business growth and development. Nevertheless, many SMMEs in the country lack suitable technology. Inadequate technology has been termed as a huge constraint for SMME business growth in the province as expressed by the participants. Findings reveal that SMMEs experience a low productivity rate in businesses because they are not making use of technologies that are advanced. Some indicated that this results in the SMMEs being uncompetitive in relation to the larger businesses in the province. Research findings indicate that most entrepreneurs lack the correct knowledge and capability to choose the most suitable technology for their business. Small businesses are still hindered by their lack of technological implementation, despite great technological advancements globally. Without this technology, these small businesses find it difficult to neither compete, nor grow.

### **External factors affecting entrepreneurs**

This study's findings revealed that the growth and development of SMMEs was hindered by some of these external factors which includes (i) rigorous and stringent government regulations, (ii) competitive environment, (iii) lack of municipal support and (iv) high crime and corruption levels.

One of the major hurdles encountered by the majority SMMEs in Gauteng is that of rigorous and stringent government regulations that stifle the organisation, rather than aid business growth. The government regulation policies governing the creation of SMMEs are cumbersome and complicated and contradictory, which is why SMMEs find it so problematic to adhere to. The government has developed novel but complicated methods



of administration which are considered as the most fundamental interference for small entrepreneurs to conduct or establish a business, hence influencing the entrepreneurial system of most SMMEs who participated in the research. Business Environment Specialists Report (2013) notes that large amounts of time, effort and resources are required to be devoted to dealing with government-imposed administrative matters.

In addition, the findings reveal that lack of municipal support is an element which contributes to the erosion and failure of SMMEs in the Gauteng province. These include insufficient government and municipal support for SMMEs, the limited clarity on what one needs to adhere to for them to operate an organisation, inconsistency in the various provinces, municipalities and cities with rules and regulations, improper training, pedagogy, reinforcement and tax relief, the lack of expertise, insufficient or limited public transport among others. Mahembe and Underhill Corporate Solutions (2011), referring to a study conducted by Finmark FinScope, note that as high as 75% of small business owners were not aware of any organisations that gave advice and support to small business owners.

Lastly, this study's findings reveal that entrepreneurs experiences high crime and corruption levels. According to the GEM 2020 report, corruption is becoming more prevalent, impacting the enterprises' ability to survive and grow in SA, while the high levels of crime are affecting all business (Xavier, Kelley, Kew, Herrington and Vorderwuibecke 2013).

**Objective 3: To develop an integrated conceptual system model that captures the systemic feedback loops, processes, and structures governing the system behaviour, and their implications for current and future entrepreneurial leadership development.**

Chapter 6 reported on the findings from the investigation into the interaction effect of internal and external factors impacting on the entrepreneurial leadership. A conceptual systems model based on the interaction and feedback structure from the entrepreneurial

system was developed using causal loop diagrams. The combined and merged system model presents the merged loops in entrepreneurial leadership dynamics (Figure 7.4). The model comprises 12 reinforcing and 7 balancing loops and are the major components of the merged model.

### **Environmental complexity and change loop**

Complex dynamics in the environment/entrepreneurial system reveal the conventional leadership behaviour and an attempt to explain when it arises, and its consequences, including and particularly its self-reinforcing nature. Findings reveal the insidious and limiting nature of the self-reinforcing tendency of conventional leadership behaviour, especially given the emerging 21st century with its turbulence, rapidity of change, and dire need to solve complex, wicked problems in sustainable ways. When confronted by challenges and problems, entrepreneurs tend to have the tendency to fall back on simplistic approach to leadership unintentionally perpetuating the status quo and leading to a decline in entrepreneurial leadership skills, producing inefficient results and outcomes. Unexpected outcomes occur even in the face of conventional leadership's inability to deal with complex challenges.

Thus, understanding the dynamics in environmental complexity and change and the limiting factor of conventional leadership approaches is crucial. To manage the change and complexity, entrepreneurs/businesses need to allocate resources to ensure adaptability in the face of increasing complexity and change. However, this can be done as entrepreneurs are mindful of the extent the complexity and change have on their business.

### **Regulatory compliance loop**

The business regulatory environment is one of the key factors which had a negative impact on the growth and development of SMMEs. Research identified that entrepreneurs also encounter stringent regulation, one of the key factors which had a negative impact on the growth and development of SMMEs. SMMEs encounter several impediments such as bureaucracy and red tape, cumbersome regulations, and tax. South Africa has several

regulations that undermine entrepreneurship by hindering access to critical resources such as capital and business formation, which create an unstable and unpredictable business environment and erode the rewards of success. This is supported by Shane (2014) and Viviers (2004), who ascertain that compliance with governmental rules and laws is a greater encumbrance and hinders SMME growth, and job creation and can impose an excessive and unnecessary burden on SMMEs (Kamara 2017; Abor and Quartey 2010:215-228).

### **Lack of municipal support loop**

Entrepreneurs are also faced with lack of access to finance due to low institutional support. Research findings reveal that there is a decrease in the quality of institutional support which impact on the entrepreneurs' ability to attain regulatory compliance. The lack of municipal support has been identified as a challenge towards access to finance by SMMEs. Kongolo (2010) indicates that lack of financial resources, inadequate institutional support influence sustainable growth and affects the performance of SMMEs. In the same vein, van de Vrande and Jong, Jeroen and Vanhaverbeke 2009:423-437, Maurice and Maurice (2009) identify that SMMEs have weak ties with other organisations compared to larger businesses which make it more difficult for them to access the knowledge required for sustainability purposes (Dodourova and Bevis 2014; Chimucheka 2013 ).

### **Managerial competence loop**

Managerial competence is a major challenge facing SMMEs in Gauteng. The lack of managerial competence places significant barriers to entrepreneurial activities, sustainability, and compliance attainment. More specifically, SMMEs generally lack dedicated internal training or human resources departments and are also less likely to employ training managers or to have formal training policies. Mohammed and Nzelibe (2014) alluded to the fact that a lack of trained manpower and management skills

constitutes major challenges to the survival of SMMEs. Studies support that the lack of sustainability efforts in SMMEs can be linked to poor management skills attributed to inadequate training and education and lack of business sustainability skills ( Leboea 2017; Phikiso and Tengeh 2017:1-14; Hogeferster 2014:241-250; Arham 2013:117-130).

### **Technological loop**

In addition to managerial and business skills shortages, the growth and expansion of small businesses are limited by the lack of and use of technology or expertise to research and to develop new business ideas. SMMEs have limited access to technology development partly because they lack the relevant information and continue to hold onto poor and obsolete technologies. Entrepreneurs face impediments to gaining access to appropriate technologies and gathering information on the relevant and available techniques. Not only are SMMEs not innovative with their technology due to financial restraints, but they have limited know-how in the deployment of the technology within their businesses.

### **Capacity and productivity loop**

SMMEs experience lower productivity. At present, the SMME sector contributes a disproportionately small share to overall productivity gains. Their productivity tends to not only be much lower than that of large businesses, but it also tends to be particularly low compared to the productivity of SMMEs in other regions. Currently, many SMMEs are characterised using traditional technologies, limited technical skills, and a lack of information about markets and new technologies. Therefore, business-level intensification of productive and innovative activity, achieved with critical mass, can create an important spillover to the business.

### **Lack competitiveness**

Globalisation has increased competitive pressures on businesses coupled with rapid technological change, and it has altered the environment in which SMMEs operate. As a

result, SMMEs are insufficiently equipped to face increasing pressures from globalisation. As a result of their limited resources and lower productivity, many have found it difficult to compete; thus, increasing SMMEs competitiveness has become a major challenge. The internal factors constraining SMMEs' ability to be competitive are a lack of experience, managerial competency, insufficient resources, and an excessive perception of risk and ability to compete.

### **Poor internal controls and ethical conduct loop**

Findings reveal the inefficiency of internal controls that the mere size of the SMME limits its financial resources and capabilities and increases the lack of internal controls and unethical business behaviour. Business environments are often characterised by systemic levels of administrative corruption - a situation where bribery and facilitation payments are used to resolve bureaucratic and administrative processes between businesses and state agents. According to research, this type of corruption constitutes one of the most important barriers for SMME development and sustainability as it raises the cost of doing business and thereby limits the prospects for business growth and development. This makes SMMEs prone to unethical behaviour in the form of bribery and corruption. Many benefits stem from behaving ethically in business. Being ethical reduces the transaction costs of generating new customers (Zhang 2009: 28.35.) and enables businesses to attract more skilled employees (Larkin and Pierce, 2015:1-27). These skilled employees put more effort into their work and thereby increase productivity.

### **Crime and security loop**

SMMEs are experiencing high levels of crimes which affect their business sustainability. The level of security increases and business growth increases. A low level of crime and a high level of security are both preconditions for the survival and growth of any business. However, business crime increases the internal and external loss to crime which decreases return on investments and business growth. Findings revealed that businesses are susceptible to crime. It is clear that crime is a major business environment constraint, particularly for informal SMMEs. The GEM report (2012) revealed that corruption had

become more prevalent, affecting the business's capability to survive and develop in SA, while the high levels of crime are influencing all businesses (Xavier *et al* 2013).

In addition, this study analysed system archetypes. The research findings revealed four were identified: limits to growth, shifting the burden, success to success, and fixes that fail. However, the limits to growth and shifting the burden archetypes stood out as pertinent to the study and the findings are discussed below.

### **The Limit to Growth Archetype**

The Limit to Growth Archetype of compliance attainment describes the negative outcomes that accumulate from striving to achieve higher levels of compliance, which increases business costs and can lead to system sluggishness. Findings reveal that in the limits to growth, entrepreneurs allocate certain resources towards compliance and regulatory matters. Enhanced compliance efforts lead to increased costs and a corresponding decline in the budget. This leads to lower compliance levels and entrepreneurs begin to seek alternative use of the budget for other business costs. Munnich (2007) contended that compliance costs for SMMEs is up to 6 times higher than those for large businesses. In a study conducted by SBP in 2004, it was reported that the regulatory environment imposed significant costs on business activities. These costs reduced the businesses ability to expand operations and to create jobs.

### **Shifting the Burden Archetype**

Access to finance is key to the creation, growth and productivity of SMMEs. Financing for SMMEs is important at all stages of the business life cycle, in order to enable start-up businesses, develop and grow, and make contributions to employment, growth and social inclusion. External funding improves performance of SMMEs and as the entrepreneurs becomes more dependent on the funding, creating dependency on external funding and on institutional support/reducing their interest in managing internal controls and discipline, which will enhance their own income even further. Instead, entrepreneurs should focus on

effective internal control compliance which will garner limitless benefits from well-organised procedures, adding value to the business's capacity and productivity (Nor Azimah 2013:25-38). A sound internal control system is an effective protection against business failures and a vital driver of business achievement (Nor Azimah, 2013: 25-38).

#### **Objective 4: To develop an entrepreneurial leadership adoption model**

The area of interest in this study was to examine, structurally, how interested and aware entrepreneurs convert to become adopters of entrepreneurial leadership. The key dynamic is the movement of entrepreneurs from the stock of non-adopting entrepreneurs (aware entrepreneurs) to the stock of adopting entrepreneurs, and this represents a key desired behaviour change in which entrepreneurs choose to adopt entrepreneurial leadership.

There are two steps in the entrepreneurial leadership adoption model and in the first step, entrepreneurs must learn the value of entrepreneurial leadership development initiatives and then choose to participate in leadership development. In the second step, entrepreneurs may choose to adopt entrepreneurial leadership development initiatives. The rate at which they choose to adopt entrepreneurial leadership development initiatives is influenced by four factors, which were identified in the interviews as the key barriers for entrepreneurs adopting entrepreneurial leadership development initiatives.

The study findings revealed that entrepreneurial leadership adoption is constrained by variables such as views on entrepreneurial leadership, lack of funding, access to leadership development programmes and initiatives, institutional support to participate in these capacity-building/leadership development programmes, knowledge of institutions that provide these programmes and costs of the development programmes.

Key findings from this chapter reveal that in the case of entrepreneurial leadership adoption in Gauteng, pursuing an aggressive investment strategy (increasing funding and marketing of entrepreneurial leadership programmes/initiatives) in scenario 1, is likely to lead to a

favourable outcome of increase in entrepreneurial leadership adoption by entrepreneurs. However, an increase in investments would be counterproductive if the institutions and networks continue to remain ineffective in providing entrepreneurial leadership programmes/initiatives and support (scenario 2). The impact of this scenario produces unintended outcomes in that despite investments and promotion of entrepreneurial leadership, the inadequate support and capacity provided by the institutions and networks impact entrepreneurial leadership adversely. This suggests that a systematic and system-wide institutional programme must be part of the entrepreneurial leadership development strategies. An important consideration is that the institutional and network improvements would come at a cost as it would compete with other spending priorities and would require associated funding and investments. Overall, the model results presented in this chapter are likely to play an important role in entrepreneurial leadership and institutional development.

## **9.5 Theoretical, practical contribution and implications**

The thesis adopted a systems thinking approach that directs attention towards key system variables, non-linear dynamics behaviour over time, feedback processes underlying those dynamic behaviours, and unanticipated consequences within the entrepreneurial system. Compared with more conventional approaches, this research has contributed to systems thinking by adding important empirical insights to advance a systems-based approach, including understanding entrepreneurial leadership and complexity. Thus, this research represents a change in thinking about the design of entrepreneurial leadership strategies to address current and future challenges. It could significantly change the paradigm set for entrepreneurs' leadership development.

An important outcome of this study was the development of a conceptual model that considers the main and important relationships between the key variables and their dynamic behaviour in entrepreneurial system as well as entrepreneurial leadership adoption. The research therefore contributes to the advancement of entrepreneurial leadership agenda that is motivated by the need to solve increasingly complex real-world



problems involving the complex 21<sup>st</sup> century challenges. Further, as stated in the introduction, system dynamics modelling and its application has grown, however, it has rarely been applied to study the entrepreneurial system in South Africa. It is therefore anticipated that the study would encourage research in this direction.

This study identified that there are several internal and external factors that contribute to the high failure rate of SMMEs in South Africa. The pressing ones are limited access to finance and markets, managerial and leadership skills, and an unfavourable business climate with the stringent regulatory framework. The competitiveness is being held back by relatively low business dynamism which is inhibited by administrative burdens to start a business, insolvency regulation, and a persistently insufficient labour market flexibility. If South Africa must address these challenges, it needs a sound systematic framework that could effectively consider intricacies both in the internal and external environments of SMMEs and strategies that would assist entrepreneurs to operate their businesses under complex and dynamic conditions within entrepreneurial systems. Thus, to address this gap, this study explored a holistic and systematic entrepreneurial leadership approach that takes into consideration the complexity of both the internal and external contexts of SMMEs by subscribing to the systems thinking view.

This study findings reveal that the entrepreneurial context in South Africa is very dynamic and complex in nature and emphasises that the low entrepreneurial activity and high failure rate among SMMEs suggest a lack of entrepreneurial leadership capabilities and lack understanding of the business environment. Therefore, this study advances entrepreneurial leadership, from the perspective of the leadership role performed in SMMEs, as a emerging and crucial to the understanding of leadership within an entrepreneurial contexts in emerging contexts.

This study advances a definition of entrepreneurial leadership in line with Piehie *at al.* (2014:1) definition and defines entrepreneurial leadership as a distinct type of leadership that predominantly concentrates on dealing with challenges and complex matters and crises

that exist in organisational settings. Entrepreneurship leadership thus stems from a process whereby people who pursue entrepreneurial intentions and opportunities work collaboratively with others using different cognitive methods to understand and respond to systems challenges and complexities.

As demonstrated in the study, conventional approaches to managing leadership in entrepreneurial systems, founded on traditional science paradigm, linear and reductionist, are inadequate in dealing with the uncertainties, complexities, and dynamics inherent in such systems. Moving from the conventional kinds of thinking to contemporary thinking necessitates alternative frameworks and theories to guide the choice of an appropriate analytical tool. This study proposes a systems-based approach as an alternative method of thinking since it is more suitable in dealing with the complex dynamics of the real world and entrepreneurial complexities are best viewed and discussed using dynamic approaches.

It is hoped that with the results of this study, decision-makers are better placed to track changes in those critical drivers affecting entrepreneurial leadership development; consequently, target policy and investment interventions for entrepreneurial leadership development adoption. Further, system dynamics is generally regarded as a practical tool policymakers can use to solve important, complex socio-economic and sustainability problems, the so-called wicket problems. Thus, this research provides stakeholders and managers, including entrepreneurs, and policymakers, with decision support and planning tools in the form of conceptual and simulation models to help achieve sustainable entrepreneurship.

## **9.6 Methodological contribution**

This study was grounded in systems thinking methodological paradigm/epistemology, a paradigm which until recently, has been suppressed by the traditional reductionist/logical positivist paradigm. The system dynamics approach has rarely been applied to study entrepreneurial leadership and systems in South Africa. Thus, given the paucity of system

dynamics application in Africa, this is a distinctive and significant methodological contribution. The novel context also has the potential to provide a useful base for future studies.

Further, the thesis has demonstrated how entrepreneurs, academics and policymakers can use existing survey and historical quantitative information to develop integrated conceptual and simulation models that can be used to support decision making in complex entrepreneurial systems. Thus, the blending of different knowledge and information sources to address a complex environmental problem is a significant methodological contribution.

A unique contribution of this study was the application of a SD methodology to understand the issue of non-profit sustainability. However, in applying such a methodology much was discovered that can either assist future researchers applying a similar methodology or call to attention particular aspects of the process of applying the methodology that requires deeper investigation.

The methodology was based on the construction of CLDs. This method of diagramming is central to the qualitative approach to SD. Such diagrams are beneficial in their ability to show the feedbacks between variables identified as being influential in a particular issue or problem. However, trying to create one overall model (as is the case with the Qualitative model in this study), can get confusing and quickly snowball to become an overwhelming experience for the researcher. Thus, it is suggested that smaller fragments of the model be built first, and once all fragments are constructed, they can be merged with one another. This presents a less confusing and overwhelming method of constructing the overall model. In addition, it is a good method of testing loop polarities because if the loop variables indicate the same polarities when they are joined to other loops, they can be seen as being more accurate and valid in themselves, as well as to the overall model.

The systems thinking framework encourages attempts at investigating issues or problems holistically. ‘Holistically’ within the context of this study was found to refer to a consideration of the multiple themes identified in the study, as well as the many feedback operative within the domains of each of those themes. Therefore, the systems thinking paradigm encourages consideration of the broad scope of a problem situation, as well as the underlying causes of such problem situations, thereby encouraging investigations that are both broad in scope and depth. The challenge in the application of such a framework then becomes how to navigate this demand for broadness of both scope and depth.

## **9.7 Study limitations**

The study had the following limitations.

### **9.7.1 Poor communication**

Most of the participants provided brief responses due to communication and language issues, but most have never been interviewed before and felt uncomfortable being recorded. This resulted in some of the limited responses in this study in Chapter 6.

### **9.7.2 System dynamics an intensive process**

It is widely acknowledged that a system dynamic modelling exercise can be slow, particularly the creation and simulation of causal loops which is time-consuming, and a resource-intensive process overlaid with the practical difficulties and this proved to be my experience in this research. In addition, the causal loop diagramming and qualitative model construction processes of the methodology require much skill, understanding and experience to perfect and this process took almost 2 years of trial and error.

Thus, the process from acquiring the raw data to the construction of the CLDs and the overall SD Model and simulation was an iterative process requiring much creativity and constant adaptations from the researcher. Consequently, several challenges and lessons which can guide future work, were highlighted based on my experience. These include the

importance of preliminary interviews and devoting enough time for the creation of causal loops.

The idea of group model building would have been an insightful addition to the overall empirical process. This would have entailed involving respondents in the process of building the qualitative model and in assessing its accurateness. However, the art of constructing CLDs is a complex one, requiring much effort and time, entrepreneurs did not have time and resource constraints would not allow it.

## **9.8 Recommendations from the study**

Findings of this study revealed that SMMEs in the Gauteng province face many challenges and continue to experience a high stagnancy and failure rate, despite government's support programmes put in place to assist them. Furthermore, the study revealed that there is a lack of institutional capacity, to manage and develop entrepreneurs leadership skills development due to lack of training and leadership skills and funding for entrepreneurs to develop themselves. This study also revealed that there is an imperative need for a paradigm shift in exploring optimal available sources of finance and investments for entrepreneurial leadership development initiatives.

The role of the government in facilitating and supporting SMMEs remain critical for South Africa . The SMME sector is prone to suffer and fail when the government pays little attention to the sector. This study recommends an institutional collaborative approach for the development and capacity building of entrepreneurs in order to enhance the sustainability of their businesses. It is recommended that institutional support aimed at funding, and investments for SMMEs, requires the exploration of new approaches that extends to entrepreneurial leadership skills development programmes. These approaches need to be drawn from an existing pool of capacity building programmes and these require the development and piloting of new innovative ways of learning and development aimed at entrepreneurs.

The entrepreneurial leadership model aims to increase the adoption of entrepreneurial leadership development by entrepreneurs. The model recommends an establishment of an integrated funding mechanism to assist SMMEs in accessing funds for entrepreneurial leadership development initiatives. The model proposes a level of coordination must be achieved between all funding or investing organisations and institutions to consolidate funding that is available for entrepreneurial leadership development programmes. This will require regular engagement between financial and institutions of learning and the various national and provincial government departments that allocate funding and provide support to SMMEs.

The study proposes the creation of a centre of SMME Training Institute that will aim to advance and strengthen institutional capacity in the areas of advancing entrepreneurial skills development within the SMME sector. It is proposed that the SMME Training Institute should collaborate with the universities, research institutes, industrial clusters, SMMEs and development funding institutes in order to enhance the sector's research capacity and develop new learning programmes focusing on the SMMEs. The institute's priority should be to develop internal capacity and expertise on the entrepreneurs skills and leadership development and conduct various types of research to ensure thought leadership and develop own curricula for entrepreneurs.

## **9.9 Recommendations for future research**

Future scientific enquiries will benefit from exploring the entrepreneurial leadership challenges facing entrepreneurs in other provinces in the country and also not only in South Africa and Africa, but also internationally and comparing the findings to what has been discovered in this study so as to enhance the understanding of the leadership challenges facing SMMEs in entrepreneurial systems. Future research could be based on investigating the entrepreneurial leadership challenges facing entrepreneurs in the developed and developing world. The differing socio-economic circumstances, development levels and resource endowments of these two worlds would be interesting points of departure for future studies.

Future research would benefit from investigating the sustainability of the business of entrepreneurs who have attained entrepreneurial leadership adoption and comparing it to what was discovered in this study as a means of corroborating the findings and enhancing understanding regarding business sustainability. Conducting a study on entrepreneurs who have adopted entrepreneurial leadership would aid in corroborating and enhancing understanding regarding the entrepreneurial leadership adoption and business sustainability.

Future research on investigating the sustainability of entrepreneurial businesses which adopted entrepreneurial leadership from the system dynamics perspective would be more accurate if respondents are interviewed post entrepreneurial leadership adoption. This will be beneficial in the recommendation and simulation of policy suggestions, thus increasing the chances of simulation outcomes leading to high impact learning and improvements in organisational sustainability.

## **9.10 Chapter Summary**

This concludes the final chapter of the study. The study findings reveal that SMMEs in South Africa, continue to be plagued by relatively high failure rates and poor performance levels caused by the highly complex and dynamic business environment and lack of leadership skills. Entrepreneurial leadership has emerged as a distinctive approach, which takes into consideration the exercise of entrepreneurial leadership in high-velocity SMME contexts. Entrepreneurial leadership is regarded as a “new paradigm” and has been suggested as an essential component in which entrepreneurs can enhance entrepreneurs ability to remain competitive whenever they encounter dynamic and ever-changing entrepreneurial contexts.

This study explored the application of entrepreneurial leadership capabilities to respond to uncertainty, challenges, and opportunities in the entrepreneurial system and understand how the systems thinking approach can be applied in entrepreneurial leadership to address

the complex dynamics of the entrepreneurial contexts. Overall, the study identified the pathways to entrepreneurial leadership and deepened the current understanding of the concept of entrepreneurial leadership in selected SMMEs operating in the Gauteng province.

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## Appendix 1 Ethical clearance approval



### MANAGEMENT SCIENCES: FACULTY RESEARCH ETHICS COMMITTEE (FREC)

7 June 2018

Student No: [REDACTED]

Dear Ms T R Mhlongo

PhD IN MANAGEMENT SCIENCES: LEADERSHIP AND COMPLEXITY

**TITLE: A SYSTEM THINKING APPROACH TO ENTREPRENEURIAL LEADERSHIP: AN ANALYSIS OF THE SMME SECTOR IN GAUTENG**

Please be advised that the FREC Committee has reviewed your proposal and the following decision was made: **Ethical Level 2**

**Date of FRC Approval: 8 March 2018**

Approval has been granted for a period of two years from the above FRC date, after which you are required to apply for safety monitoring and annual recertification. Please use the form located at the Faculty. This form must be submitted to the FREC at least 3 months before the ethics approval for the study expires.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the FREC according to the FREC SOP's.

Please note that ANY amendments in the approved proposal require the approval of the FREC as outlined in the FREC SOP's.

Yours Sincerely

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## **Appendix 2: Request to Conduct Research**

**30 March 2017**

The Manager

The Gauteng Enterprise Propeller

Dear Sir/Madam

**STUDY TITLE: A SYSTEM THINKING APPROACH TO ENTREPRENEURIAL  
LEADERSHIP: AN ANALYSIS OF THE SMME SECTOR IN GAUTENG**

I hereby seek your consent to engage you and your company to provide participants for this research project.

Research Project: PHD Studies

Researcher: Thabisile Mhlongo

Supervisor: Dr P.Daya

This study aims to examine the entrepreneurial system concept and identify challenges in the entrepreneurial system that impact the SMMEs' s performance and sustainability in the Gauteng province. The study also intends to broaden the understanding of how a systems thinking approach can be applied in entrepreneurial leadership towards addressing the complex dynamics faced by entrepreneurs in the entrepreneurial system.

All ethical considerations and conditions that your institution may impose will be observed. Participation in the study will be voluntary. The targeted participants are owners of the SMMEs in Gauteng Province namely in the city of Ekurhuleni, City of Johannesburg and the City of Tshwane Metropolitans.

If you require any further information, please do not hesitate to contact me. Thank you for your time and consideration in this matter.

I hope my request will receive a favourable response,



Yours sincerely

Thabisile Mhlongo

### **Appendix 3 : Consent**

#### **Statement of Agreement to Participate in the Research Study**

I hereby confirm that I have been informed by the researcher, **Ms Thabisile Mhlongo** about the nature, conduct, benefits, and risks of this study - Research Ethics Clearance Number:

**[REDACTED]**

I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.

I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.

In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.

I may, at any stage, without prejudice, withdraw my consent and participation in the study.

I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.

I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

<b>Full Name of Participant</b>	<b>Date</b>	<b>Time</b>	<b>Signature / Right Thumbprint</b>
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I, Thabisile Mhlongo herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Thabisile Mhlongo_	10 March 2017	<b>[REDACTED]</b>
<b>Full Name of Researcher</b>	<b>Date</b>	<b>Signature</b>

<b>Full Name of Witness (If applicable)</b>	<b>Date</b>	<b>Signature</b>
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<b>Full Name of Legal Guardian (If applicable)</b>	<b>Date</b>	<b>Signature</b>
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## **Appendix 4 - Interview Questions**

**Study Title: A system thinking approach to entrepreneurial leadership: An analysis of the SMME sector in Gauteng.**

### **1. Demographic Details**

**Please take a few minutes to tell me about yourself. The information you provide is solely for academic research purposes, as such, it will be treated in strict confidence.**

#### **1.1 What is your gender?**

- ☐ Male
- ☐ Female
- ☐ Other

#### **1.2 What is your age group?**

- ☐ 18-25
- ☐ 26-30
- ☐ 31-35
- ☐ 36-40
- ☐ 41-45
- ☐ 46-50
- ☐ 51+

#### **1.3 Please advise the municipality where your business is situated?**

- ☐ City of Ekurhuleni Metropolitan
- ☐ City of Johannesburg Metropolitan
- ☐ City of Tshwane Metropolitan

## **SECTION B**

**Please indicate your views and observations regarding the leadership challenges within the entrepreneurial system in Gauteng**

### **Understanding of Leadership**

- 2.1. Please share with us your understanding of leadership.
- 2.2. Please share with us your entrepreneurial leadership journey.
- 2.3. How best can you describe your day-to-day responsibilities as an entrepreneur?

### **3. Leadership Pathways and Development**

This section seeks to capture the leadership skills and knowledge acquired or any form of leadership development or plan put in place. In addition, we also seek to evaluate the practical relevance of skills or knowledge acquired to your day-to-day strategising and implementing activities.

- 3.1. Do you have a career plan? If yes, please kindly provide us with the relevant information.
- 3.2. What do you bring to the position as an entrepreneurial leader?
- 3.3. What are your views on leadership development?
- 3.4. Have you participated in any leadership development activities? If yes, please kindly provide us with the relevant information.
- 3.5. Are you able to apply the knowledge and skills acquired from leadership development activities? Please provide a reason for your answer.

### **4. Effective leadership and entrepreneurial understanding**

- 4.1 What kind of leadership development interventions does your sector offer entrepreneurs?
- 4.2 Does your sector align performance management and leadership development for entrepreneurs? If so how?
- 4.3 How does your sector measure and evaluate the impact of leadership development initiatives for entrepreneurs?

### **5.Challenges, dynamics in the entrepreneurial system**

5.1 In your opinion what are the internal leadership challenges in the entrepreneurial system?

5.2 In your opinion what are the external leadership challenges in the entrepreneurial system?

5.3 In your view What factors create leadership challenges that lead to business failure experienced within the entrepreneurial system?

5.4 What are the major contributing factors to business failure within the entrepreneurial system.