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Business School

AN ENTREPRENEURIAL ECOSYSTEM FRAMEWORK FOR NELSON MANDELA BAY

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AN ENTREPRENEURIAL ECOSYSTEM FRAMEWORK FOR NELSON MANDELA BAY

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DECLARATION

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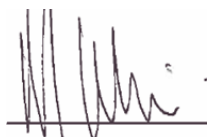
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DEDICATION

I dedicate this thesis to the loving memory of my late grandmother, Alletta Margaret Borchards and late grandfather, Marthinus Samuel Borchards. You both worked so hard and were able to build a life in Port Elizabeth after moving from Knysna. Your courage, determination and resilience inspire me. You always expressed the importance of learning and education. Moreover, you continuously expressed that I had the opportunity to an education and I should never take that for granted. This is for you, this is for the days you would take me to school, drop and pick me up from the library, help me with my school projects, sitting up and making me coffee during my Matric exams and so much more. This is for the two of you.

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ABSTRACT

In recent years, the concept of entrepreneurial ecosystems increased in status amongst policy makers, scholars, practitioners and mainstream media as a regional economic development strategy. Yet, despite the opportunities presented by the entrepreneurial ecosystem, it is both under-theorised and lacks data on a sub-national scale. Furthermore, research from an African and sub-Saharan African context remains in its infancy. The limited research within these resource-constrained countries creates a challenge to determine the underlying factors that influence entrepreneurship. As a result, developing economies, as in the case of sub-Saharan Africa, have applied generalisations of the entrepreneurial ecosystem, which undermine the temporal differences of places and reduce the potential to benefit from agglomeration economies.

With the National Development Plan: Vision 2030, the South African government strives to achieve an inclusive economy through enhancing the capacity of the state, building capabilities and promoting partnerships amongst sectors. Motivated by the mandate to redress the inequality caused by economic exclusion, the South African government has taken counteractive measures focused on promoting entrepreneurship as a key driver of economic growth. Despite the measures placed, South Africa struggles with high levels of inequality with a Gini coefficient of 0.63, unemployment of 32.6% and negative GDP per capita growth of -8.137%. Furthermore, most small businesses in South Africa are informal, which means that a disproportionate concentration of employment exists in the informal sector.

Against this backdrop, the problem addressed in this study is based on the challenge of creating productive entrepreneurship that acknowledges the unique structure and resources of Nelson Mandela Bay. To address this gap, a critical inquiry into entrepreneurial ecosystems was motivated. First, the inquiry is focused on a real-world context, namely Nelson Mandela Bay, which is one of the eight metropolitan regions in South Africa, a developing economy. Second, the inquiry uses multiple perspectives through multiple data collection methods. To commence the inquiry, a literature review was conducted on secondary sources to identify the factors influencing entrepreneurial ecosystems and formed the basis of the theoretical framework. The study followed the pragmatism research philosophy and used an abductive research approach. A mixed method research design was utilised and followed a sequential independent process, which was performed in two phases and independently analysed.

Phase One included the dissemination of questionnaires to evaluate the perceptions of start-ups, small- medium and micro enterprises and employees from big business, corporates and multinational enterprises regarding the specific factors of the entrepreneurial ecosystem. Three hundred responses were received. In Phase Two, the author conducted fifteen semi-structured interviews with influential economic development agents.

The data in Phase One were analysed using correlation analysis, one-sample t-test and univariate ANOVA. The correlational analysis found that positive correlations existed between the predictor and outcome variables. Statistical and practical significant relationships were mostly found for the demographic variables age and race. The interview data from Phase Two was thematically analysed and eight major themes emerged.

Findings from both datasets were compared and the point of integration was triangulation. The integration of the datasets identified the following main factors: The Regulatory Framework, Culture, Business Environment, City Planning, Business Support Services, Entrepreneurial Intention and Human Capital. Theoretical perspectives were used to frame the interpretation of the findings, which is a form of abduction. Constructs from *a priori* theories, such as Institutional Theory, Social Network Theory, Structural Holes Theory, Systems Theory, The Absorptive Capacity Theory of Knowledge Spillover, Design Thinking and The Broken Windows Theory were used. An additional theory, Structuration Theory was applied.

Using the integrated findings, an entrepreneurial ecosystem framework for Nelson Mandela Bay was proposed, incorporating potential influencing factors. The factors presented in the framework are dependent on collective action and cross-sector co-ordination. In particular, it is argued that place-based interventions should use collaborative co-ordination efforts by institutional actors to reduce the disproportionate allocation of funds. The framework included two supplementary components: A Stakeholder Classification (working document) and proposed implementing strategy, which is based on the Design Thinking methodology. It was suggested that the city leadership would be well-advised to make strategic investments that pay attention to Nelson Mandela Bay's place-based infrastructure, knowledge, capabilities and specialisms to achieve the success of an entrepreneurial ecosystem.

Keywords: Entrepreneurship, Entrepreneurial Ecosystem, Entrepreneurial Ecosystem Framework, Nelson Mandela Bay, South Africa; integration; mixed methods; joint display; sequential independent design.

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LIST OF ACRONYMS AND ABBREVIATIONS

Acronym and abbreviation	Phrases in full
ANOVA	Analysis of Variance
B-BBEE	Broad Based Black Economic Empowerment
CFA	Confirmatory Factor Analysis
DTI	Department of Trade and Industry
ECDC	Eastern Cape Development Corporation
EFA	Exploratory Factor Analysis
GDP	Gross Domestic Product
GEI	Global Entrepreneurship Index
GEM	Global Entrepreneurship Monitor
ICT	Information and Communication Technology
IDC	Industrial Development Corporation
IDP	Integrated Development Plan
MNE	Multinational Enterprise
NDP	National Development Plan
NECI	National Entrepreneurship Context Index
NMB	Nelson Mandela Bay
NYDA	National Youth Development Agency
OECD	Organisation for Economic Co-operation and Development
POPI	Protection of Personal Information Act
QLFS	Quarterly Labour Force Survey
SEFA	Small Enterprise Finance Agency
SME	Small and Medium Enterprise
SMME	Small, Medium and Micro Enterprise
TEA	Total Early-stage Entrepreneurial Activity

CHAPTER 1: OVERVIEW OF THE STUDY

1.1   BACKGROUND

Entrepreneurial ecosystems gained popularity as a placed-based industrial policy among policymakers, scholars, practitioners and mainstream media in developed, growing middle-income and developing economies (Isenberg, 2011; Spigel, 2018). Post the Global Financial Crisis, entrepreneurial ecosystems led as a regional economic development strategy to limit the economic impact caused by de-industrialisation and automation (Brown & Mawson, 2019; Spigel, Kitagawa & Mason, 2020). The concept was hailed as a market-orientated approach and a *modus operandi* for future market-orientated industrial policy and value creation (Mason & Brown, 2014; World Economic Forum, 2014; Brown & Mawson, 2019).

Value creation in this context seeks to exploit a region's place-based infrastructure, knowledge, capabilities and specialisms to promote a regional competitive advantage (Bailey, Pitelis & Tomlinson, 2018). Entrepreneurial ecosystems focus on the spatial context (place-based) and reject conventional neoclassical approaches of perfect competition and free resource mobility. This shift of focus demonstrates that entrepreneurial ecosystems prioritise temporal differences to benefit from agglomeration economies.

Current research explicates that entrepreneurial ecosystems seek to develop an engaged community of actors (Feld, 2012). This engaged community of actors is socially connected and reinforces entrepreneurship through the interaction of place-based infrastructure, resource providers, customers and the prevailing sociocultural dynamics (Borissenko & Boschma, 2016; Malecki, 2018; Roundy, Bradshaw & Brockman, 2018; Roundy & Fayard, 2020). Interactions in the ecosystem create value through co-creation, which legitimises new ventures, promotes increasing returns to scale and access to domestic and international markets (Bailey et al., 2018; Stam & van de Ven, 2019). However, barriers in the interactions (networks) may constrain the value that could be captured. For instance, Feldman (2003) asserts that private businesses who utilise technology from public institutions (research and development institutions or universities) can facilitate the knowledge into commercial output. Without these interactions, there is an opportunity missed in creating a regional value chain.

Against this backdrop, the networks that are created translate into information flows between knowledge, labour and capital, which allows for innovation and economic growth (Spigel, 2017; Woolley, 2017; Nicotra, Romano, Del Giudice & Schillaci, 2018). A process of recycling occurs between people, skills, knowledge and capital flow between firms in the ecosystem. The

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return from productive entrepreneurship through the event of recycling accrues benefits in the form of tax revenue, corporate revenue, employment and improved governance (Isenberg, 2011; Woolley, 2017). Its economic potential distributes wealth to citizens through increased salaries and wages for lower-level jobs. Yet, despite the significant benefits, which are often referred to as positive spillover effects, there are also negative spillover effects, such as rising land prices amongst others (The World Bank, 2019c). As cities have different structures and resources, governments would need to support their environment against the negative externalities that may arise in an entrepreneurial ecosystem (Glaeser, 2011).

Despite the increased status of entrepreneurial ecosystems, it is both under-theorised and lacks data on a sub-national scale. The salience of the poor data has caused Brooks, Vorle and Gherhes (2019) to refer to the entrepreneurial ecosystem as *Pandora's box*. National data hides variation between cities and regions (Mason & Brown, 2014; Spigel et al., 2020a). Existing data focuses on annualised growth, which measures turnover and employees, while missing dynamic data showing how ecosystems emerge or create benefits for the entrepreneurs. Yet, the entrepreneurial ecosystem remains an attractive idea for governments. Poor data reduces the ability to analyse existing policies and interventions or make forecasts. Essentially, sub-national data may support decision-making to match capital with opportunity.

Most research has focused on high growth ecosystems, such as Silicon Valley, Taiwan, Bangalore and Edinburgh but lack theoretical underpinning that explains how specific components of an ecosystem influence entrepreneurship (Roundy & Fayard, 2020). Furthermore, research from an African and sub-Saharan African context remains in its infancy. The limited research within these resource-constrained countries creates a challenge to determine the underlying factors that influence entrepreneurship. As a result, developing economies, such as sub-Saharan Africa have applied generalisations of the entrepreneurial ecosystem.

A further issue expected to affect sub-Saharan Africa is urbanisation. Sub-Saharan Africa is one of the two poorest regions in the world expected to double in population size over the next twenty years (United Nations, 2018). According to the World Bank (2019c), countries with few financial resources negatively correlate with per capita income. Thus, urbanisation economics is argued as a driver of development as it is reported to create >80% of global gross domestic product (GDP). Thus, critical inquiry to the benefits associated with entrepreneurial ecosystems to manage urbanisation and localised economies is required.

Each city or region is unique and a 'one-size-fits-all' strategy should be avoided, such as attempting to transfer ideas from high growth areas to a different context (Isenberg, 2011; Acs, Stam, Audretsch & O'Connor, 2017; Audretsch, 2019; Spigel et al., 2020). Considering this, it is important to deepen the understanding of entrepreneurial ecosystems on a sub-national scale. Thus, a critical inquiry about the type of factors and actors that influence the performance and survival of entrepreneurship within a place-based context is investigated in this study. By granulating the examination, cities may benefit from urbanisation and localisation economies. Such insights may assist to understand how entrepreneurs in a spatial context operate and how they are affected by their environment. It may be inferred that aligning these factors could add value to the citizens and stakeholders of the ecosystem. The gains from a sub-national inquiry may inform the city how to shape localised efforts and policies to reflect a place's unique set of resources and capabilities.

Chapter One is organised in eleven sections as presented in Figure 1.1. In the following section the problem statement of this thesis is discussed.

CHAPTER 1: Overview of the study

- 1.1 Background
- 1.2 Problem statement
- 1.3 Thesis statement
- 1.4 Research outcome
- 1.5 Scope and limitations
- 1.6 Research ethics
- 1.7 Theories informing the study
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CHAPTER 3: The state of entrepreneurship in South Africa

CHAPTER 4: Entrepreneurial ecosystem theoretical frameworks

CHAPTER 5: Entrepreneurial ecosystem - conceptualisation, frameworks and models

CHAPTER 6: The factors influencing an entrepreneurial ecosystem

CHAPTER 7: The theoretical framework

CHAPTER 8: Results from the quantitative data analysis

CHAPTER 9: Results from the qualitative data analysis

CHAPTER 10: Integration of the quantitative and qualitative findings

CHAPTER 11: Conclusions, recommendations and future research

Figure 1.1 - Roadmap of Chapter One

1.2   PROBLEM STATEMENT

Research studies on entrepreneurial ecosystems lack both a theoretical underpinning and have insufficient data on a sub-national level to benefit from agglomeration economies (Auerswald, 2015; Stam, 2015; Roundy & Fayard, 2018; Spigel & Harrison, 2018; Cantner, Cunningham, Lehmann & Menter, 2020). There is limited research related to developing economies. In South Africa, little is known on the sub-national scale about the underlying factors influencing entrepreneurship. The poor data on the sub-national level prevents regions from exploiting place-based infrastructure, knowledge, capabilities and specialisms to promote a regional competitive advantage (Bailey et al., 2018).

Against this background, a Gini coefficient of 0.63 coupled with unemployment of 32.5% may be indicative that the environment for entrepreneurship has failed (Statistics South Africa, 2020d; World Population Review, 2021). Furthermore, current self-employment rates revealed that 63,3 % of self-employed individuals are classified as own account workers (The Small Enterprise Development Agency, 2021). These statistics may amplify why South Africa is not growth orientated and innovative and relates to the economic stagnation of the country as seen by the GDP per capita growth (annual percentage) of -8.137% (The World Bank, 2020).

Essentially, the return from productive entrepreneurship is that it distributes wealth to citizens, in the form of higher average salaries and wages of low-level jobs. Political structures in various municipalities apply generalisations and disproportionately allocate funds, suffer from poor accountability and governance (Businesstech, 2021), which has weakened the opportunity to benefit from localised and urbanisation economics. Furthermore, the net spillover effect is experienced by the country's taxpayer through the insufficient mobilisation of limited resources. Despite the opportunities presented by a supportive ecosystem, there is insufficient data to inform frameworks that influence entrepreneurship on a sub-national level and benefit from positive externalities. In summary, the problem statement of this study is: "*Nelson Mandela Bay has not developed a functioning integrated entrepreneurial ecosystem*".

1.3   THESIS STATEMENT

The thesis statement for this research study is as follows:

> *An entrepreneurial ecosystem framework that identifies the factors influencing Nelson Mandela Bay's entrepreneurial environment can be developed to assist city leaders in identifying strategic interventions to meet the city development priorities.*

In this study, the scope will be bounded to Nelson Mandela Bay, one of the eight metropolitan regions in South Africa.

1.4 RESEARCH OUTCOME

This study consists of a main research objective (RO_M) and main research question (RQ_M). The study consists of eight secondary research questions and objectives, which support the main research objective. The main and secondary research objectives of this study are derived from the research problem and thesis statement. Table 1.1 outlines the main and secondary research questions and the respective objectives.

Table 1.1 - Research Questions and Objectives

Research Question		Research Objective	
RQ_1	What research design and methodology will ensure this study's reliability, validity and trustworthiness?	RO_1	To discuss the research design and methodology best suited to ensure reliability, validity and trustworthiness of this study.
RQ_2	What is the current state of entrepreneurship in South Africa?	RO_2	To explore the state of entrepreneurship in South Africa.
RQ_3	What theories exist that support the entrepreneurial ecosystem?	RO_3	To critically review and synthesise theories underpinning the entrepreneurial ecosystem phenomenon.
$RQ_{4.1}$	How can the concept of an entrepreneurial ecosystem be understood?	$RO_{4.1}$	To conceptualise the entrepreneurial ecosystem.
$RQ_{4.2}$	What are the current frameworks or models for an entrepreneurial ecosystem?	$RO_{4.2}$	To discuss the existing frameworks and models for entrepreneurial ecosystems.
RQ_5	What are the factors that influence an entrepreneurial ecosystem?	RO_5	To critically review the factors influencing an entrepreneurial ecosystem.
Bridging Chapter – Conceptual Framework informed by RO_2 to RO_5			
RQ_6	What factors influence the entrepreneurial ecosystem in Nelson Mandela Bay?	RO_6	To empirically evaluate and discuss the factors that influence Nelson Mandela Bay's entrepreneurial ecosystem.
RQ_7	What are the economic development agents' perceptions of Nelson Mandela Bay's entrepreneurial ecosystem?	RO_7	To discover and report on the themes emerging from the qualitative inquiry.
RQ_8	Do the quantitative and qualitative data show congruence in establishing the factors that influence an entrepreneurial ecosystem?	RO_8	To compare and validate the results from the quantitative and qualitative findings.
RQ_M	What framework can be used to support entrepreneurial development in Nelson Mandela Bay, South Africa?	RO_M	To develop an entrepreneurial ecosystem framework that will support entrepreneurial development in Nelson Mandela Bay, South Africa.

1.5 SCOPE AND LIMITATIONS

This study has several limitations. First, the data for this study were limited to a single case, the Nelson Mandela Bay, one of eight metropolitan regions in South Africa. Second, the study focuses on economically active actors and economic development agents in Nelson Mandela Bay. Economically active actors are individuals who work for or operate a business in Nelson

Mandela Bay and fall into the category: start-ups; micro-enterprises; small and medium enterprises (SMEs); big businesses, corporate or multinational enterprises (MNEs). Economic development agents include individuals who form part of the state, entities of the state, higher education institutions, not-for-profit entities, incubators, entrepreneurs, private institutions and political parties. Lastly, the proposed framework is limited to Nelson Mandela Bay.

1.6   RESEARCH ETHICS

Full ethics clearance was obtained from the Nelson Mandela University's Research Ethics Committee – Human (REC-H). The accepted ethical clearance form with Resolution Number [H-18-BES-BS-039] was given. The accepted ethical clearance letter is attached as Appendix A of this document.

1.7   THEORIES INFORMING THE STUDY

This study follows a mixed method research approach and incorporates theories to aid as an organising frame for the interpretation of the results and findings. Thus, *a priori* theories act as a lens to guide the thesis. The theories support abductive reasoning, insofar that they support understanding deviations between datasets (Erzberger & Prein, 1997; Schoonenboom & Johnson, 2017).

The current entrepreneurial ecosystem frameworks are under-theorised (Roundy & Fayard, 2018; Spigel & Harrison, 2018; Cantner et al., 2020). Most theories that underpin the ecosystem literature are framed through Systems Theory and Network Theory. The following theories are applied for this research study.

1.7.1   Social Network Theory

Entrepreneurial ecosystems are understood by their dense social networks of actors and factors located in a spatial context. The actors and factors co-create value, which in turn lead to positive spillovers that generate innovation and localisation economies.

Social Network Theory is defined as mechanisms that connect people, ideas and resources in a system to achieve results (Neumeyer, Santos, Caetano & Kalbfleisch, 2019; Stam & van de Ven, 2019). The theory is explained though the structural embeddedness and centrality of the actors (Granovetter, 1992; Ofem, Arya & Borgatti, 2018). Structural embeddedness refers to the density of ties and centrality emphasises the position of the actors. The ties in the system facilitate knowledge exchange to develop an advantage ecosystem by preserving knowledge in a place (Roundy, 2017; Spigel, 2017; Stam & Spigel, 2018). Following that an entrepreneurial

ecosystem is debated as a complex system, the connections are important for value creation and building networks enable knowledge transformation.

1.7.2   Structural Holes Theory

Structural Holes Theory is focused on the dense connections within a system. Herein, the theory underlines that connections lead to opportunities through information exchange (Acs et al., 2009, 2013; Spigel & Vinodrai, 2020). This theory is integrated in the Social Network Theory and describes that positive spillovers, such as economic knowledge allow people, skills, knowledge and capital to flow between actors of an ecosystem. However, the theory argues that weak structural holes cause issues of information asymmetry, which has a disproportionate effect on entrepreneurs (Adams, Makramalla & Miron, 2014).

Moreover, Feld (2012) argues that by developing dense networks there is an opportunity to cut across sectors, demographics and culture. The dense connection affords entrepreneurs with a heightened level of alertness for potential risks and allows them to develop competencies to mitigate risks. In fact, the Theory of Creative Problem Solving brings attention to the value of dense connections. The theory argues that the prevalence of dense connections lead to interactions about problems and solutions across sectors, which expands know-how (Zlotin & Zusman, 2013). Therefore, using the Structural Holes Theory was deemed as an appropriate organising theoretical frame as it underscores that the return from knowledge allows for value creation, which is essential for innovation and economic growth.

1.7.3   Institutional Theory

Current frameworks explaining the entrepreneurial ecosystem include both the formal and informal institutions as factors influencing the success of a place. The formal institutions are described by the regulatory environment, which is understood by the government policies, laws, and regulations. Informal institutions are described by the culture, social norms and social practises in society (Mason & Brown, 2014; Alvedalen & Boschma, 2017; Lowe & Feldman, 2017; Bosma, Content, Sanders & Stam, 2018; Fuentelsaz, González & Maicas, 2019).

Formal institutions, which include government policies, laws and regulation have a twin effect on the entrepreneurial ecosystem. The effect may strengthen and reinforce the entrepreneurial activity in a spatial location. Applying the lens of formal institutions frames this study insofar that it explicates the importance of understanding how institutional structures shape agencies in the ecosystem (Fritsch, Obschonka & Wyrwich, 2019).

Informal institutions refer to the culture, social norms and practises shared by a community (North, 1990; Mason & Brown, 2014; Bosma et al., 2018). The contention is that informal institutions are a catalyst for entrepreneurial attitudes, risk taking and collaboration (Kibler, Kautonen & Fink, 2014; Fritsch & Wyrwich, 2014, 2018; Fritsch et al., 2019).

1.7.4 Systems Theory

Systems Theory explains that each place has a set of resources, known as inputs. Using the systems perspective, the inputs undergo a process of transformation to produce outputs. The process is iterative and explained through feedback loops. Stam and van de Ven (2019) apply the theory to describe how activities in the ecosystem follow the process to create value for the stakeholders. Furthermore, as an entrepreneurial ecosystem is geographically bounded with a limited set of place-based resources, such as infrastructure, knowledge, capabilities and specialisms, the theory is deemed appropriate.

1.7.5 Absorptive Capacity Theory of Knowledge Spillover

Competitive cities strategically prioritise knowledge because of its positive spillover effects (Porter, 1990). The ability for a location to attract and produce (knowledge formation) competent individuals was explained to ensure the success of entrepreneurial ventures. Skilled workers are an important asset because their expertise aids new ventures and the development of innovative products. Furthermore, their knowledge includes skills and capabilities of processes and market opportunities. This theory argues that human capital creates knowledge intensive opportunities, which is essential for a productive entrepreneurial ecosystem (Neck, Meyer, Cohen & Corbett, 2004; Isenberg, 2010; Qian, Acs & Stough, 2013; Spigel, 2017).

1.7.6 Broken Windows Theory

The Broken Windows Theory is incorporated as part of the organising frame to support the development of the theoretical framework and aid in the process of abduction. This theory was chosen after several consultations with the promoter of this study. It was established that the Broken Windows Theory is suitable for this thesis as it argues that citizens' social and behavioural norms in a specific geographical location are affected by their environment. The Broken Windows Theory is typically described by issues of physical and social disorder, which leads to poor social controls (Wilson & Kelling, 1982; Gladwell, 2003; Skogan, 2012). In particular, this theory posits that the persistence of disorder creates a withdrawal from society.

In entrepreneurial ecosystem literature, actors such as entrepreneurs, investors and knowledge workers migrate to places with a good quality of life (Acs et al., 2008). In fact, a poor quality

of life, as described by crime, disorder, corruption, bribery amongst others has negative spillovers on a place (Mahofa, Sundaram & Edwards, 2016).

In South Africa, global competitiveness is being influenced by issues of political instability, crime and corruption (Schwab, 2019). In 2020, the World Economic Forum annual meeting explained that international investors distrust South Africa (World Economic Forum, 2020). The persistence of these issues leads to negative spillovers, such as negative effects on GDP, less foreign direct investment and an increased cost of businesses. Therefore, applying the Broken Windows Theory as an organising frame may lead to new avenues of thinking in the context of entrepreneurial ecosystems.

1.7.7 Design Thinking Theory

Entrepreneurial ecosystem literature indicates that there is no substantive information available regarding the development of the entrepreneurial process. A lack of substantive information means that places cannot exploit their place-based assets optimally, which leads governments to disproportionately allocate state resources. The disproportionate allocation of funds weakens the opportunity to benefit from the returns of productive entrepreneurship.

Design Thinking is used as a theoretical frame after several consultations with the promoter of this study. The approach has been used in urban planning initiatives for complex societal problems. Central to the theory is its user-centred approach following both divergent and convergent lenses where the aim is to transfer value to its customers (Brown, 2008; Hasso-Plattner-Institut, 2021). Customers in the context of entrepreneurial ecosystem include the entrepreneurs, investors, human capital and society. Entrepreneurial ecosystems are posited as a complex system with multiple actors and limited resources. Design Thinking is applied because of its focus to achieve solutions for complex problems; its ability to transfer social benefits and its strategic focus to potentially assist cities to meet their entrepreneurial development goals (Acs et al., 2017).

1.8   RESEARCH METHODOLOGY AND DESIGN

The layers of the research onion were used as a guide to discuss the study's research design (Saunders & Tosey, 2012; Saunders, Lewis, Thornhill & Bristow, 2016). In the following subsections, the research -philosophy, -approach, -methodological choice, -strategy, data collection and analysis will be briefly described.

1.8.1 Research Philosophy

The research philosophy guiding this thesis is pragmatism. Pragmatism is adopted as it complements a mixed method research approach (Greene & Caracelli, 1997; Tashakkori & Teddle, 2003; Johnson & Onwuegbuzie, 2004). This philosophy advocates that there are multiple realities and seeks to understand a complex social phenomenon, such as that of entrepreneurial ecosystems. Moreover, pragmatism is a research philosophy used to solve practical social problems to inform future practice.

1.8.2 Research Approach

Pragmatism follows the abductive research approach, which combines deductive and inductive reasoning. Abduction is described by Chong (1994) as a method of critical thinking, which provides explanations for situations where incomplete information exists. This form of reasoning satisfies understanding the complex and emergent concept of entrepreneurial ecosystems. Abduction is achieved by integrating theories during the triangulation in Chapter Ten. The *a priori* theories act as an organising frame to support the interpretation of the findings from Phase One and Phase Two of this thesis.

1.8.3 Literature Review

The main objective of this thesis was to propose and develop an entrepreneurial ecosystem framework for Nelson Mandela Bay, South Africa. A literature review aided to promote an understanding of the current state of knowledge regarding entrepreneurial ecosystems. Therefore, a review of existing literature was carried out to determine the (1) state of entrepreneurship in South Africa; (2) theories; (3) existing frameworks and models; and (4) factors that are associated with entrepreneurial ecosystems. Various concepts were drawn from the literature review (Chapter Three to Chapter Six), which informed the development of a theoretical framework.

The research questions acted as a guide to maintain the scope of the literature review when choosing articles (Torraco, 2016; Snyder, 2019). The choice of articles is based on searching specific keywords within electronic search databases, such as EbscoHost. Although no date restriction was applied, there was an acknowledgment that the topic was a growing field of interest. Therefore, special attention was paid to more recent (ten-year period) publications. Seminal authors who guided a way of thinking were included.

A keyword search on the terms "entrepreneurial ecosystem(s)" and "entrepreneurship ecosystem(s)" and "entrepreneurial city" were performed to access peer-reviewed research

articles, books and other published texts. Related articles were selected within the reference list of the initial articles (Snyder, 2019). Data abstraction is guided by the research questions and followed by a critique and synthesis of the literature.

1.8.4   Methodological choice

A *mixed method design simple* is employed in this thesis. This design combines quantitative and qualitative data collection techniques and analysis (Saunders & Tosey, 2012). Mixed method designs follow six-core designs and include a set of decisions. The decisions relate to timing, dependence and integration. The data were collected in a sequence, where the quantitative surveys precede the semi-structured interviews. Data were independently analysed and integrated through data set merging (methodological triangulation). Thus, a *sequential independent design* is utilised, as the study follows a sequence and independently analyses the data before performing a methodological triangulation.

1.8.5   Research Strategy

This study focuses on a real-world context, Nelson Mandela Bay, which suits the case study strategy. The case study strategy uses multiple data sources, which lends itself to the mixed method approach. The methodological advantages attributed to integrating mixed-methods and case studies are explained through its ability to address a society's social, economic and health problems (Plano Clark, Foote & Walton, 2018; Cook & Kamalodeen, 2019; Roberts, Dowell & Nie, 2019).

1.8.6   Sampling, population and data collection

1.8.6.1   Sampling procedure

Two sampling methods exist, namely: probability sampling and non-probability sampling (Leedy & Ormrod, 2005; Creswell, 2009a; Gravetter & Wallnau, 2009; Saunders & Lewis, 2012; Collis & Hussey, 2014). Probability sampling is a random sampling method that indicates that the sample represents the whole population (Creswell, 2009a; Saunders & Lewis, 2012; Collis & Hussey, 2014). Non-probability sampling is used when the population is not defined or easy to access (Gravetter & Wallnau, 2009). Therefore, this process involves the researcher's subjective judgement by carefully selecting the sample. As no comprehensive list of the target population in Nelson Mandela Bay, South Africa exists for the economically active actors or the economic development agents, the non-probability sampling technique will be applied.

There are various forms of non-probability sampling techniques, which include purposive or judgemental, snowball, quota and convenience sampling (Collis & Hussey, 2014; Du Plooy-Cilliers, Davis & Bezuidenhout, 2014). This thesis will apply a combination of purposive, snowball and convenience sampling techniques. Purposive sampling involves selecting participants based on specific characteristics. Convenience sampling involves selecting participants who the researcher knows, or the researcher has access to. Snowball sampling is a method that recruits participants through referrals. Purposive sampling is the main sampling technique used based on its effectiveness to provide information-rich cases (Patton, 1990). Snowball and convenience sampling methods aided in the recruitment of participants.

1.8.6.2 Target population and accessible population (sample)

The target population is divided between economically active actors (quantitative component) and economic development agents (qualitative component). The population is described as follows:

i. **Economically active actors**: Individuals who fall into the category of start-ups, micro-enterprises, SMEs, big businesses, corporate or MNEs. The selection of the start-ups, micro-enterprises and SMEs are centered around the role of the entrepreneur as creators of new ventures who have successful or failed businesses (Autio et al., 2018; Bosma et al., 2019).

It is acknowledged that globally there are various definitions and abbreviations for small enterprises with each country having its own definition. The term SME (Small Medium Enterprise) is an internationally accepted abbreviation, which is applied by the World Bank, the European Union and the World Trade Organisation (European Commission, 2016; The World Bank, 2019b; Liberto, 2020). The United Nations applies the abbreviation MSMEs, which stands for micro-, small and medium-sized enterprises. In South Africa, the Department of Small Business Development categorises businesses according to size, namely: small-, medium and micro-enterprises (SMMEs), which is defined according to the number of full-time employees and total annual turnover (Department of Small Business Development, 2019). South Africa applies the abbreviation SMMEs. In this thesis, the abbreviations SMMEs and SMEs will be used interchangeably.

Individuals from big businesses, corporates, or MNEs are selected as they form part of the skilled workers who are important for their expertise. These individuals provide

skills, insights and experience surrounding processes and market opportunities that are developed from employment (Van De Ven, 1993; Bell-Masterson & Stangler, 2015; Spigel, 2015; Stam, 2015; Eckardt, Skaggs & Lepak, 2017; Motoyama & Knowlton, 2017; Spigel, 2017; Wu, Jin & Hitt, 2017; Nicotra et al., 2018); and

ii. **Economic development agents:** These individuals are defined as communities of independent actors, such as government, universities, mentors, service providers, media, dealmakers and large companies (Hechavarría & Ingram, 2019).

The accessible population refers to members who belong to the target population who are reachable and available during the study (Gravetter & Wallnau, 2009; Du Plooy-Cilliers et al., 2014). The accessible population can be defined as a sub-group of the economically active actors and economic development agents from Nelson Mandela Bay. The accessible population will be accessed using the following recruitment strategy:

i. **Economically active actors:** A sample of individuals falling into the category of start-ups, micro-enterprises, SMEs, big businesses, corporate or MNEs will be accessed through the database of institutions that offer support and services in the space of enterprise development in Nelson Mandela Bay. These institutions include not-for-profit institutions such as the local business chamber, financial institutions, state institutions and private institutions.

   The Protection of Personal Information Act (POPI) limited the ability to obtain a list of the economically active stakeholders. The selected institutions were asked to send an email link of the survey to the target population through their institutional databases. However, both the delivery-and-collection and web-based questionnaire is utilised.

ii. **Economic development agents:** City leaders and economic development agents will be identified from Nelson Mandela Bay by using the purposive sampling method. These stakeholders are identified by their role in promoting socio-economic development. Literature asserts that city leaders and economic development agents are responsible for creating an enabling environment that facilitates and promotes linkages for entrepreneurs.

The sample size is explained as follows:

i. **Economically active actors**: In 2019, a national study of South Africa's SMMEs was conducted by the Small Business Institute in partnership with the Small Business Project (Small Business Institute and the Small Business Project, 2019). Based on these

findings, comparative figures for Nelson Mandela Bay were derived (Dobbin, 2019). Based on the comparative figures, using a confidence level of 95%, the ideal sample size is n=382; and

ii. **Economic development agents** Sample sizes in a qualitative inquiry are based on appropriateness, composition and size to promote a study's trustworthiness (Spencer, Ritchie, Lewis & Dillon, 2003; Vasileiou, Barnett, Thorpe & Young, 2018). The ideal sample size for grounded theory ranges from 20-30 interviews and for a single case study ranges from 15-30 interviews (Vasileiou et al., 2018). As this thesis is based on a single case, the range of 15-30 interviews will be applied.

1.8.6.3   Data collection methods

Multiple data collection methods will be used, namely quantitative surveys and semi-structured interviews. The use of multiple-data collection methods satisfies the requirements of a case study strategy and lends itself to the mixed approach (Carolan, Forbat & Smith, 2016). The quantitative surveys form part of Phase One and the semi-structured interviews form part of Phase Two of this sequential independent design.

1.8.7   Data Analysis

Datasets from the quantitative and qualitative components will be independently analysed. In Phase One, the quantitative data are analysed by using descriptive and inferential data analysis techniques. In Phase Two, interview data will be analysed using a thematic analysis, which is a technique that seeks for themes in the data. Braun and Clarke's (2006) six-phase method for thematic analysis is employed, which promotes trustworthiness. Thereafter, a methodological triangulation is performed. The approach followed towards the methodological triangulation is illustrated in Figure 1.2, which is followed by a brief description of the activities performed in each phase and methodological triangulation.
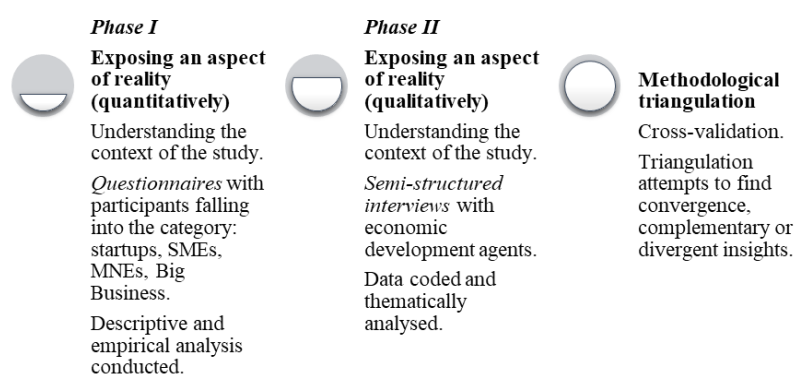
Figure 1.2 - Approach followed for methodological triangulation

i.   Phase One

Descriptive statistics is used to present the demographic information of the respondents to present meaningful initial insights. This is followed by describing the measure of central tendency and measure of spread. Inferential data analyses techniques adopted in the thesis includes an Exploratory Factor Analysis (EFA), Cronbach's Alpha Coefficient test for reliability, one-sample and matched-paired t-tests for statistical significance, Cohen's d for practical significance test, Pearson Product Moment Correlation test, univariate Analysis of Variance (ANOVA) and Confirmatory Factor Analysis (CFA) with its associated goodness-of-fit tests.

ii.   Phase Two

The interview data are analysed using a thematic analysis using both the inductive and deductive analytical approaches. Deductive codes are informed by previous literature and the theoretical frameworks, which follow a top-down approach or theoretical thematic analysis approach followed by inductive coding (Crabtree & Miller, 1999; Braun & Clarke, 2006). By applying this dualistic approach, unexpected themes emerge, which assist the overall coding process (Boyatzis, 1998; Roberts et al., 2019; Vansteenkiste, 2020). This approach is driven by the research question and is flexible to identify patterns in the data (Braun & Clarke, 2006; Maguire & Delahunt, 2017; Clark & Plano Clark, 2019). Braun and Clarke's (2006) six-phase method is applied to ensure trustworthiness of the thematic analysis (Nowell, Norris, White & Moules, 2017).

iii.   Methodological Triangulation

Mixed methods follow six core designs, which include a set of decisions (Creswell & Plano Clark, 2011). The core design followed was a *sequential independent design*. Notably, there are situations where concurrent designs follow a dependent data analysis and sequential designs follow an independent data analysis (Schoonenboom & Johnson, 2017). The set of decisions for any design typology include (1) timing of data collection; (2) the dependence or independence of the data collected; and (3) the point of integration. The decisions for triangulation are as follows:

- **Timing**: the study followed a sequential design where most interviews are performed after the dissemination of the quantitative surveys;
- **Dependence**: data are collected and analysed independently; and

- **Point of integration**: the point of integration was triangulation (merging the results) followed by a comparison of the results.

The chosen point of integration is triangulation and aids to increase confidence in the study's findings, thus improving validity. As illustrated in Figure 1.2 the integration of the findings from the datasets may converge, complement or supplement, or diverge (Tashakkori & Teddle, 2003; Creswell & Tashakkori, 2007; Creswell, 2014). Joint displays will be used for the cross-validation and theories will support the interpretation of the results (Tashakkori & Teddlie, 2008).

1.9   ENVISAGED CONTRIBUTIONS

This section concentrates on the envisioned contributions of this thesis. The envisaged contributions will be on four levels: theoretical, methodological, practical and managerial.

i.   **Theoretical contributions**: This research aims to use and contribute to existing theory to explain the entrepreneurial ecosystem phenomenon. First, Social Network Theory, Structural Holes Theory, Institutional Theory, Systems Theory and the Absorptive Capacity Theory of Knowledge Spillover will be used by exploring their constructs. The constructs from these sets of theories will aid in developing the theoretical framework and final proposed entrepreneurial ecosystem framework.

Second, this research aims to contribute to Broken Windows Theory and Design Thinking by applying them in the context of entrepreneurial ecosystem. Herein, the Broken Windows Theory and Design Thinking may be seen as a theoretical lens for entrepreneurial ecosystems. Finally, the proposed entrepreneurial ecosystem framework may inform the city leaders, economic development agents and practitioners to look to the constructs of the theories that may potentially clarify activities and opportunities that could be monitored.

ii.   **Methodological contributions**: The main methodological contribution of this research study is based on the application of the concepts from the *a priori* theories and literature. A theoretical framework aids with the integration of the quantitative and qualitative findings and guides mixed method inquiries of real-world problems. Secondly, another methodological contribution is to gain experience by applying a case study strategy and an abductive approach using multiple data collection techniques. The methodological steps may aid in the replication of future studies on the topic of entrepreneurial ecosystem on sub-national levels.

iii. **Practical contributions**: One of the practical contributions of this research is to provide empirical evidence that is focused on the case of a real-world context, Nelson Mandela Bay. Currently, there is a need to investigate entrepreneurial ecosystems on a sub-national level, which pays attention to a place's unique institutional context and its network of actors (Spigel et al., 2020a). This granulated investigation may support Nelson Mandela Bay to understand how to better exploit its place-based infrastructure, knowledge, capabilities and specialisms to promote a regional competitive advantage.

Another practical contribution will be the proposed entrepreneurial ecosystem framework, which presents the factors that influence the entrepreneurial development of Nelson Mandela Bay. Therefore, the contribution of this research is to adopt a granulated understanding, based on theory, to support an integrated entrepreneurial ecosystem. To this end, the framework can be employed as a practical tool as it focuses on a metropolitan level accounting for spatial differences.

iv. **Managerial contributions**: The proposed entrepreneurial ecosystem framework for Nelson Mandela Bay can inform the decisions of the city leadership. As indicated, there is insufficient data available on a sub-national level, which creates a challenge to build an integrated entrepreneurial ecosystem. As such, city leaders struggle to understand where the gaps lie to exploit resources adequately. The framework may support the leadership insofar that they may reduce wasteful expenditure and support the strategic decision-making process to match capital with opportunity within Nelson Mandela Bay.

1.10 CHAPTER STRUCTURE

The structure of the thesis is arranged according to the research objectives and research questions. These objectives and questions have been integrated into a roadmap that shows the connection between the chapters. The thesis will be structured as follows:

Chapter 1: Overview of the study

Chapter One begins with a background to this study followed by the research problem. The RQs and ROs and the respective secondary RQs and ROs are presented. This chapter provides a concise discussion into the research process undertaken, contributions and chapter structure.

Chapter 2: Research methodology and design

To promote the replication in future studies, Chapter Two provides a detailed explanation of the research methodology undertaken in this mixed method study. The research philosophy, sampling and population, measuring instruments and analytical procedures are further discussed in this chapter.

Chapter 3: The state of entrepreneurship in South Africa

Chapter Three provides an overview of the current state of entrepreneurship in South Africa. Legislation guiding entrepreneurship is provided, followed by key insights from the Statistics South Africa's Quarterly Labour Force Survey (QLFS) data and the Small Enterprise Development (SEDA) quarterly reports. Insights from relevant international reports, such as the Organisation for Economic Co-operation and Development (OECD), 2018 Global Entrepreneurship Index, 2019/2020 Global Entrepreneurship Monitor (GEM) South Africa report, 2019 Global Competitiveness Index, 2020 World Bank Ease of Doing Business report and the 2020 World Competitiveness Yearbook were discussed.

Chapter 4: Entrepreneurial ecosystem theoretical frameworks

Chapter Four integrates a set of theories to facilitate a more comprehensive perspective of how entrepreneurial ecosystems emerge. The use of theories act as a pragmatic guide for mixed method studies and frame the interpretation of the results and findings (Evans, Coon & Ume, 2011). The rich variety of perspectives from the *a priori* theories act as a lens to frame and support the triangulation in Chapter Ten, which is a form of abduction.

Chapter 5: Entrepreneurial ecosystem – conceptualisation, frameworks and models

Chapter Five begins by evaluating the concept of the entrepreneurial ecosystem phenomenon. This is essential as no unified understanding of the phenomenon exists. Second, frameworks and models spanning from 2010 to 2019 were described. The dimensions more commonly alluded to form a basis for the literature review of the factors performed in Chapter Six.

Chapter 6: The factors influencing an entrepreneurial ecosystem

Chapter Six reviews literature on the possible factors that influence an entrepreneurial ecosystem. The concepts discussed in this chapter are used as the dimensions of the proposed entrepreneurial ecosystem framework. The factors are used as constructs for both Phase One and Phase Two data collection and interpretation.

Chapter 7: The theoretical framework

Chapter Seven acts as a short bridging chapter, which proposes a theoretical framework based on concepts drawn from the *a priori* theories and the literature review performed in Chapter Three to Chapter Six. Dominant dimensions or factors are illustrated in this framework.

Chapter 8: Results from the quantitative data analysis

Chapter Eight provides an analysis of the collected empirical data for the quantitative survey. Therefore, the purpose of this chapter is to answer RQ_6, which questions: *What factors influence the entrepreneurial ecosystem in Nelson Mandela Bay?*

Chapter 9: Results from the qualitative data analysis

Chapter Nine presents the results from the qualitative inquiry, which forms part of Phase Two of this sequential independent design. A thematic analysis will be performed on the interview data. To promote the scientific quality, Braun and Clarke's (2006) six-phase method for thematic analysis were applied. The major themes are developed once the theoretical saturation is achieved.

Chapter 10: Integration of the quantitative and qualitative data analysis

This chapter will present the methodological triangulation, using the joint display as an analytical tool to integrate the datasets from Phase One and Phase Two. The major quantitative analysis and qualitative findings were cross validated to determine patterns of convergence, complementary, supplementary or divergent insights. The *a priori* theories are used as a lens to explain contradictions in the datasets and to assist in the interpretation of the findings.

Chapter 11: Conclusions, recommendations and future research

Chapter Eleven concludes the study by confirming the contributions of the study, which are mainly the entrepreneurial ecosystem framework for Nelson Mandela Bay, South Africa. The framework is based on a granular scientific investigation on a sub-national level and presents the factors deemed to influence entrepreneurial activity in the city. The chapter concludes with the study's limitation followed by discussing future research opportunities.

Figure 1.3 is a graphical representation of the study.

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┌─────────────────────────────────────────────┐
│                 Chapter 1:                    │
│             Overview of the study             │
└─────────────────────────────────────────────┘
                      │
                      ▼
┌───────────────────────────────┐   ┌─────────────────────────────────┐
│          Chapter 2:            │   │ RO₁: To discuss the research     │
│  Research Methodology and      │   │ design and methodology best      │
│           Design               │   │ suited to ensure the validity,   │
└───────────────────────────────┘   │ reliability and trustworthiness  │
                      │              │ of this study.                   │
                      ▼              └─────────────────────────────────┘
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Literature Review (Chapter 3 - 6)

Chapter 3: The state of entrepreneurship in South Africa	Chapter 4: Entrepreneurial Ecosystem Theoretical Frameworks	Chapter 5: Entrepreneurial Ecosystem - Conceptualisation, Frameworks and models	Chapter 6: The factors influencing an entrepreneurial ecosystem
RO₂: To explore the state of entrepreneurship in South Africa.	*RO₃: To critically review and synthesise theories underpinning the entrepreneurial ecosystem phenomena.*	*RO₄.₁: To conceptualise the entrepreneurial ecosystem.* *RO₄.₂: To discuss existing frameworks and models for the entrepreneurial ecosystem.*	*RO₅: To critically review the factors influencing an entrepreneurial ecosystem.*

RO_2, RO_3, $RO_{4.1}$, $RO_{4.2}$, RO_5

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                      ▼
┌───────────────────────────────────────┐
│              Chapter 7:                │
│       The theoretical framework        │
│       (Informed by Chapter 3 - 6)      │
└───────────────────────────────────────┘
                      │
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Results & Comparison (Chapter 8-10):

Chapter 8: Results from the quantitative data analysis	Chapter 9: Results from the qualitative data analysis	Chapter 10: Integration of the quantitative and qualitative findings
RO₆: To empirically evaluate and discuss the factors that influence Nelson Mandela Bay's entrepreneurial ecosystem.	*RO₇: To discover and report on the themes emerging from the qualitative inquiry.*	*RO₈: To compare and validate the results from the quantitative and qualitative findings.*

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                      ▼
┌───────────────────────────────────────┐
│              Chapter 11:               │
│  Conclusions, recommendations and      │
│          future research               │
├───────────────────────────────────────┤
│ ROₘ: To develop an entrepreneurial     │
│ ecosystem framework that will support  │
│ entrepreneurial development in Nelson  │
│ Mandela Bay, South Africa.             │
└───────────────────────────────────────┘
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Figure 1.3 - Structural Overview of the Study

1.11 SUMMARY

This chapter introduced the research study by providing a background of the entrepreneurial ecosystem. The role and benefits associated with entrepreneurial ecosystems were explained by giving attention to its value and economic gains. The economic gains were explained by the opportunities gained by localisation and urbanisation economies. It was argued that places

exploiting their place-based resources may reap benefits from economies of scope. Furthermore, the background underlined that places that utilise their place-based infrastructure and resources may increase their local economy. The market-orientated approach of entrepreneurial ecosystems further accrues benefits in the form of tax revenue, corporate revenue, employment and improved governance for a specific place. However, despite the benefits associated with entrepreneurial ecosystems, it lacks a comprehensive understanding. In particular, there is limited research on developing economies and this creates challenges on how to exploit place-based resources.

Aside from the limited research on developing economies, there is also limited research on sub-national data, which means that national data hides variations of true city level performance. Insufficient data prevents regions from adequately exploiting their resources and capabilities. To this end, there are lost opportunities for job creation and local economic growth. In developing the research problem, it was also highlighted that the political structures in various municipalities disproportionately allocate funds, which has weakened the opportunity to benefit from localised and urbanisation economics. Against this backdrop, the research problem statement was developed.

The research problem led to the development of the study's RQs and ROs. Thereafter, a discussion of the research methodology and design was provided followed by the theories used. The envisaged contributions for this research study were provided and explained on four levels, namely: theoretical, methodological, practical and managerial.

Chapter One laid the foundation for what is anticipated in this research study. In Chapter Two, RO_1 : *To discuss the research design and methodology best suited to ensure reliability, validity and trustworthiness of this study* will be addressed.

CHAPTER 2: RESEARCH METHODOLOGY AND DESIGN

2.1   INTRODUCTION

In Chapter One, an entrepreneurial ecosystem was introduced. This followed with the purpose of the study, the main problem statement, research questions and research objectives.

Chapter Two discusses the research design and methodology employed in this study to promote the reliability, validity and trustworthiness of this study. As such, Chapter Two addresses RO_1: *To discuss the research design and methodology best suited to ensure the validity, reliability and trustworthiness of this study*. Thereby addressing RQ_1: "*What research design and methodology will ensure this study's reliability, validity and trustworthiness*?"

The research methodology is the procedures and techniques employed in a study to formulate the problem definition and objectives. To address this chapter's research objective, Chapter Two discusses each layer of the research onion. The research onion was chosen for the reason that it offers a logical and methodical guide when developing the design and methodology of a research study (Saunders & Tosey, 2012; Saunders, Lewis, Thornhill & Bristow, 2016). In each subsection, the researcher sought to metaphorically 'peel' each layer. The discussion includes the researcher's choices regarding the research philosophy, approach to theory development, research methods, research strategy, time horizon, population and sampling, data collection methods and data analysis.

This chapter begins by providing an overview of the importance of the research design. Thereafter, the research philosophy, approach, literature review, methodological choice and strategy of this study is discussed. This follows with a detailed explanation of the data collection and analysis techniques used. Before concluding the chapter, the reliability, validity, trustworthiness and ethical implications are provided.

Figure 2.1 offers a structural overview of this study and illustrates where Chapter Two is positioned in the overall structure of the thesis. This chapter begins by explaining the meaning and importance of a research design. Figure 2.2 illustrates the roadmap for Chapter Two.
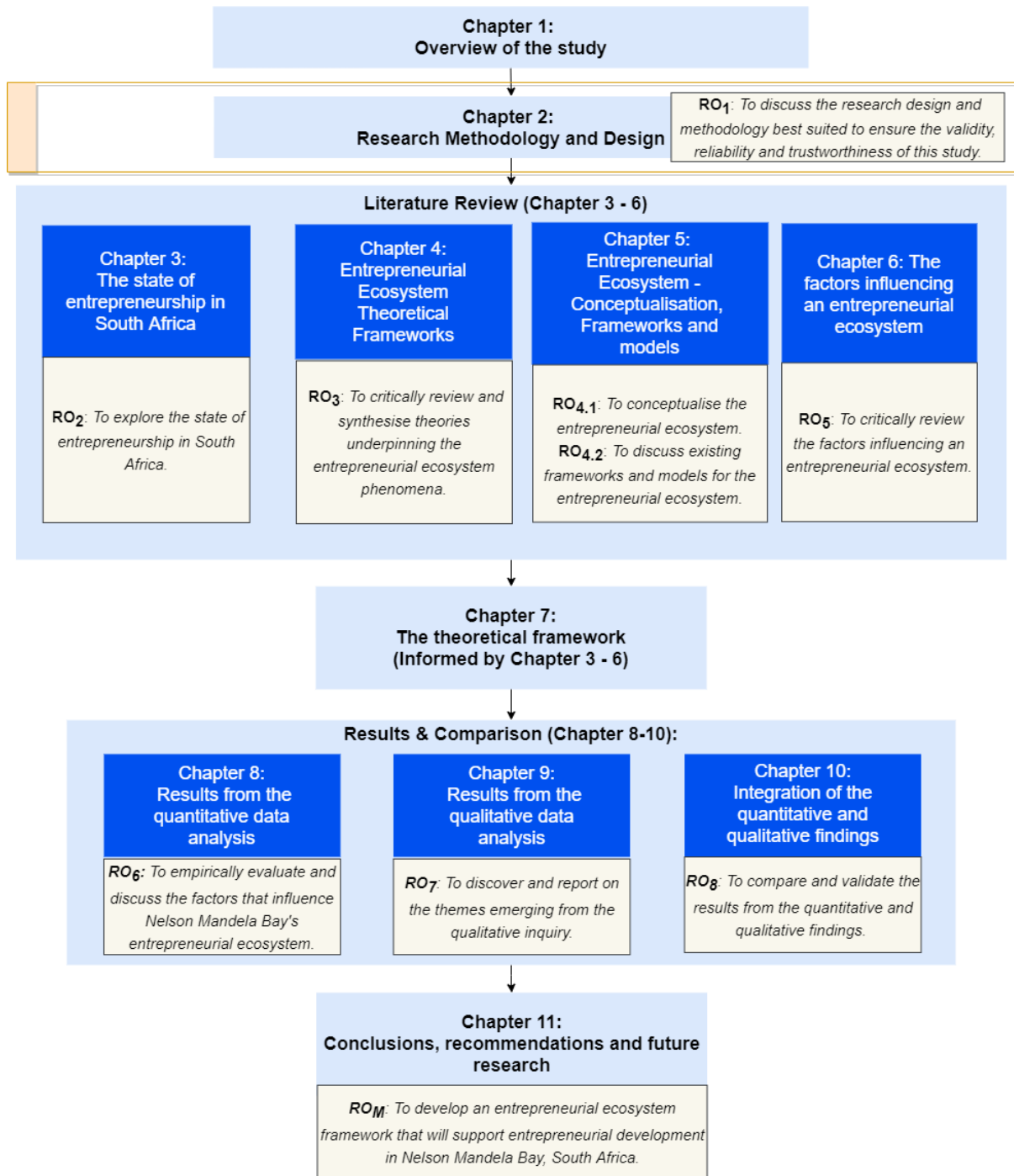
Figure 2.1 - Structural overview of the research study

CHAPTER 1: Overview of the study

CHAPTER 2: Research methodology and Design

2.1	Introduction
2.2	Research design
2.3	Research philosophy
2.4	Pragmatism research philosophy
2.5	Research approach
2.6	The significance of the literature review for a mixed method study
2.7	Research methods
2.8	Strategy
2.9	Time horizon
2.10	Data collection methods
2.11	Data analysis methods
2.12	Establishing reliability, validity and trustworthiness
2.13	Ethics
2.14	Summary

CHAPTER 3: The state of entrepreneurship in South Africa

CHAPTER 4: Entrepreneurial ecosystem theoretical frameworks

CHAPTER 5: Entrepreneurial ecosystem - conceptualisation, frameworks and models

CHAPTER 6: The factors influencing an entrepreneurial ecosystem

CHAPTER 7: The theoretical framework

CHAPTER 8: Results from the quantitative data analysis

CHAPTER 9: Results from the qualitative data analysis

CHAPTER 10: Integration of the quantitative and qualitative findings

CHAPTER 11: Conclusions, recommendations and future research

Figure 2.2 - Roadmap of Chapter Two

2.2   RESEARCH DESIGN

Research design is defined as the formulation of a complete plan for undertaking research studies where the aim is to address the main problem statement (Leedy & Ormrod, 2005; Creswell, 2009a; Saunders & Tosey, 2012; Collis & Hussey, 2014). Therefore, the research design aims to achieve valid findings and explicate knowledge on a specific topic.

Saunders and Lewis (2012) assert that selecting a design appropriate for the investigated topic is governed by the research questions, objectives, availability of existing literature, time and resources, as well as the researcher's philosophical position. Significantly, no individual

strategy is regarded as being superior or inferior, but the selection is based on the situational factors (Blumberg, Cooper & Schindler, 2005; Saunders, Lewis, Thornhill & Bristow, 2016; Saunders, Lewis & Thornhill, 2019).

In understanding principles governing the formulation of a research design, this study adopted the research onion (Saunders et al., 2016) to guide design decisions. The research onion offers researchers a logical and structured methodology (Saunders & Tosey, 2012). The research onion is illustrated in Figure 2.3. Each of the layers of the onion will be contextualised in this study.
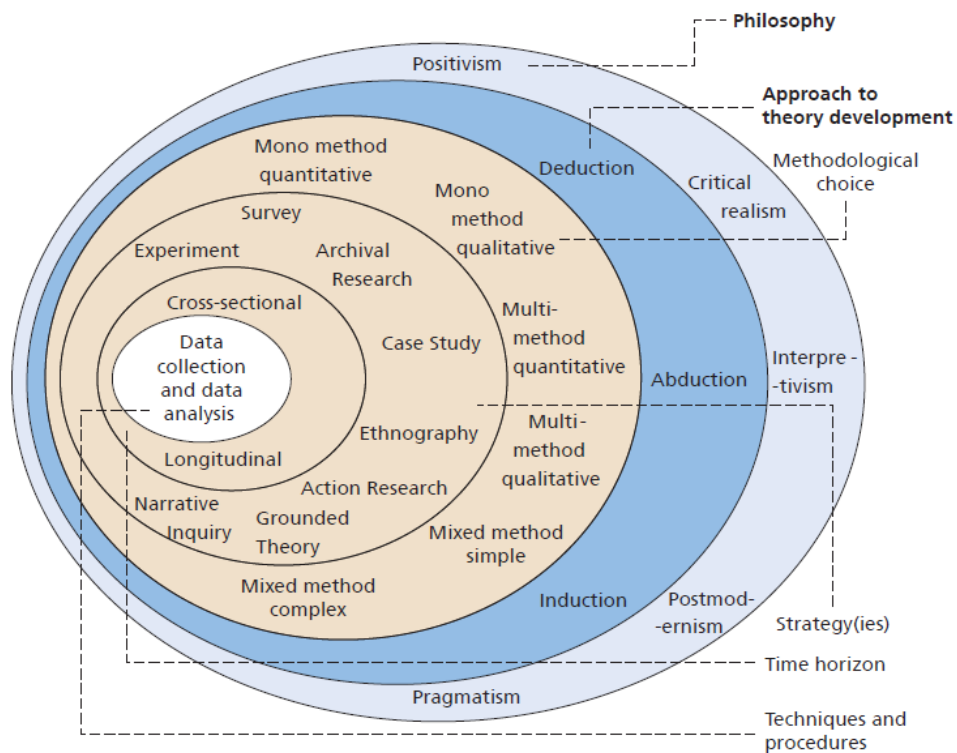
Figure 2.3 - The research onion (Saunders et al., 2016)

2.3   RESEARCH PHILOSOPHY

Research philosophy is a set of beliefs and assumptions about the formulation of knowledge to address a problem (Saunders et al., 2016; Saunders et al., 2019). Throughout the research process, the researcher makes a set of assumptions. The assumptions are referred to as: ontological assumptions, epistemological assumptions, axiological assumptions and methodological assumptions (Du Plooy-Cilliers, Davis & Bezuidenhout, 2014; Burrell & Morgan, 2016).

Ontological assumptions refer to what reality is and deals with what truth is. Epistemological assumptions are the study of knowledge and deal with the nature of knowledge. Axiological

assumptions refer to values and value judgements. Broadly, axiology seeks to determine the role of values in research (Du Plooy-Cilliers et al., 2014; Saunders et al., 2019). Pragmatism applies methodological pluralism and this is based on researchers being flexible in their choice of methods and being more effective in addressing their research questions (Johnson & Onwuegbuzie, 2004; Brierley, 2017).

These assumptions influence the researcher's view of their research from the research questions, methods, analysis and interpretation. Saunders et al. (2019) underline the importance of carefully considering the assumptions being made. This careful consideration of assumptions may present a reliable research philosophy. The chosen research philosophy directs the researcher to the methods applied, strategy used, data collection methods and type of analysis to be done. By committing to a philosophy, researchers position themselves in a way of viewing the world.

Five research philosophies exist, namely: positivism, critical realism, interpretivism, postmodernism and pragmatism (Saunders & Lewis, 2012; Collis & Hussey, 2014; Saunders et al., 2016). Each research philosophy is unique in its research techniques and assumptions to support the formulated research objectives. The research philosophy guiding this thesis is pragmatism and is discussed in the following section.

2.4 PRAGMATISM RESEARCH PHILOSOPHY

Pragmatism complements a mixed methods research approach (Greene & Caracelli, 1997; Tashakkori & Teddle, 2003; Johnson & Onwuegbuzie, 2004). Those taking the position of a pragmatist believe in pluralism, which enables researchers to be flexible and adaptable in the way they approach their methodology (Patton, 2002). This research philosophy accepts that multiple realities exist to understand a social phenomenon (Creswell & Plano Clark, 2011; Saunders & Tosey, 2012). Pragmatism believes that an objective reality exists and acknowledges that knowledge is a social construction. Therefore, patterns within a social context are based on the experience of the individuals.

Pragmatism aims to solve practical social problems and reject traditional philosophical dichotomies associated with objectivity or subjectivity. Pragmatists contend that concepts are not abstract as they endeavour to support action and solve practical problems (Kelemen & Rumens, 2008; Saunders, Lewis & Thornhill, 2019). Therefore, researchers following the research philosophy, pragmatism are interested in practical outcomes that inform future

practice. Saunders et al. (2019) assert that by undertaking the pragmatic research philosophy, researchers underscore the research problem as their main focus.

In order to support the development of an entrepreneurial ecosystem framework for Nelson Mandela Bay, South Africa, the author of this study follows the philosophy of pragmatism. This decision is supported by the premise that by combining methods, value emerges from comparing inferences (Greene, 2006; Creswell & Tashakkori, 2007). From this viewpoint, the author takes a position and argues that this type of research may offer practical implications especially when dealing with complex phenomena. Table 2.1 provides a summary of the ontological, epistemological, axiological and methodological assumptions associated with pragmatism. These assumptions influenced the author's view of her research from the research questions and methods to analysis and interpretation. This study applies the research philosophy of pragmatism.

Table 2.1 - The assumptions associated with Pragmatism (Saunders et al., 2019)

Pragmatism Research Philosophy	
Position	**Description**
Ontological position	There are single and multiple realities.
Epistemological position	Based on human experiences.
Axiological position	Characterised by both an unbiased and biased perspective.
Methodological position	• The mode of inquiry is at the centre of the research philosophies; • Follows an abductive research approach as it moves between deduction and induction; • Applied research by using a mixed method for data collection; and • Uses both quantitative and qualitative data.

2.5 RESEARCH APPROACH

According to Saunders, Lewis and Thornhill (2019), the research onion indicates that there are three research approaches. These approaches are referred to as deduction, induction and abduction (Saunders et al., 2016; Saunders et al., 2019). The most common approaches applied in research studies are the deductive and inductive research approaches (Blumberg, Cooper & Schindler, 2005; Saunders & Lewis, 2012; Collis & Hussey, 2014; Saunders et al., 2016). The chosen research approach is largely determined by the intention of the study (Saunders & Lewis, 2012; Saunders et al., 2016). Table 2.2 summarises the research approaches. The following subsections describe the various approaches and highlight the approach that this thesis follows.

Table 2.2 - Approaches to theory development (Saunders, Lewis & Thornhill, 2019, p. 153)

	Deduction	Induction	Abduction
Logic	When the premises are true, the conclusion is true.	Known premises are used to generate untested conclusions.	Known premises are used to generate testable conclusions.
Generalisability	Generalising from general to specific.	Generalising from specific to general.	Generalising between specific and general.
Data use	Data are collected to evaluate a proposition or hypothesis related to an existing theory.	Data are collected to explore a phenomenon, identify themes and patterns.	Data are collected to explore a phenomenon, identify themes and patterns, locate these in a framework and test through data collection.
Theory	Proving or disproving a hypothesis.	Building of a new or existing theory.	Theory generation or modification.

2.5.1 Deductive reasoning

The deductive approach is developed from the extrapolation of general inferences into specific instances (Saunders & Lewis, 2012; Collis & Hussey, 2014; Saunders et al., 2019). Quantitative research is commonly associated with the deductive approach. The deductive approach begins by drawing concepts and assumptions from theory to develop a hypothesis as seen in Figure 2.4 (Collis & Hussey, 2014). A deductive research approach applies a highly structured methodology to ensure reliability (Saunders et al., 2019). Deduction requires concepts to be operationalised for measurement. Thereafter, a process of empirical testing is undertaken to determine whether the inquiry supports and validates the hypothesis (Saunders & Lewis, 2012). Essentially, researchers following a deductive approach aim to generalise their findings and need to be careful with how they select their sample.
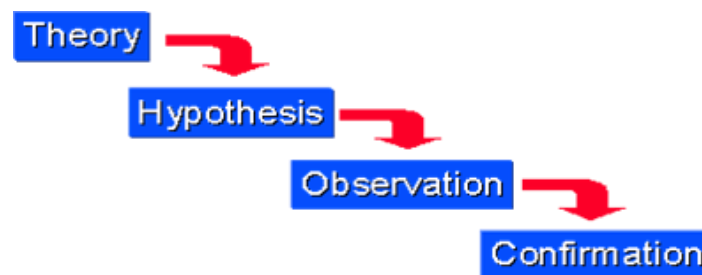
Figure 2.4 - The process of deductive reasoning (Trochim, 2020)

2.5.2 Inductive reasoning

The inductive approach is concerned with a specific social context (Collis & Hussey, 2014) to develop overall themes or patterns. Qualitative research is commonly associated with the inductive approach (Saunders et al., 2019). Induction is commonly referred to as the bottom-

up approach as it investigates a social issue broadly and narrows it down by developing a model or hypothesis, as illustrated in Figure 2.5 (Saunders & Lewis, 2012; Collis & Hussey, 2014). Researchers using an inductive approach are likely to study a small sample of participants compared to the larger sample sizes associated with a deductive research approach (Saunders et al., 2019).
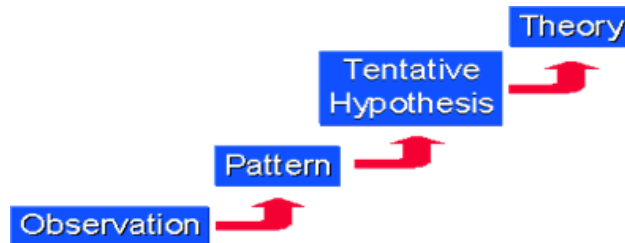
Figure 2.5 - The process of inductive reasoning (Trochim, 2020)

2.5.3   Abductive reasoning

The third research approach is abductive reasoning. Abductive reasoning follows the pragmatism research philosophy and aims to reveal the flaws in the deductive and inductive approaches (Mitchell, 2018). Herein, the direction of abduction is not from theory to data or data to theory. Abduction moves back and forth and combines deduction and induction (Suddaby, 2006).

Combining the deductive and inductive approaches allows the researcher to develop logical conclusions and promote theory building (Modell, 2009). Abduction presents the best forecast or conclusion based on evidence from a set of surprising facts and observations (Saunders et al., 2019). Therefore, abduction explores the data to draw out a pattern and develop an acceptable hypothesis. This presents the researcher with a more comprehensive answer on a complex phenomenon. Chong (1994) summarises abductive reasoning as a method of critical thinking, hypothesis development and follows a reasoning process that explains complex observations. This means that abduction is a process that provides an explanation from evidence, which aligns to situations where incomplete information exists. In order to evaluate the complex and emergent topic of entrepreneurial ecosystems, this study adopted the abductive research approach.

2.6   THE SIGNIFICANCE OF THE LITERATURE REVIEW FOR A MIXED METHOD STUDY

All research studies are established within a specific context (Paré & Kitsiou, 2017). Therefore, research aims to respond to gaps in the existing knowledge. By doing this, research adds to the

current state of knowledge regarding a given topic (Wilmot, 2019; Paré, Trudel, Jaana & Kitsiou, 2015). The purpose of a literature review is to lead researchers to develop open questions by critically evaluating existing knowledge (Paré & Kitsiou, 2017). The open questions lead to the 'gap' in the current state of knowledge by locating new findings within a specific context (Sylvester, Tate & Johnstone, 2013; Wilmot, 2019). The gaps are established by researchers who actively synthesise, critically analyse and argue findings from the existing literature (Du Plooy-Cilliers et al., 2014). Indeed, this may be argued to promote the significance of the research study.

Against this backdrop, researchers attempt to put the research study into perspective by demonstrating what previous scholars have written on the topic, which reveals their familiarity with the field (Wilmot, 2019). By doing this, the researcher highlights where the research study is located against what is previously known. Arguably, this demonstrates where the gap in knowledge lies to contribute new knowledge to the field.

Furthermore, the gap in knowledge is achieved when the researcher moves from a state of knowledge telling to knowledge transformation (Rakovic, Marzouk, Chang & Winne, 2019). Figure 2.6 summarises the difference between knowledge telling and knowledge transformation.
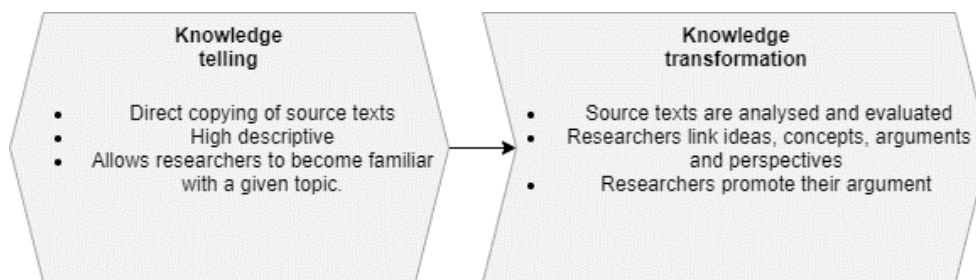
Figure 2.6 - Knowledge telling and knowledge transformation in literature reviews (Wilmot, 2019)

In order for a researcher to achieve knowledge transformation, he or she needs to understand that knowledge is ideological (Schryen, Wagner & Benlian, 2015). Ideologies are based on a set of values and beliefs and therefore shape how ideas are read and constructed. Furthermore, it is important to understand that researchers understand that no one body of knowledge is truth and can be debated. The researcher has to take a position by either aligning with or distancing from a view or perspective of a given topic. By doing this a researcher finds his or her voice in the research study.

Researchers need to work systematically and methodically when analysing, integrating and comparing source texts (Paré & Kitsiou, 2017). Before commencing with a literature review,

the researcher begins by undertaking a keyword search on various databases for published journals, books and relevant online sources. It is important to use reputable publications and seminal texts by authors and researchers in the subject area. Researchers may apply citation mapping or citation indexing to find the publications.

For this literature review, the author consulted the following databases: EbscoHost, Emerald, Google Scholar, JSTOR, PubMed, ResearchGate, Sabinet, SAGE, SAGE Research Methods, ScienceDirect, SpringerLink, Taylor and Francis. Once the relevant source texts are extracted, they must be gathered. It is important to have a system that records and manages the dataset of source texts (Western Libraries, 2021). Therefore, it is advisable for researchers to apply a management system that stores and organises the source texts.

For this thesis, a citation management system, called Zotero, was used as the repository for all sources. PDF files within the system were placed into folders and subfolders (known as collections and sub-collections in Zotero). The sources were annotated and could be displayed on the citation manager landing page for annotated PDFs.

The literature review aimed to address the sub-objectives (RO$_2$ to RO$_5$) as illustrated in Figure 2.7. Various concepts were drawn from the literature review, which informed the development of a theoretical framework. This thesis applies an abductive research approach, which is an approach that moves between the deductive and inductive perspectives. The deductive perspective attempts to evaluate causality or relationships that assist in explaining and predicting human behaviour. The inductive perspective assists in gaining an in-depth understanding of the social context. The author deemed it necessary to develop a theoretical framework based on the data-use criteria associated with mixed method research (Saunders et al., 2019). The framework was drawn from the themes and patterns emerging from the exploration into the literature associated with the entrepreneurial ecosystem phenomenon. The framework follows the literature review and will be introduced in Chapter Seven of this thesis.

Literature Review (Chapter 3 - 6)

Chapter 3: The state of entrepreneurship in South Africa	Chapter 4: Entrepreneurial Ecosystem Theoretical Frameworks	Chapter 5: Entrepreneurial Ecosystem - Conceptualisation, Frameworks and models	Chapter 6: The factors influencing an entrepreneurial ecosystem
RO$_2$: To explore the state of entrepreneurship in South Africa.	**RO$_3$**: To critically review and synthesise theories underpinning the entrepreneurial ecosystem phenomena.	**RO$_{4.1}$**: To conceptualise the entrepreneurial ecosystem. **RO$_{4.2}$**: To discuss existing frameworks and models for the entrepreneurial ecosystem.	**RO$_5$**: To critically review the factors influencing an entrepreneurial ecosystem.

Figure 2.7 - Literature review objectives

2.7 RESEARCH METHODS

Research choices refer to the method of data collection and statistical analysis procedures available to the researcher (Saunders & Tosey, 2012; Saunders et al., 2016). This layer of the research onion reveals six methods available to a researcher. The six methods include: mono-method quantitative, mono-method qualitative, multi-method quantitative, multi-method qualitative, mixed-method simple and mixed-method complex.

2.7.1 Overview of research methods

The overarching research methods are the quantitative, qualitative and mixed methods. Each method has unique ways in which data are extracted and evaluated (Blumberg et al., 2005). For this thesis, a mixed method research approach is used. The mixed method approach was chosen because of its ability to establish a comprehensive understanding of a specific research problem. This is achieved through triangulation that compares and validates findings (quantitative and qualitative results) thereby increasing the research study's validity (McLaughlin, Bush & Zeeman, 2016).

The following Table 2.3, provides a summary of the typical features associated with the quantitative, qualitative and mixed method research methods in terms of the type of data, the data collection methods and data analysis methods.

Table 2.3 - Summary of the research methods (McLaughlin et al., 2016, p. 716)

	Quantitative research method	Qualitative research method	Mixed method
Purpose	Evaluate causality by testing hypothesis.	In depth understanding of a specific social context.	Evaluate a research question by combining the quantitative and qualitative approaches.
Type of data	Numerical data, which represents behaviours or thoughts regarding a specific phenomenon.	Non-numeric data, for instance the study of text, pictures, video, audio, or other multimedia.	A combination of numerical and non-numeric data.
Data collection	• Survey: Mail, telephone, personal interviews, group administration, questionnaires; • Experimental designs; and • Content analysis.	Observations, interviews, focus groups, documents.	A combination of the quantitative and qualitative data sources.
Analysis	Descriptive and inferential statistical analysis.	Coding and document analysis.	Mixing occurs at any many stages, *inter alia*, analysis or interpretation stage.
Quality criteria	Reliability and validity.	Trustworthiness through credibility, dependability, confirmability and transferability.	A combination of quality criteria.

2.7.2 Methodological choice

The methodological choice refers to the procedures of data collection and analysis of a study. The methods include: mono-method quantitative, mono-method qualitative, multi-method quantitative, multi-method qualitative, mixed-method simple and mixed method complex (Saunders & Tosey, 2012). A *mixed method simple* is applied for this thesis.

A *mixed method design simple* combines quantitative and qualitative data collection techniques and analysis (Saunders & Tosey, 2012). For instance, collecting data (either sequentially or concurrently) through surveys and semi-structured interviews followed by statistically evaluating (either independently or dependently) the data are classified as a mixed method design simple. The goal of combining (termed triangulation) qualitative and quantitative data collection techniques is to enhance the study's conclusions and contribute to the body of knowledge (Cohen, Manion & Morrison, 2000; Joppe, 2000; Heale & Forbes, 2013; Schoonenboom & Johnson, 2017; Bryman, n.d.). The key point of applying a mixed methods design is that it can address the study's research questions and achieve multiple validities

legitimisation for the study (Bryman, 2006; Schoonenboom & Johnson, 2017). Multiple validities legitimisation refers to the validation of the quantitative and qualitative datasets separately followed by an integration to achieve meta-inferences.

2.8   STRATEGY

A research strategy is a plan that aims to address the study's research questions (Saunders & Lewis, 2012). Various research strategies are available to a researcher, namely: experiments, surveys, archival research, action research, case studies, narrative inquiry, ethnography and grounded theory (Saunders & Lewis, 2012; Saunders & Tosey, 2012).

As this study follows a mixed method approach to develop an entrepreneurial ecosystem framework for Nelson Mandela Bay, South Africa, the case study strategy is deemed appropriate (Carolan, Forbat & Smith, 2016). Carolan et al. (2016) contend that the case study uses information from multiple data sources and lends itself to the use of a mixed method approach. There are methodological advantages linked to the integration of mixed methods and case studies to the extent that it addresses social, economic and health problems in society (Plano Clark, Foote & Walton, 2018; Cook & Kamalodeen, 2019; Roberts, Dowell & Nie, 2019). The following sections seek to conceptualise the case study by reviewing its definition, typologies and methodologies.

2.8.1   Case Study Strategy – Mixed Methods

2.8.1.1   Definitions

There are various definitions linked to case study strategy. The following three quotations are sourced from seminal authors in the field of research.

According to Simons (2009, p. 10) case studies are an "*in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, programme, or system in a real-life context. It is research-based, inclusive of different methods and is evidence led. The primary purpose is to generate an in-depth understanding of a specific topic*".

Yin (2014, p. 16) defines case studies as "*an empirical inquiry that investigates a contemporary phenomenon (the 'case') in depth and within its real-world context*".

Cresswell (2015, p.14) defines case studies as "*a design inquiry found in many fields, especially evaluation, in which researchers develop in-depth analysis of the case, often a programme, event, activity, process or, one or more individuals. Cases are bounded by time and activity*

and researchers collect detailed information by using a variety of data collection procedures over a sustained period of time".

These case study definitions, however, not exhaustive, reveal that there is a level of inquiry or exploration on the part of the researcher(s). Second, they underline the presence of multiple perspectives or data collection procedures. Third, as coined by its name, *case study*, it investigates a phenomenon in the real-world context. This study satisfies the boundaries of the case study strategy as follows:

i. This study investigates and evaluates the attitudes, opinions and perceptions of economically active actors and economic development agents from Nelson Mandela Bay, South Africa;

ii. It is focused on a complex phenomenon, the entrepreneurial ecosystem of a real-world context, namely: Nelson Mandela Bay, South Africa;

iii. It seeks perspectives using multiple data collection procedures; and

iv. Evidence will be produced using the abductive research approach.

2.8.1.2   Types

There are various types of case study strategies. The most common types of case study strategies are referred to as explanatory, exploratory and descriptive case studies. Each type of case study is characterised as follows (Yin, 2014):

i. Explanatory case studies provide an explanation as to how and why a sequence of events occurred and attempts to explain assumed causal relationships;

ii. Exploratory case studies are applied to develop research questions or procedures for a subsequent study; and

iii. Descriptive case studies describe a phenomenon in its real- world context (Yin, 2014).

This study attempts to develop an entrepreneurial ecosystem framework for Nelson Mandela Bay, South Africa. Therefore, the author's aim was to identify the predominant factors contributing to Nelson Mandela Bay's entrepreneurial ecosystem. The methodological procedures involved in determining these factors were: (1) a questionnaire to evaluate the opinions of the economically active actors of Nelson Mandela Bay, South Africa and (2) interviews with economic development agents from Nelson Mandela Bay, South Africa to develop broad themes. Therefore, an explanatory and descriptive case study was applied.

2.8.1.3   **Data collection methods**

Data collection in a case study is flexible (Shanks & Bekmamedova, 2018). Therefore, it includes multiple data collection methods and multiple sources. Yin (2014) contends that data collection for case study research includes amongst others, interviews, direct and participant observations, questionnaires and documents. Multiple data collection methods, which are a form of triangulation of sources enhances the study's credibility. Increased credibility allows for various interpretations to emerge for the analysis and is called triangulation (Flick, 2019). Triangulation is a process of combining various perspectives on a specific research problem. Herein, researchers apply or combine different qualitative and quantitative methods.

A mixed method research design was applied in this study to identify the factors contributing to the entrepreneurial ecosystem in Nelson Mandela Bay, South Africa. This allowed for triangulation from two perspectives by using a combination of quantitative and qualitative methods. The two data collection techniques are as follows:

i.   **Self-administered questionnaires** – This data collection method is completed by the sample using the following modes: online, web-based questionnaire, traditional mail or a postal questionnaire; a delivery-and-collection questionnaire (Collis & Hussey, 2014). For this study, a combination of the delivery-and-collection questionnaire and a web-based questionnaire using the online survey tool QuestionPro was used; and

ii.   **Semi-structured interviews** – This data collection method used in-depth interviews where the participants answer a set of open-ended questions and 5-point Likert Scale statements for cognitive probing (Jamshed, 2014; DeJonckheere & Vaughn, 2019; Scott et al., 2019). The interview follows a schema of questions or topics that guide the conversation with the participant(s) in order to ensure focus and address the research question (Corbin & Strauss, 2008; DeJonckheere & Vaughn, 2019). Usually, this occurs once and lasts for at least 30 minutes (Dicicco-Bloom & Crabtree, 2006). For the purpose of this study, appointments were made beforehand with the identified participants. The participants completed an informed consent form to ensure that the ethical integrity of the research process was upheld. Interview data were captured through audio recordings to ensure that the researcher did not lose key information and this allowed for a more reliable verbatim transcript (DeJonckheere & Vaughn, 2019). This allowed the researcher to focus on building a rapport with the participants rather than they be distracted by note taking.

In addition, this research study attempted to compare the findings from the quantitative (structured survey) and qualitative (semi-structured interview with open-ended questions and 5-point Likert Scale statements for cognitive probing) results. Creswell and Plano Clarke (2018, p. 116)) argue that the mixed method case study design applies the findings from the quantitative and qualitative data to offer in-depth evidence for a specific case(s).
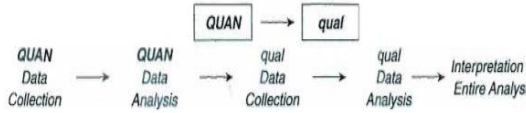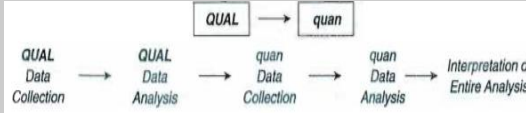
2.8.2 Mixed Method Design

Mixed methods are characterised by six core designs (Creswell & Plano Clark, 2011). Each design includes decisions that must be made by the researcher(s). These decisions relate to the time when data collection occurs, the dependence or independence of data collection techniques and the point at which findings are integrated. Schoonenboom and Johnson (2017) detail the decisions as follows:

i.   **Timing** can either be simultaneous or sequential. Simultaneous data collection, referred to as a concurrent design, prioritises both data collection methods equally. For instance, the researcher could collect the survey and interview data at the same time. Sequential data collection refers to one data collection component preceding the other. For instance, the researcher may conduct the semi-structured interviews after collecting the survey data;

ii.   **Dependence** refers to the second data collection method, which means that the results are dependent on the results from the first data collection method. Dependence usually occurs in a sequential design. Independence refers to the findings from each data collection being analysed separately. Independence usually occurs in a concurrent design. However, there are situations where concurrent design follows a dependent data analysis and sequential designs follow an independent data analysis; and

iii.   **Point of integration** refers to the step where the results from the quantitative and qualitative data are combined. Creswell and Plano Clarke (2011, p. 76) provide a method for integration as follows: (1) data set merging; (2) connecting from the analysis of one set of data to the collection of a second set of data, (3) embedding of one form of data within a larger design or procedure and (4) using a framework to bind together the data sets.

Table 2.4 provides the summary of the six core designs and draws attention to the design typology of this study.

Table 2.4 - Summary of mixed method design typologies (Creswell & Plano Clark, 2011)

Typology	Description	Notation
Convergent parallel design	• Independence between quantitative and qualitative research components of a study; and • An overall interpretation is provided.	• QUAL + QUAN • This reflects that both designs have an equal status (Creswell, 2009a, p. 209)
Explanatory sequential design	• Phase 1 – quantitative data collection; • Phase 2 – qualitative data collection; and • Phase 2 results explain the findings in Phase 1.	• QUAN + qual • This reflects that the concurrent study is driven by the quantitative design. (Creswell, 2009a, p. 209)
Exploratory sequential design	• Phase 1 – qualitative data collection; • Phase 2 – quantitative data collection; and • Phase 2 results are used to test or generalise findings from the findings in Phase 1.	• QUAL + quan • This reflect that the concurrent study is driven by the qualitative design (Creswell, 2009a, p. 210)
Embedded design	A strand of either qualitative or quantitative is embedded into the main analysis design. For example, a dominant quantitative design may have a qualitative component embedded.	 (Creswell, 2009a, p. 210)

Transformative design	• Two phase data collection; and • Driven by a theoretical framework.	• Concurrent transformative • Sequential transformative (Creswell, 2009a, p. 210)
Multi-phase design	• Either more than two phases; and • May combine sequential and concurrent designs over a length of time.	

This thesis follows a *sequential independent* design. As highlighted by Schoonenboom and Johnson (2017) there are situations where a concurrent design follows a dependent data analysis and sequential designs follow an independent data analysis. The following decisions were undertaken by the author:

i. **Timing:** This mixed method design is sequential because the semi-structured interviews were conducted after the period when the survey was administered. Phase I includes the dissemination of a quantitative questionnaire. Phase II includes conducting semi-structured interviews and using open-ended questions and 5-point Likert Scale statements for cognitive probing. The approach for cognitive probing was as follows: for the statements referring to Likert style statements, the interviewer explained to the participant that statements would be made to determine their level of agreement. This followed by explaining the levels of agreement, which followed with a question to determine the reason for their selected response.

The data collection methods were used, herein, to determine the perceptions of the economically active actors and economic development agents of the entrepreneurial ecosystem factors in Nelson Mandela Bay, South Africa. Therefore, the point of extension is the data collection method.

ii. **Dependence**: This mixed method design is independent, because the quantitative and qualitative data sets were analysed separately to determine whether similar findings existed.

iii. **Point of integration**: The purpose was *Triangulation,* by analysing the data independently and drawing a comparison from the results.

2.9   TIME HORIZON

The time horizon refers to the period taken to conduct a specific research study to meet its research objectives. The period to undertake a study is either cross-sectional or longitudinal as illustrated in Figure 2.3 (Saunders & Tosey, 2012; Saunders et al., 2019).

Cross-sectional studies investigate the study participants during the same period of time (Saunders & Tosey, 2012; Collis & Hussey, 2014). The cross-sectional time horizon is usually chosen due to the problems associated with resources and time. However, a problem associated with cross-sectional studies is that they are based on generalisability (Collis & Hussey, 2014). This problem is mainly due to the difficulty of accessing a large enough sample to make valid inferences on the theoretical population.

Longitudinal studies involve the researcher spending an extended period of time observing their participants. In addition, longitudinal studies are characterised by smaller samples. The challenges associated with longitudinal studies are associated with the length of time and expenses incurred to undertake a lengthy observation (Collis & Hussey, 2014).

This thesis followed a cross-sectional time horizon. First, a large enough sample size reduced the challenges associated with generalisability. Second, following this time horizon is more affordable and appropriate for the time constraints associated with this thesis.

2.10   DATA COLLECTION METHODS

2.10.1 Population and sampling

The theoretical or target population of a study refers to all members who form part of the study's interest group (Gravetter & Wallnau, 2009; Collis & Hussey, 2014; Du Plooy-Cilliers et al., 2014). For this thesis, the target population was divided between economically active actors (quantitative component) and economic development agents (qualitative component). Entrepreneurial ecosystems are characterised as a human-constructed response by a set of actors and or agents who co-create through intentional actions, shared goals and behaviours with the goal of promoting entrepreneurial activity (Stam & Spigel, 2018).

Economically active actors are characterised as individuals who work for or operate a business in Nelson Mandela Bay. These individuals fall into the category: start-up, micro-enterprises, SME, Big Business, Corporate or MNE. The selection of the start-ups, micro-enterprises and SMEs are centred around the role of the entrepreneur as creators of new ventures who have successful or failed businesses (Autio et al., 2018; Bosma et al., 2019). Individuals from big business, corporates or MNEs were selected, as they form part of the skilled workers who are important for their expertise. These individuals provide skills and insights surrounding processes and market opportunities that are developed from employment (Van De Ven, 1993; Bell-Masterson & Stangler, 2015; Spigel, 2015; Stam, 2015; Eckardt, Skaggs & Lepak, 2017; Motoyama & Knowlton, 2017; Spigel, 2017; Wu, Jin & Hitt, 2017; Nicotra, Romano, Del Giudice & Schillaci, 2018).

There are multiple actors who are present in the ecosystem and entrepreneurs deal with the so-called feeders of the system. Feeders may be described by their agency as those legitimising new ventures and access to markets. The economic development agents are characterised as communities of independent actors, such as government, universities, mentors, service providers, media, dealmakers and large companies (Hechavarría & Ingram, 2019).

Creswell (2007) suggests that the researcher should choose an appropriate sampling method to ensure that qualified individuals participate in their study. By applying the appropriate sampling method, a researcher increases the likelihood of obtaining credible information to address the research objective.

The accessible population (sample) refers to members who belong to the target population who are reachable and available during the study (Gravetter & Wallnau, 2009; Du Plooy-Cilliers et al., 2014). The accessible population (sample) can be defined as a sub-group of the economically active actors and economic development agents from Nelson Mandela Bay, who will assist in testing the validity of the entrepreneurial ecosystem framework. The attributes and sample size of the sample are described as follows:

i.   **Sampling for the quantitative component** - The sample for the quantitative data component includes individuals who fall into the category, start-ups, micro-enterprises, SMEs, big business, corporates or MNEs. Furthermore, the sample resided in Nelson Mandela Bay, South Africa. In 2019, a national study of South Africa's SMMEs was conducted by the Small Business Institute in partnership with the Small Business Project (Small Business Institute and the Small Business Project, 2019). Based on these findings,

comparative figures for Nelson Mandela Bay could be derived (Dobbin, 2019). The comparative figures are illustrated in Table 2.5.

Table 2.5 - Comparative number of formal and informal businesses operating in Nelson Mandela Bay, South Africa (Dobbin, 2019)

Enterprise Size Category[3]	Number of enterprises	Proportion of total enterprises	Employment	Proportion of employment
Informal self-employed (i.e. own-account workers)	30 730	55,5%	30 730	9%
Informal employers (i.e. those who also employ others)	<17 650	<31,9%	17 650	5%
Total Informal SMMEs	**<48 380**	**~87,4%**	**48 380**	**14%**
Formal SMMEs (excluding medium-sized enterprises with 201-250 employees)	**6818**	**~12,3%**	**83 057**	**24%**
Medium-to-Large (>200)	**150**	**~0,3%**	**208 602**	**61%**
TOTAL	**<55 348**	**100%**	**340 039**	**100%**
Due to rounding, the percentages do not necessarily add up to the totals.				

Based on the comparative figures, the author applied the confidence level of 95% to determine the sample size, which was based on comparative figures by Dobbin (2019). The confidence level is a measure of certainty regarding how accurately a sample reflects the population (Wegner, 2012; Calculator.net, 2021). At a 95% level of confidence an adequate sample size is n=382. For this thesis, a sample of n=300 was surveyed, however, the researcher was further guided by the contention that a sample size of 200 offers a sound basis for estimation while a sample size of 400 reduces model sensitivity and a reasonable goodness-of-fit measure (Hair, Black, Babin & Anderson, 2014).

ii. **Sampling for the qualitative component** – The sample for the qualitative data component includes individuals who fall into the category of economic development agents from Nelson Mandela Bay, South Africa. Economic development agents were selected as they form part of the population who facilitate entrepreneurship in Nelson Mandela Bay.

In a qualitative inquiry, the sample is based on appropriateness, composition and size, which assists in promoting a study's trustworthiness (Spencer, Ritchie, Lewis & Dillon, 2003; Vasileiou, Barnett, Thorpe & Young, 2018). Sample sizes directly affect the validity and generalisability of a study's results. An optimal sample size for a case study ranges from 15-30 interviews (Vasileiou et al., 2018). As this thesis is based on a case, the range of 15-30 interviews is applied and a sample of n=15 economic development agents were interviewed.

For the qualitative inquiry, the author considered the assertion made by Lincoln and Guba (1985) regarding informational redundancy or the saturation point. Informational redundancy is the point where no new ideas or perspectives emerge from the inquiry while informational redundancy is a state of information power (Malterud, Siersma & Guassora, 2015). This concept is a pragmatic approach, which suggests the greater the information power from the sample, the smaller the sample size becomes.

Two sampling methods exist, namely: probability sampling and non-probability sampling (Leedy & Ormrod, 2005; Creswell, 2009a; Gravetter & Wallnau, 2009; Saunders & Lewis, 2012; Collis & Hussey, 2014). Probability sampling is a random sampling method that indicates that the sample represents the whole population (Creswell, 2009; Saunders & Lewis, 2012; Collis & Hussey, 2014). This means that probability sampling allows each member of the population an equal chance to participate. The representative nature of probability sampling means that inferences can be drawn to the whole population. This method can be used when the population is well defined and easy to access (Gravetter & Wallnau, 2009).

Non-probability sampling is used when the population is not defined or easy to access (Gravetter & Wallnau, 2009). Therefore, this process involves the subjective judgement of the researcher in carefully selecting the sample. Applying subjective judgement, based on specific criteria, means that the selected individuals are not representative of the population. Thus, not every individual has an equal chance of being selected and this indicates a non-random process of selection. The non-probability sampling technique was applied for this study.

Before commencing with any data collection, the author needed to familiarise herself with each form of non-probability sampling. The sampling techniques include purposive or judgemental, snowball, quota and convenience sampling (Collis & Hussey, 2014; Du Plooy-Cilliers et al., 2014). A combination of purposive, snowball and convenience sampling techniques were used in this study. Purposive sampling involves selecting participants based on specific characteristics. Convenience sampling involves selecting participants whom the researcher knows, or the researcher has access to. Snowball sampling is a method that recruits participants through referrals. Notably, the author centred herself around the purposive sampling method and applied snowball and convenience sampling methods as aids. This decision was based on the effectiveness of purposive sampling in providing information-rich cases (Patton, 1990).

2.10.2 Phase I – Questionnaire

In Phase One of this study, the data collection method chosen to complement the quantitative component of this study was questionnaires. In this section, the planning, design and implementation of the questionnaire is discussed.

2.10.2.1   Planning

Questionnaires are an objective way of collecting data about people's attitudes, opinions, beliefs and behaviour (Stone, 1993; Du Plooy-Cilliers et al., 2014). Therefore, the researcher needs to carefully plan various aspects of the questionnaire. In the planning phase, consideration was given to the form administration, content and wording, question types, format of questions, layout and structure (Oates, 2006, p. 221). The considerations are listed as follows:

   i.   **Form administration**: The survey was developed in QuestionPro. QuestionPro is Nelson Mandela Bay University's approved online survey tool. This survey tool has a set of features, which allows for customisation, accessibility, reporting and analytics. QuestionPro has the added functionality that allows for dissemination variety. The dissemination method applied (1) an email, which included a short introduction of the survey and an electronic link and (2) QuestionPro allowed for the printing of the questionnaire as well. Where deemed necessary, the questionnaire was printed and distributed to the intended sample in hard copy.

   ii. **Content and wording**: The author paid attention to the content and wording of items in the questionnaire, which were operationalised from literature (Stone, 1993; Krosnick, 2018). Questionnaire items should be clear with one intended meaning to avoid confusing or misleading respondents. In this thesis, careful attention was given to wording used in the questionnaire to avoid any bias.

   iii. **Question types**: Questionnaires consist of open-ended and closed-ended questions (Stone, 1993; Oates, 2006; Krosnick, 2018). The type of data generated from closed-ended questions is factually based as it is predefined and involves numeric data (Krosnick, 2018). Open-ended questions generate rich, non-numeric information that is based on the respondent's freedom to express their insights or opinions. For this questionnaire, closed-ended questions are applied.

iv. **Format of statements**: The design and response formats of questionnaires may vary. Generally, questionnaires include dichotomous, yes/no or alternative statements, agree/disagree with a statement, Likert scale questions, list questions, multiple-choice questions and rank-order questions. For this thesis, a combination of multiple choice (for the demographics) and Likert Scale (for the perceptions of factors) statements were applied.

Likert Scales have been popularised in business, education and in the field of psychology (Horst & Pyburn, 2018). This type of measurement seeks to evaluate values, beliefs or attitudes about a topic (Du Plooy-Cilliers et al., 2014; Horst & Pyburn, 2018). It includes rating-scale statements as the responses are attached to items in an order to create a total numeric for each participant. Likert scales generally consist of five to seven scales (Du Plooy-Cilliers et al., 2014). The scale consists of two parts: (1) the statement and (2) the evaluation (Du Plooy-Cilliers et al., 2014). The evaluation is usually rated from: 1 = Strongly Disagree; 2 = Disagree; 3 = Neither Agree or Disagree/Neutral; 4 = Agree and 5 = Strongly Agree (Gravetter & Wallnau, 2009; Du Plooy-Cilliers et al., 2014). This questionnaire applied commonly used statements combined with the following set of statements: 1 = Very Severe Obstacle; 2 = Major Obstacle; 3 = Neither Agree or Disagree/Neutral; 4 = Minor Obstacle and 5 = No Obstacle.

The questionnaire for this thesis used multiple choice questions and 5-point Likert Scale statements. The survey consisted of a total of 72 closed-ended statements divided into two main sections:

- In section 1, demographics - participants who formed part of the category start-up, micro-enterprise and SME were asked to complete 11 multiple choice questions.

- In section 1, demographics – participants who formed part of the category big business, corporate or MNE were asked to complete 5 multiple choice questions. The questionnaire design included a rule: if *category = "Big Business, Corporate or MNE"* branched to question 7 of the biographical information.

- In section 2, entrepreneurial ecosystem factors, respondents were asked to rate 61 statements on a 5-point Likert scale.

v.   **Layout and structure**: Questionnaires should include a cover page that introduces the participant to the purpose of the study. The cover page should present clear instructions for completing the questionnaire and clearly explain how the rights of the participants will be protected throughout the data collection process (Creswell, 2009b; Barrow, Brannan & Khandhar, 2020). As an ethical requirement, the cover page included information regarding: (1) the researcher, (2) the institution, (3) the purpose of the study, (4) any potential risks, (5) voluntary participation, (6) anonymity and confidentiality, (7) withdrawal of participants (8) data reporting, (9) data use and (10) contact persons (Creswell, 2009a; Barrow et al., 2020) have to be outlined. Cover letters should also express gratitude to the participants for their time in completing the questionnaire. The accepted ethical clearance form with Resolution Number [H-18-BES-BS-039] was given and is attached as Appendix A of this document.

vi.   **Reliability and validity**: Reliability measures the consistency of a measuring instrument. Consistency refers to whether a measuring instrument yields the same results in another context with the same conditions. Validity refers to the extent to which the measuring scale measures what the researchers expect it to measure (Leedy & Ormrod, 2005; Collis & Hussey, 2014). Reliability of the measuring instrument was assessed by performing a Cronbach Alpha Coefficient test. The indicators of the Cronbach Alpha Coefficient test are provided in a table format in Section 2.12.1. For this thesis, face, construct and known-group validity were assessed as follows:

- Face validity – was evaluated by the promoter of the thesis, who may be referred to as a '*rater*' as she is an expert in the field of entrepreneurship;

- Construct validity was assessed through a CFA as it evaluates how well the questionnaire measured each construct; and

- Known-group validity is a measure of criterion validity and measures the questionnaire's ability to evaluate opinions of different groups of respondents. As the data were categorical, a t-test and ANOVA were performed.

A detailed discussion regarding the validity and reliability of the measuring instrument is found in Sections 2.12.1 and 2.12.2.

2.10.2.2   Questionnaire design

A variety of statements was used in the questionnaire: 5-point Likert Scale type statements and multiple-choice questions. The survey was divided into two main sections. The first section addressed the demographics. The second section dealt with the perceptions of the economically

active actors regarding the entrepreneurial ecosystem factors. Please see Appendix B for the questionnaire.

i. Section 1: Demographics

In this section, respondents were asked to complete their biographical information. The questions asked are detailed in Table 2.6.

ii. Section 2: Factors

Section 2 required respondents to rate their perceptions on the set of factors on a 5-point Likert Scale. These factors were operationalised from existing literature of the factors which influence an entrepreneurial ecosystem. Table 2.6 includes the design of the questionnaire and contains the following information: question, question objective, data type and a reference to the literature that supported the question.

2.10.2.3 Questionnaire implementation

A combination of the delivery-and-collection questionnaire and a web-based questionnaire using the online survey tool QuestionPro was used. The author approached three business support institutions, namely The Business Place, Nelson Mandela Bay Business Chamber and IHub, to distribute the survey to their database of start-ups, micro-enterprises and SMEs. Unfortunately, the Nelson Mandela Bay Business Chamber had constraints as they were running two additional surveys at the same time. The head of research from the Business Chamber advised the author to use the annual membership directory to approach companies directly. Additionally, the author physically attended three bootcamps hosted by a local incubator in Port Elizabeth, Propella. At the bootcamps, the author of this study introduced and explained the purpose of the study and if participants wished to participate, the author distributed hardcopies of the questionnaire and collected them once completed. Furthermore, the author used social media platforms, such as LinkedIn and Facebook to distribute the survey.

The questionnaire was structured to ensure that the sample group were asked the same questions in the same sequence. In total, usable responses were received from 300 participants falling into the category start-ups, micro-enterprises, SMEs, Big Business MNEs and Corporates (n=300). The data from the surveys completed in person by the participants were captured on QuestionPro. By using the Reports function in QuestionPro, all the raw data were exported and presented in a Microsoft Excel.xlsx file. As part of the cleansing process, all unusable or incomplete responses were removed.

Table 2.6 - Questionnaire design

Section 1: Attitudes or opinions about entrepreneurial ecosystem factors				
ID	**Question**	**Question objective**	**Data**	**Question type**
Sec_1.1	Please indicate the category that best describes you.	To determine the category that the participant falls into.	**Data Type:** Categorical **Data Measurement:** Nominal	1. Start-up 2. Micro-enterprise 3. SME 4. Big Business, Corporate or MNE
Sec_1.2	What statement(s) best describe(s) you before becoming an entrepreneur or small business owner?	To determine what occupation participant from category 1,2,3 was in before deciding to start a business.	**Data Type:** Categorical Data Measurement: Nominal	1. I was a student 2. I worked full time at another company 3. I worked part-time at another company 4. I was retrenched 5. I was unemployed 6. I am still working
Sec_1.3	When did you start your business?	To determine the length of time the business is in operation.	**Data Type:** Categorical **Data Measurement**: Nominal	1. Underway 2. Within the last year 3. Within the last five years 4. More than five years ago
Sec_1.4	Please indicate the number of employees in your current business (including yourself).	To determine the business size.	Data type: Discrete, Ratio.	1. 1 2. 2 3. 3 4. 4 5. 5 6. 6-10 7. 10-15 8. 16-25 9. 26-50 10. 51-100 11. 101-200 12. 201+
Sec_1.5	Has your business scaled/grown in the past five years?	To determine whether the business has grown.	**Data Type:** Nominal	1. Yes, we have increased our number of employees 2. Yes, we have increased our revenue 3. Yes, we have expanded e.g., franchises 4. No
Sec_1.6	What sector does your business operate in?	To determine the sector that the participants operate in.	**Data Type:** Categorical **Data Measurement:** Nominal	1. Agriculture, hunting, forestry and fishing [A] 2. Mining and quarrying [B] 3. Manufacturing [C] 4. Electricity, gas, steam and air conditioning supply [D] 5. Water supply; sewerage, waste management and remediation activities [E] 6. Construction [F] 7. Wholesale and retail trade, repair of motor

				vehicles and motorcycles [G]
				8. Transportation and storage [H]
				9. Accommodation and food service activities [I]
				10. Information and communication [J]
				11. Financial and insurance activities [K]
				12. Real estate activities [L]
				13. Professional, scientific and technical activities [M]
				14. Administrative and support service activities [N]
				15. Public administration and defence; compulsory social security [O]
				16. Education [P]
				17. Human health and social work activities [Q]
				18. Arts, entertainment and recreation [R]
				19. Other service activities [S]
				20. Activities of households as employers; undifferentiated activities of households for own use [T]
				21. Activities of extraterritorial organizations and bodies [U]

Sec_1.7	Please indicate your gender.	To determine the gender of the participant.	**Data Type:** Categorical **Data Measurement:** Nominal	1. Male 2. Female 3. N/A
Sec_1.8	Please indicate your age.	To determine the age range of participants.	**Data Type:** Categorical **Data Measurement:** Ordinal	1. 18-25 2. 26-35 3. 36-45 4. 46-55 5. 56-65 6. 66+

Section 1: Attitudes or opinions about entrepreneurial ecosystem factors				
Sec_1.9	Please indicate your race.	To determine the race of participants.	**Data Type:** Nominal	1. Asian 2. Black 3. Coloured 4. White 5. Indian 6. Other-Please indicate

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Sec_1.10	Country of Birth.	To determine the country of birth of participants.	**Data Type:** Nominal	1. South Africa 2. Other: Please specify
Sec_1.11	Please indicate your level of education.	To determine the level of education of participants.	**Data Type:** Ordinal	1. Less than matric 2. Matric 3. Diploma 4. Degree 5. Post Graduate Degree

Section 2			
ID	**Question**	**Question objective**	**Literature support**
Sec_2.1	In your opinion, to what degree has NMB developed an entrepreneurial ecosystem (EE)?	This question aids to determine the overall perception of NMBs entrepreneurial ecosystem.	Self-generated
Sec_2.2	To what extent do you agree with the following statements. This question pertains to Culture.	This question determines the participant opinion of NMBs entrepreneurial culture.	(Isenberg, 2010; Feld, 2012; Read, 2016; Spigel, 2017; Fritsch & Wyrwich, 2018; Spigel & Vinodrai, 2020)
Sec_2.3	In your opinion, to what degree are the following elements of the Business Environment an obstacle to the development of Entrepreneurship and the growth of SMMEs in the city?	This question determines the participants opinion of the business environment impact on entrepreneurship in NMB.	Self-generated
Sec_2.4	In your opinion, to what degree are the following elements of the Regulatory Framework an obstacle to the development of Entrepreneurship and the growth of SMMEs in the city?	This question determines the participant's opinion of NMBs regulatory environment impact on entrepreneurship and growth of entrepreneurship.	(Spigel, 2015; Stam, 2015; Woolley, 2017; Bosma, Content, Sanders & Stam, 2018; O'Connor, Stam, Sussan & Audretsch, 2018)
Sec_2.5	To what extent do you agree with the following statements. This question pertains to Finance.	This question determines the participants opinion of financing available for entrepreneurship.	(Hirsch & Walz, 2016; Spigel & Harrison, 2018; Stam & van de Ven, 2019)
Sec_2.6	To what extent do you agree with the following statements. This question pertains to City Planning.	This question determines the participants opinion of NMBs city planning.	(Mason & Brown, 2014; Spigel, 2015; Stam, 2015; Woolley, 2017; Stam & van de Ven, 2019)
Sec_2.7	To what extent do you agree with the following statements. This question pertains to Business Support Services, i.e., the quality of local services in NMB as perceived by entrepreneurs.	This question will assist in understanding whether the business support services in NMB are accessible.	(OECD, European Union, European Training Foundation & European Bank for Reconstruction and Development, 2015; Fritsch & Wyrwich, 2018; Vedula & Kim, 2019; Leendertse, Schrijvers & Stam, 2020; Stam & van de Ven, 2019)
Sec_2.8	To what extent do you agree with the following statements. This question pertains to Entrepreneurial Intention	This question will assist to determine whether the intention to start a business exists.	
Sec_2.9	To what extent do you agree with the following statements. This question pertains to Human Capital.	This question determines the participant's opinion of human capital in NMB.	(Isenberg, 2010; Roundy, 2017; Spigel, 2017; Leendertse et al., 2020).

2.10.3 Phase II – Semi structured interviews

Semi-structured interviews are argued as a method that allows the researcher to gather the participant's values, attitudes and beliefs on a given subject (DeJonckheere & Vaughn, 2019).

This interview method combines structured questions and unstructured exploration (Wilson, 2014). Moreover, semi-structured interviews allow the researcher to capture both the depth and complexity of the participants' experiences (Brinkmann & Kvale, 1996; Vansteenkiste, 2020). This method has been popularised by its versatility and flexibility and hailed as a probing method to uncover meaningful insights from the participants. This means that it allows the interviewer to ask follow-up questions through its success in allowing exchange in the dialogue. Semi-structured interviews may be conducted using a variety of modes: face to face, telephone, text/email, individual, group, brief and in-depth (DeJonckheere & Vaughn, 2019).

Semi-structured interviews were used as the data collection method for the qualitative component of this thesis (Brinkmann & Kvale, 1996; DeJonckheere & Vaughn, 2019). The author chose this method as it is useful when there is some knowledge about the research topic (Wilson, 2014). Wilson (2014) asserts that this method is appropriate when dealing with complex issues, such as entrepreneurial ecosystems. Complex issues require probing and spontaneity. This study deems it adequate to apply semi-structured interviews to investigate the phenomenon of entrepreneurial ecosystems.

2.10.3.1 Interview preparation

The semi-structured interview schedule was collated based on previous knowledge on the topic (Wilson, 2014; DeJonckheere & Vaughn, 2019). This is important to gain a comprehensive understanding of the topic. The preparation requires the interviewer to critically evaluate the previous knowledge to develop a framework for the interview. For this thesis, the critical evaluation was conducted by carrying out a literature review on the topic. Questions were determined beforehand and focused on the main aspects of the topic being investigated. Therefore, this data collection method offers structure, without rigidity for dialogue between the interviewer and interviewee. By applying this method, the researcher can explore the topic and gather similar information by guiding participants on the main topics of interest.

2.10.3.2 Semi-structured interview schedule design

A semi-structured interview schedule should be carefully designed in terms of its structure and format (McNamara, 2009). It is important for the researcher to understand a semi-structured interview is both loose and flexible (Kallio, Pietila, Johnson & Kangasniemi, 2016). By accepting this, the interviewer and interviewee may engage in a fluid conversation allowing deviations and new insights to emerge. The interview schedule comprises a set of questions, following a loose and flexible approach that allows for a fluid conversation while addressing

the main research question (Dicicco-Bloom & Crabtree, 2006). It is therefore important to focus on the quality of the schedule as it affects how the interview is implemented and how data will be analysed (Kallio et al., 2016).

Questions were deliberately formulated to ensure that they were not leading but clearly worded, focused on a single aspect and open ended (McNamara, 2009). By formulating the questions in this manner, rich insights are more likely to emerge.

The semi-structured interview schedule included 5-point Likert scale statements for a few themes. The author's intention was cognitive probing (Scott et al., 2019). The author (interviewer) read the statement and asked the participants for their level of agreement. Before commencing with the 5-point Likert scale statements the author explained the scale and followed this by reading each level of agreement. Thereafter, the author would repeat the statement and the response options on the Likert scale. The participant was then asked to indicate the most appropriate option on the scale. The author finally interviewed the participant about how they understood the statement and why they selected that response option. The last action from the author was also influenced by how forthcoming the participant was.

As the interviews were semi-structured, the themes, covering a set of questions were developed beforehand (see Figure 2.7). The themes were drawn from the main concepts of the research topic. Any follow-up questions would occur spontaneously allowing the author to ask participants to elaborate on any emerging insights. Themes may be structured progressively or logically (Krauss et al., 2009). Follow-up questions were applied to make the themes easier to comprehend (Baumbusch, 2010; Turner, 2010). However, the author allowed for deviations and gave the opportunity to explore new avenues that were not included in the original interview schedule.

An expert critique of the semi-structured interview schedule (Appendix B) was conducted by the promoter of the study. This assessment increased the appropriateness and comprehensiveness of the interview schedule (Barriball & While, 1994). The critique also evaluated whether the contents were aligned to the objectives of the research study.

Following the expert critique, necessary corrections or additions were made. The purpose was to produce a clear and logical semi-structured interview schedule. Trustworthiness of the study was promoted by evaluating previous knowledge of the topic, designing the statements, and main themes and undergoing an expert critique of the schedule (Kallio et al., 2016).

2.10.3.3   Participant selection

The participants selected for the semi-structured interview are an import consideration in the process (DeJonckheere & Vaughn, 2019). Creswell (2007), as well as DeJonckheere and Vaughn (2019), suggest that the researcher choose an appropriate sampling method to select qualified participants. By applying the appropriate sampling method, the researcher increases the likelihood of obtaining credible information to address the research objective. Similarly, the researcher should attempt to find participants who are willing to provide open and honest information. Eight principles may be applied before undertaking the interview (McNamara, 2009). These include choosing a (1) comfortable setting, (2) clearly explaining the aim of the interview, (3) explaining confidentiality and anonymity, (4) explaining the interview format and length and (5) explaining the post interview process.

The number of participants selected was based on the concepts of thematic saturation and information power (Malterud et al., 2015). Fifteen interviewees were conducted with economic development agents from Nelson Mandela Bay, South Africa. A document outlining informed consent was submitted to interviewees beforehand that outlined confidentiality, anonymity and how data may be used. Due to anonymity and confidentiality aliases were used to describe the participants, such as *Participant 1*, *Participant 2,* to *Participant 15*.

As mentioned in Section 2.10.1, the sampling method utilised is best labelled as purposeful to select qualified candidates (Creswell, 2007). The interviews were in-depth, lasting for at least 60 minutes and were carried out between December 2019 to July 2020. The semi-structured interviews were facilitated by the principal investigator and audio recorded. Recordings were uploaded into software, Otter.ai and transcribed online via the Otter.ai online platform. Thereafter, the author downloaded the transcription to a Word.doc file and returned it to the interviewees to vet.

Throughout the interview, the author attempted to engage in in-depth discussions with the set of economic development agents. The semi-structured interview guided the conversation while allowing for deviations and exploration into new issues. This allowed the interviewees the freedom to express their stories for patterns to emerge, which align to the case study strategy.

2.11   DATA ANALYSIS METHODS

This mixed-method study independently collected data from the questionnaires and semi-structured interviews. Data sets from the quantitative and qualitative components were

independently analysed. The following subsections explain the type of statistical analysis conducted for the quantitative and qualitative data, respectively.

2.11.1 Phase I – Quantitative data analysis

2.11.1.1   Data capturing and cleansing

The data capturing and cleansing process is an important part of the research process (Unit for Statistical Consulation, 2020). Surveys were either completed online by participants or manually captured by the author on QuestionPro. Thereafter, the data were exported by using the built-in reporting function in QuestionPro to a Microsoft Excel file. QuestionPro automatically adds a unique identifier (referred to as a response identification) for each respondent and the author coded the items from the questionnaire in the raw data file. Data were further reviewed and cleansed, which included the reduction of data that contained errors or where missing data were observed (Saunders et al., 2019). Thereafter, the cleansed raw data were analysed by two Nelson Mandela University statisticians, Ms Kirstie Eastwood and Dr Danie Venter.

2.11.1.2   Summary of the quantitative data analysis techniques

Quantitative data are analysed by using descriptive and inferential data analysis techniques (Collis & Hussey, 2014). Descriptive statistics summarise the basic features of the data set and allow the researcher to present the data in a meaningful way to discover initial patterns. The data are described by using the measure of central tendency and the measure of spread. The measure of central tendency is a method that describes the central position of data within a frequency distribution. This is done by calculating the mode, median and mean. The measure of spread is used to summarise the variability in the dataset. The measure of spread is described through the range, upper and lower quartiles, variance and standard deviation. Inferential statistics allow the researcher to (1) infer generalisations about the population, (2) compare, test and predict and (3) make conclusions about the population (Unit for Statistical Consulation, 2020). Figure 2.8 summarises the aims of descriptive and inferential statistics.
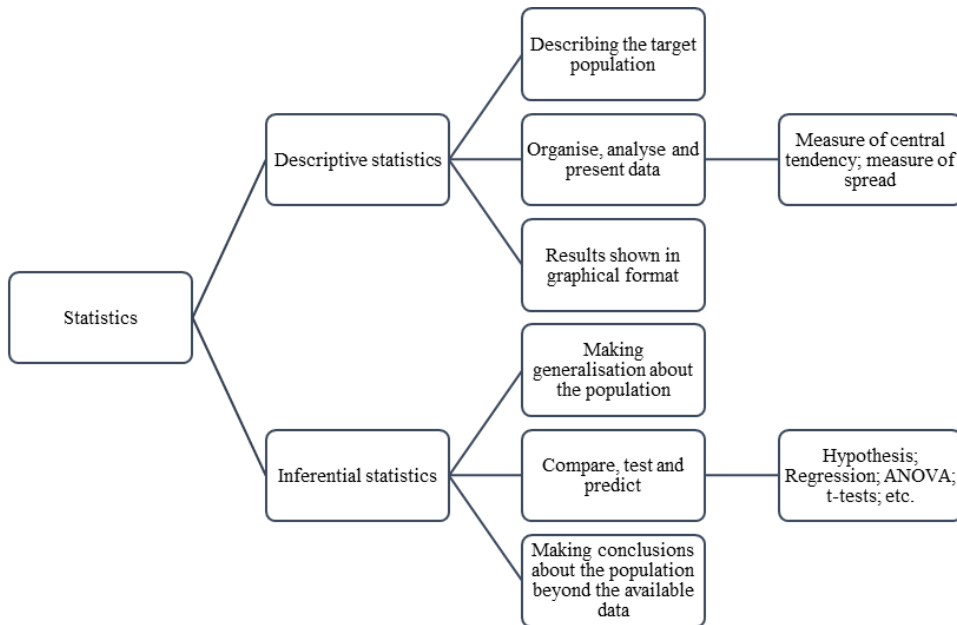
Figure 2.8 - Summary of statistics decisions (Unit for Statistical Consultation, 2020)

For this thesis, a summary of the descriptive statistics is tabulated in Table 2.7 below:

Table 2.7 - Summary of the descriptive statistics applied in this thesis

Number	Data Analysis	Statistical Test
1	Demographic profile of the sample.	Frequency distribution of the sample.
2	Measurement items from the questionnaire.	Frequency distribution of the measurement items.
3	Descriptive statistics for the factors.	Central tendency and dispersion; frequency distribution for the factors.

The inferential data analyses techniques adopted in the thesis included Exploratory Factor Analysis (EFA), Cronbach's Alpha test for reliability, one-sample and matched-paired t-tests for statistical significance, Cohen's d practical significance test, Pearson Product Moment Correlation test, univariate ANOVA and CFA and its associated goodness-of-fit tests.

A summary of the empirical statistics is listed in Table 2.8.

Table 2.8 - Summary of empirical statistics employed in this thesis

Number	Data analysis	Statistical Test	Reason for the statistical test
4.	Factor Analysis.	Exploratory Factor Analysis (EFA).	The EFA was used to determine the number of factors sufficient to explain the intercorrelations among variables.
5.	Reliability.	Cronbach's Alpha coefficient.	The Cronbach Alpha Coefficient test was used to measure the internal consistency of the measuring instrument (questionnaire). A set of indicators were applied, which is used as a threshold for determining reliability.
6.	One-Sample t-tests for the Factors.	One-sample t-tests by determining statistical significance (p-value) and practical significance (Cohen's d).	A one-sample t-test measured whether the null hypothesis would be accepted or rejected. The results from the one-sample t-test would inform which factors to be omitted from the multi-dimensional model.
7.	Relationships between the Factors.	Pearson's product moment correlation.	To determine the relationship between the set of factors.
8.	Relationships: Factors & Demographic variables.	Univariate ANOVA, followed by a comparison between groups and a series of independent samples t-test to determine the p-value, using the Scheffé p.	To investigate the effects of the important demographic variables on the set of factors influencing an entrepreneurial ecosystem.
9.	Inferential Ranking of the Independent factors.	Matched-paired t-test and Cohen's d.	Inferential ranking was performed to determine the level of importance of factors.
10.	Validity of constructs.	CFA followed by 'goodness-of-fit' test.	CFA was used to determine the construct validity of the questionnaire and response pattern comparisons.

2.11.1.3   Description of the inferential statistics

EFA is a statistical method that is used to explore the underlying relationships between variables to identify patterns, to reduce the number of variables and to detect structure in the relationship between factors (Hair, Black, Babin, Anderson & Tatham, 2006; Weiss & Adams, 2010). The process begins by identifying the factors that can sufficiently explain intercorrelations between the variables. Thereafter, the factors are extracted followed by an interpretation. The interpretation establishes the strength of the factor loadings of the items (Weiss & Adams, 2010). To determine the most significant values in a data set, the Eigenvalues are determined. Eigenvalues that are greater than one (1) are deemed significant and minimum factor loadings of 0.300 at $\alpha = 0.05$ are deemed significant for samples of greater than 350

(Hair et al., 2006, p. 128). In addition, the scree plot assists to visualise the extent of the variability with each of the factors extracted in the EFA (Frey, 2018). Frey (2018) explains that the scree plot assists in examining the patterns of decreasing variability (the decreasing order of the eigenvalues) for each successive factor. All Eigenvalues to the left of the inflection point should be retained, while the factor with Eigenvalues below the inflection point are eliminated (Real Statistics, 2021).

A one-sample t-test is performed. T-tests seek to determine whether the means of two groups reveal any significant differences and calculates a t-score. A t-score reveals the ratio between the difference of two groups and difference within the groups (Wegner, 2012; Collis & Hussey, 2014). A high t-score indicates that a large difference exists between two sample sets, whereas a small t-value indicates that the two sample sets are similar (Wegner, 2012; Kenton, 2020b).

The ranking of the independent factors was determined by using the matched-pair t-test for statistical significance and Cohen's d for practical significance. The rankings were based on two guidelines: (1) the mean of the first variable in the Significance Group (Signif.Group) i differs statistically and practically from the mean of the first variable in Signif.Group (i + 1); (2) none of the means of the variables in Signif.Group i differ significantly from the mean of the first variable in that group.

For every t-score there is an associated p-value. The p-value measures the probability that an observed difference from the sample occurred by chance (Beers, 2020). P-values lie between 0 and 1, which signifies the strength of evidence in the statistical test as it relates to whether differences exist between groups being measured (Unit for Statistical Consultation, 2020). The differences are stated by the null (no difference exists) and alternative (a difference exists) hypothesis. By establishing the p-value the researcher can determine whether the claim from the null hypothesis is accepted or rejected. Table 2.9 shows the interpretation of the p-values where a low p-value of ≤ 0.05 indicates strong evidence in favour of the alternative hypothesis. A high p-value of ≥ 0.05 indicates weak evidence to reject the null hypothesis, which indicates that the difference from the sample did occur by chance and no statistical significance exists. This thesis used both the one-sample t-test and a matched pair t-test.

Table 2.9 - Interpretation of the p-value

Interpretation of the p-value		
≤ 0.05	Low p-value	Reject the null hypothesis, in favour of the alternative hypothesis.
≥ 0.05	Large p-value	Accept the null hypothesis and reject the alternative hypothesis.

The one-sample t-test is a parametric test, which relies on two assumptions. The first assumption relates to the population being approximately normally distributed. The second assumption relates to the set of observations being independent from each other. The one-sample t-test compares the average (mean) score of a parameter for the sample to a hypothesised parameter (Kent State University, 2021). Therefore, the one-sample t-test measures whether the null hypothesis should be accepted or rejected (Kiebel, Kherif & Holmes, 2007). Additionally, to determine the effect size from the sample, a Cohen's d calculation was performed. The Cohen's d explains practical significance for a one-sample t-test and denotes the magnitude of the differences between two or more groups for each factor (Gravetter & Wallnau, 2009). The interpretation intervals for Cohen's d are illustrated in Table 2.10.

Table 2.10 - Interpretation intervals for Cohen's d (Gravetter & Wallnau, 2009, p. 253)

Cohen's d	Interpretation
<0.20	Not significant
0.20 – 0.49	Small
0.50 - 0.79	Medium
0.80+	Large

In order to determine the relationship between the factors, a Pearson's Product Moment Correlation analysis was conducted. The Pearson's Product Moment Correlation (denoted by *r*) measures the strength of a linear association between two variables (Laerd Statistics, 2020). This correlation reveals how close or far away two variables are in a line of best fit between the data points. For this analysis, a correlation coefficient r is statistically significant at the 0.05 level for n = 300 if |r| >= .113 and practically significant, regardless of the sample size, if |r| >= .300. Thus significant (both statistically and practically) if |r| >= .300 (Gravetter & Wallnau, 2009, p. 534). The interpretation intervals for the correlation coefficient are illustrated in Table 2.11.

Table 2.11 - Interpretation intervals for the correlation coefficient

Correlation coefficient	Interpretation
+1.00	Perfect positive linear association
+0.90 to +0.99	Very high positive correlation
+0.70 to +0.89	High positive correlation
+0.40 to +0.69	Medium positive correlation
+0.01 to +0.39	Low positive correlation
0	No linear association
-0.01 to -0.39	Low negative correlation
-0.40 to -0.69	Medium negative correlation
-0.70 to -0.89	High negative correlation
-0.90 to -0.99	Very high negative correlation
-1.00	Perfect negative linear association

The relationships between the factors and demographic variables were conducted. The statistical tests used to determine whether statistical relationships exist between factors and response factors were the univariate ANOVA test (Wegner, 2012). ANOVA seeks to determine whether any statistical relationships exist between factors. The statistician performed a univariate ANOVA test to explore the relationship between specific independent factors and the dependent factor of entrepreneurial ecosystems based upon the demographic information supplied by the respondents. If a statistical relationship existed, which was established by the p-value in the univariate ANOVA, the statistician followed by performing a post-hoc test. The post-hoc test investigated the statistical and practical significance, which began by comparing group means and by performing a series of independent sample t-tests. The post-hoc test then indicated statistical significance through the Scheffé p (p-value) and practical significance through Cohen's d. The Scheffé p value seeks to determine whether a statistical significance exists between the mean values.

The CFA is a test that measures the extent that the measured variables fit the factors (Hair et al., 2006; Schreiber, Stage, King, Nora & Barlow, 2006). By doing this test, researchers can determine the adequacy of the observed data against the developed hypothesis. CFA statistical tests were conducted to investigate the measurement instruments used to measure the Dependent Factors (DF) of Entrepreneurial Ecosystem (EE) and the eight Independent Factors (IFs) of Business Environment Obstacles (BEO), Business Support Services (BSS), City Planning (CP), Entrepreneurial Culture (CUL), Entrepreneurial Intention (EI), Finance (FIN), Human Capital (HC) and Regulatory Framework Obstacles (RFO). The statistician performed a goodness-of-fit test to (1) determine the absolute or predictive fit of the factors through a chi-square (X^2), (2) determine the comparative fit of factors using Bentler-Bonnet normed fit index

(NFI) and Bentler comparative fit index (CFI) (3) and performed the Joreskog adjusted GFI (AGFI) and root mean square error of approximation (RMSEA).

2.11.2 Phase II – Qualitative data analysis

Qualitative data analysis attempts to elicit meaning from the collected data in a systematic way. The approach to qualitative data is both comprehensive and rigorous. Herein, the qualitative researcher starts the process by transcribing the collected data to a written format while continuously searching for segments and units of meaning (Maguire & Delahunt, 2017; Vansteenkiste, 2020). The segments and units of meaning are allocated codes, which represent a single idea. Coding follows reductionism, which means that the raw data are reduced into segments of meaning. The codes are then labelled, defined and described. There are different forms of coding, such as open coding and line-by-line coding. Open coding is a process that seeks to address the research question and is referred to as theoretical thematic analysis. Line-by-line coding is an inductive analytical approach. Thereafter, themes are drawn, which are implicit and abstract, which requires interpretation (Bogetz et al., 2017). By producing a theme, the qualitative researcher elicits the essence from the interviewee's experiences.

For this thesis, semi-structured interviews were analysed using thematic analysis. Thematic analysis is a method that analyses textual data and discovers themes (Braun & Clarke, 2006). The method includes identifying, analysing, organising, describing and reporting themes drawn from the textual data. Arguably, thematic analysis can be applied against a range of epistemologies and research questions (Nowell, Norris, White & Moules, 2017).

i. Conceptualising thematic analysis

Thematic analysis allows researchers to examine their participants' perspectives, both the similarities and differences of their respondents (King, 2004; Braun & Clarke, 2006). In the process of a thematic analysis, there is an opportunity for unanticipated insights to emerge. Although thematic analysis is amplified by its flexibility in terms of application in various epistemologies and research questions it is flawed by potential inconsistency and coherence (Braun & Clarke, 2006). To avoid these pitfalls, researchers need to clarify their epistemological position to justify their empirical claims (Holloway & Todres, 2003; Braun & Clarke, 2006).

Researchers undertaking a thematic analysis should ensure that the criterion of trustworthiness is adequately addressed to avoid the pitfalls associated with a lack of consistency and coherence (Roberts, Dowell & Nie, 2019). This means that researchers should present a detailed account

of the analytical steps taken in establishing their findings. By adequately presenting the analytical steps, researchers address the trustworthiness of criteria in qualitative research. The advantage of providing a detailed account in a qualitative analysis is that it assists researchers to persuade both themselves and their audience of the reliability of their findings (Lincoln & Guba, 1985).

ii.   The phases of thematic analysis

This study follows a mixed method methodology and operates within the pragmatic research philosophy. This study applied a qualitative thematic analysis, which applied both the inductive and deductive thematic analysis. Deductive codes were informed by previous literature and the theoretical frameworks, which follow a top-down approach or theoretical thematic analysis approach (Crabtree & Miller, 1999; Braun & Clarke, 2006). This was followed by inductive codes, or codable moments. By applying this dualistic approach, unexpected themes emerged to assist the overall coding process (Boyatzis, 1998; Roberts et al., 2019; Vansteenkiste, 2020). This approach is driven by the research question and is flexible to identify patterns in the data (Braun & Clarke, 2006; Maguire & Delahunt, 2017; Clark & Plano Clark, 2019). Table 2.12 illustrates the steps taken for coding and theme development, which promotes trustworthiness of the qualitative data analysis. This study applied Braun and Clarke's (2006) six-phase method to ensure trustworthiness of the thematic analysis (Nowell et al., 2017).

Table 2.12 - Establishing trustworthiness for this study

Phases of Thematic Analysis	
Phase 1: Data Familiarisation	- Data were transcribed and exported to a raw data file with the case naming convention; - The raw data file was stored in a secured location applying version control; and - The data were exported into the Atlas.ti software and were coded deductively and inductively.
Phase 2: Initial codes	- The transcribed interview data were imported into Atlas.ti; - Initial codes were applied to the interview data (deductive); - New codes were developed from the interview data, commonly referred to as codable moments (inductive); - Inter-coder review by the reviewer was performed to determine reliability; and - After several iterations of coding a coding theoretical saturation was achieved.

Phase 3: Searching for Themes	• Codes were organised using a colour scheme; • Codes were allocated to a Code Group in Atlas.ti; • Following an iterative process: codes were combined or separated in Atlas.ti using the Split and Merge functionality; • Grouped codes that were repeated in a patterned way were used to establish the themes; and • Eight major themes with associated sub-themes were developed.
Phase 4: Theme review	The themes were reviewed systematically to ensure a reliable pattern was achieved. Each theme was evaluated independently to determine if they reflected the meanings of the whole data set. Maguire and Delahunt's (2017) review of themes were considered, such as whether the themes made sense and supported the data.
Phase 5: Defining and naming themes	Each theme was checked to ensure that they made sense to the entire data set and the research question. In order to ensure integrity of this process, the author reviewed the themes through test-retest reliability to ensure that they were ordered in a way that was reflective of the data.
Phase 6: Report	• A Code-Document Table (functionality in Atlas.ti) was included that provided an overview of the frequency of the codes within each Code Group; • Thematic maps were included, which showed relationships between the themes and sub-themes; • Extracts of the raw data were included to showcase the complexity of the data story. This is to convince critical readers of the validity of the analysis; and • References were made to literature and theories to back up the chosen themes.

2.11.3 Triangulation in mixed methods studies

The point of integration is explained by analysing the data independently and drawing a comparison from the results. Therefore, the purpose was triangulation. In terms of mixed methods, (1) results may converge achieving the same conclusions (2) results may be complementary to supplement the results of each dataset or (3) results may diverge (Tashakkori & Teddle, 2003; Creswell & Tashakkori, 2007).

i. Convergent results attempt to verify the results, which increase the study's validity. However, researchers are cautioned to be aware of potential flaws in their datasets offering convergent results;

ii. Complementary results may lead to the discovery of different aspects of the topic being investigated; and

iii. Divergent or contradictory results may lead to different explanations for the topic being investigated.

Triangulation is an approach that was introduced in the 1950s, which aimed to reduce biases associated with the use of a single methodology (Williamson, 2005). Therefore, triangulation is used in research to increase the confidence in the study's findings (Cohen, Manion & Morrison, 2000; Joppe, 2000; Heale & Forbes, 2013; Bryman, n.d.). It is a process that promotes validation of the findings. This may be achieved by combining theories, methods or observers in a study (Joppe, 2000; Tashakkori & Teddle, 2003). The following advantages are linked to triangulation (Carvalho & White, 1997):

i.   Triangulation can explain aspects of the topic being investigated;

ii.   Triangulation can disprove findings of one dataset that invalidates the claims from another dataset;

iii. Triangulation can validate the acceptance of a hypothesis when two datasets confirm each other; and

iv.   Triangulation can support the explanation of a study's results.

There are four types of triangulation available to researchers (Denzin, 1970):

i.   Data Triangulation refers to time, space and people;

ii.   Investigator triangulation, which refers to the number of researchers involved in a study;

iii. Theory triangulation, which refers to the theoretical frameworks used for the interpretation of a phenomenon; and

iv.   Methodological triangulation, the most common type of triangulation, refers to the use of two or more data collection methods applied in a single study.

For this thesis, methodological triangulation is applied. Notably, the methodological perspective is justified through its literature review baseline, validity focus and data use and strategy for analysis (Creswell & Tashakkori, 2007). Figure 2.9 outlines the approach followed towards methodological triangulation.

Phase I

Exposing an aspect of reality (quantitatively)

Understanding the context of the study.

Questionnaires with participants falling into the category: startups, SMEs, MNEs, Big Business.

Descriptive and empirical analysis conducted.

Phase II

Exposing an aspect of reality (qualitatively)

Understanding the context of the study.

Semi-structured interviews with economic development agents.

Data coded and thematically analysed.

Methodological triangulation

Cross-validation.

Triangulation attempts to find convergence, complementary or divergent.

Figure 2.9 - Approach followed for methodological triangulation

2.12   ESTABLISHING RELIABILITY, VALIDITY AND TRUSTWORTHINESS

This study follows a mixed method approach that combines quantitative and qualitative methods. To assert the scientific quality of a study, researchers must ensure that the validity, reliability and trustworthiness of the selected methodology are upheld. The scientific quality of a quantitative research study is evaluated in terms of reliability and validity. A qualitative research study is evaluated through elements of trustworthiness namely, credibility, transferability, dependability and confirmability. The following subsections report and explain how the scientific quality of the quantitative and qualitative research components of this study were upheld.

2.12.1 Reliability

Reliability measures the consistency of a measuring instrument. Consistency refers to whether a measuring instrument yields the same results in another context with the same conditions. There are three ways to evaluate the reliability of a measuring instrument. Collis and Hussey (2014, pp. 274–275) classify the measures as follows:

i.   **Test-retest reliability** involves repeating the sample with the questionnaire at a later stage. The results are then compared to determine whether they correlate positively or negatively in terms of sample responses. The measure of consistency, through the lens of test-retest reliability may be confirmed by the *Pearson's product moment correlation* where the coefficient $|r|$ is both statistically and practically significant if $|r| \geq .300$ (Gravetter & Wallnau, 2009). This study did not repeat the questionnaire with the same group of participants.

ii. **Internal consistency reliability** determines whether the responses from the sample group show consistency on a multiple-item measure. This means that respondents' scores for the items should correlate and this is usually determined by the Split-halves reliability test.

iii. **Split-half reliability** evaluates the internal consistency of a measuring instrument by splitting the scale items into two halves. This is to determine whether the items measure the construct efficiently. A *Cronbach Alpha Coefficient* is used to measure the internal consistency of a measuring instrument. This study applies the Cronbach Alpha test for reliability. Reliability was determined based on the a set of interpretation intervals (see Table 2.13) from seminal authors, Nunnally (1978) and Zikmund, Babin, Carr and Griffin (2012). Nunnally (1978) contends that a minimum of 0.7 offers good reliability. Fair reliability, according to Zikmund et al. (2012) is achieved at 0.6.

Table 2.13 - Interpretation intervals for Cronbach Alpha Coefficient

Cronbach Alpha	Interpretation
0.80 +	Excellent
0.70 - 0.79	Good
0.60 - 0.69	Fair
0.50 - 0.59	Poor
< 0.50	Unacceptable

2.12.2 Validity

Validity refers to the extent to which the measuring scale measures what the researcher expects it to measure (Leedy & Ormrod, 2005; Collis & Hussey, 2014). Therefore, a measuring instrument that can be tested both theoretically and empirically for the case under investigation is deemed valid. There are three ways to determine the validity of a measuring instrument (Blumberg et al., 2005; Collis & Hussey, 2014):

i. **Face validity**, also known as content validity, describes the extent to which the measuring instrument adequately measures the construct it is intended to measure (Blumberg et al., 2005; Collis & Hussey, 2014). To ensure the content validity of the measuring instrument used in this study, the questions in the questionnaire were rationally analysed by a senior academic (rater or expert) in field of Entrepreneurship. Raters are individuals who review questionnaire items for readability, clarity and comprehensiveness towards a final questionnaire (Bolarinwa, 2015);

ii. **Construct validity** explains how well the measuring instrument measures the hypothetical constructs (Blumberg et al., 2005; Collis & Hussey, 2014). Construct

validity of the questionnaire was evaluated by conducting a CFA (DiStefano & Hess, 2005). CFAs are a statistical technique used to measure the correlation between the questionnaire items through a theoretical model to confirm the hypothesis. Furthermore, it is argued that using CFAs for hypothesis-based instruments adds statistical precision and allows for shortened forms of an instrument (Atkinson et al., 2011); and

iii. **Criterion-based validity** is evaluated by testing a measuring instrument through the categories of concurrent validity or predictive validity (Bellamy, 2015). *Concurrent validity* establishes whether the measuring instrument positively relates with an already validated instrument. *Predictive validity* establishes whether the measuring instrument adequately predicts the future (Fink, 2010). However, if the external criteria are categorical in nature a researcher could analyse the *known-group validity* as a measure of criterion validity (Rodrigues, Adachi, Beattie, Lau & MacDermid, 2019). This construct validity measures the instrument's ability to evaluate the opinions of different groups of respondents. In the case of categorical data (ordinal data), the t-test or ANOVA can be undertaken. For this study, known-group validity was established by undertaking t-tests and ANOVA.

2.12.3 Trustworthiness in qualitative research

Trustworthiness in qualitative research is a way to ensure that a study's research findings are of scientific quality. To ensure the integrity of a qualitative study, trustworthiness is measured in terms of credibility, transferability, dependability and confirmability (Lincoln & Guba, 1985). Trustworthiness is argued as pragmatic choices to ensure the relevance of a research study for a set of stakeholders (Nowell et al., 2017). This thesis employs a thematic analysis to analyse the qualitative data and therefore undertakes to ensure the trustworthiness criteria are met to achieve useful results. In the light of the qualitative nature of this study, validity and reliability will be assessed according to the dimensions of trustworthiness. The dimensions of trustworthiness are listed as follows:

i. **Credibility** refers to the extent that the researcher accurately portrays the social phenomenon that is being investigated (Tobin & Begley, 2004). This allows for a better interpretation of the respondent's views;

ii. **Transferability** refers to the ability of the research findings to be applied in similar contexts, meaning it allows for generalisation (Lincoln & Guba, 1985; Tobin & Begley, 2004);

iii. **Dependability** is a dimension of trustworthiness that seeks to ensure the consistency and appropriateness of the research design (Tobin & Begley, 2004). Therefore, the study must clearly document and justify the methods and techniques employed to confer design consistency. By undertaking these steps, Lincoln and Guba (1985) contend that the study can be judged as dependable; and

iv. **Confirmability** is a dimension of trustworthiness that depends on the other three dimensions (credibility, transferability and dependability) being achieved (Lincoln & Guba, 1985). Essentially, confirmability is achieved if the researcher can demonstrate that the interpretations and findings align to the data (Tobin & Begley, 2004). Koch (1994) contends that the research methodology must clearly provide the link between observed data and their interpretation. By doing this, the findings can be understood and substantiated by other researchers.

This study applied Braun and Clarke's (2006) six-phase method to ensure trustworthiness of the thematic analysis (Nowell et al., 2017).

2.13   ETHICS

It is vital to uphold the fundamental research principle of beneficence (Barrow et al., 2020). There is a set of ethical implications for both the participants and researcher for studies that deal with human beings. Application for ethical clearance needs to be made to undertake research on human beings. Full ethics clearance was obtained from the Nelson Mandela University's Research Ethics Committee – Human (REC-H). The accepted ethical clearance form with Resolution Number [H-18-BES-BS-039] is attached as Appendix A.

Researchers are responsible for ensuring that their practices lead to the betterment of society. To achieve this, researchers are obligated to consider the ethical implications of their studies on stakeholders, *inter alia*, the study participants and the researcher themselves (Creswell, 2009a; Du Plooy-Cilliers et al., 2014). The following subsections explain the ethical issues for participants and the researcher.

2.13.1 Ethical issues as it pertains to participants

Receipt of informed consent ensures the physical and psychological wellbeing and safeguarding of information (Du Plooy-Cilliers et al., 2014). The author addressed this ethical issue by obtaining the participants informed consent for voluntary participation. The informed consent included elements that the participant needed to be aware of before proceeding with the questionnaire or semi-structured interview. These elements include the identification of:

(1) the researcher, (2) the institution, (3) the purpose of the study, (4) any potential risks, (5) voluntary participation, (6) anonymity and confidentiality, (7) participants' withdrawal, (8) data reporting, (9) data use and (10) contact persons (Creswell, 2009a; Barrow et al., 2020). Informed consent acknowledges that participants' rights will be protected throughout the data collection process (Creswell, 2009b; Barrow et al., 2020). Participants were given the option to withdraw from the study at any point. In the light of the contextual sensitivity of the study, confidentiality of the participants' identities was emphasised.

The survey included the informed consent on the cover page. By commencing, participants acknowledged that their rights would be protected and provided consent. For the interviews, the author submitted the informed consent document detailing the ethical implications to each interviewee beforehand. Interviews are a moral inquiry and the interviewers must understand how an interview improves the human situation (Kvale & Brinkmann, 2009). Furthermore, the author sought to ensure physical and psychological wellbeing of the participants by conducting interviews according to their site preference, which allowed for unrestricted responses.

2.13.2 Ethical issues as they pertain to the researcher

Throughout the inquiry process, the researcher is responsible for avoiding all forms of subject and scientific misconduct (Creswell, 2009b). This includes researcher bias, misuse of information, inappropriate research methods and misrepresentation of findings (Du Plooy-Cilliers et al., 2014).

For this thesis, the author was obligated to avoid scientific misconduct during data analysis and interpretation phases (Creswell, 2009b). Therefore, the author considered aspects of (1) anonymity of the individuals, (2) data storage and period of storage, (3) data ownership and (4) accuracy of interpretation to avoid misrepresentation.

Furthermore, the author had an ethical obligation in the write up and dissemination phase (Creswell, 2009b) to (1) avoid biased wording, (2) avoid the misrepresentation of findings, (3) avoid disadvantaging certain groups, (4) provide the details of the study design to promote the study's credibility.

2.14 SUMMARY

The Chapter addressed RQ_1, which questions: "*What research design and methodology will ensure this study's reliability, validity and trustworthiness?*" The chapter achieved RO_1, which

was: *To discuss the research design and methodology best suited to ensure the validity, reliability and trustworthiness of this study*. This Chapter sought to discuss and justify the research design and methodology for this study.

The researcher centred the discussion around the layers of the research onion (Saunders & Tosey, 2012; Saunders et al., 2019). The research onion served as a systematic and logical guide for the researcher. Therefore, the sections explained the research philosophy, research approach, research methods, strategy, time horizon, data collection methods and data analysis. Figure 2.10 outlines the research design for this thesis.
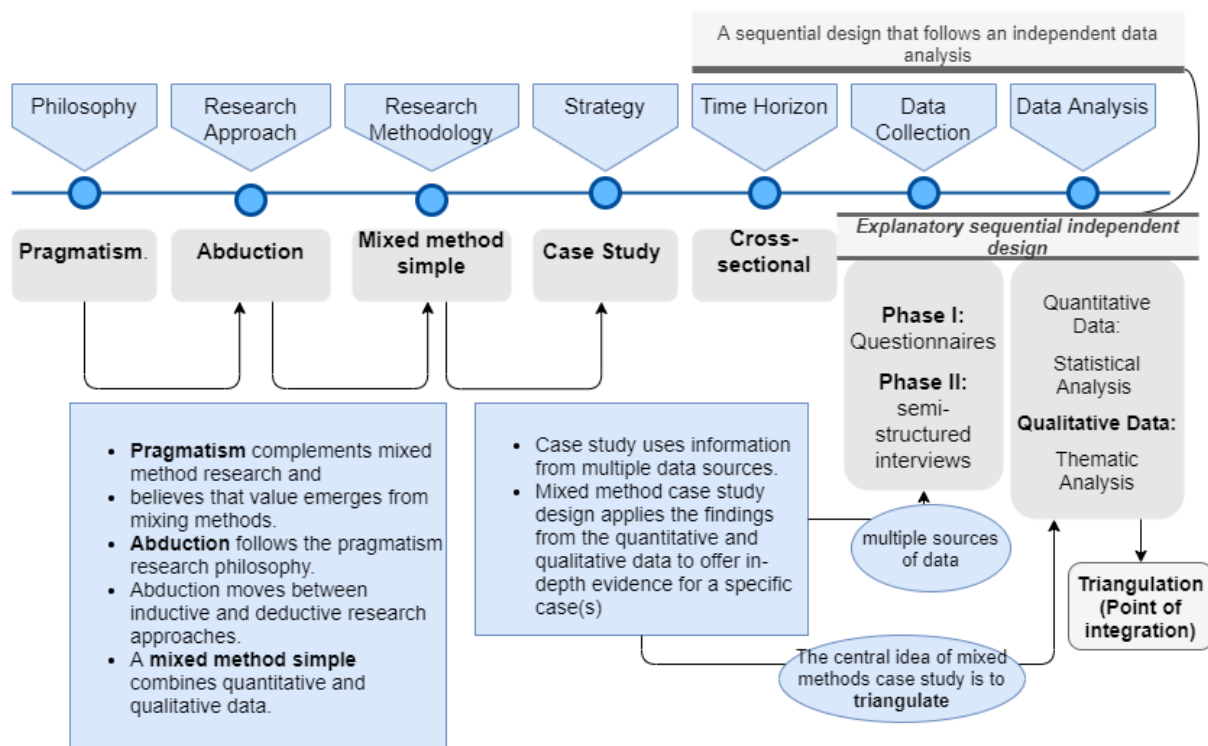
Figure 2.10 - Overview of the research design (author's own construct)

This thesis is embedded in the pragmatic research philosophy and followed an abductive research approach. Pragmatism was argued as the appropriate philosophy for a mixed method research study. By following pragmatism, the study sought to promote practical outcomes to inform future practice. Therefore, the author takes a position and argues that this type of research may offer practical implications especially when dealing with complex phenomena.

Before discussing the strategy, the significance of the literature review was explained. The abductive research approach emphasised the importance of the theoretical framework. Notably, Saunders et al. (2019) assert that the data collected are located in a framework and tested. Based

on the analysis of the data gathered from the survey and semi-structured interviews, an entrepreneurial ecosystem framework for Nelson Mandela Bay will be developed.

The case study strategy was applied and deemed appropriate for a mixed methods study through its flexibility to deal with multiple data collection methods. In this thesis, a combination of the explanatory and descriptive case study was applied which followed a cross-sectional time horizon.

The researcher primarily focused on the purposive sampling method and identified the unit of analysis as follows:

i. **Quantitative component**: individuals falling into the category of start-ups, micro-enterprises, SMEs, big business, corporates and MNEs located in Nelson Mandela Bay, South Africa. The sampling design, data collection methods and the data analysis methods were discussed.

ii. **Qualitative component**: individuals falling into the category of economic development agents who are located in Nelson Mandela Bay, South Africa.

A *sequential independent* design was followed. The point of integration was explained by the author by analysing the data independently and drawing a comparison from the results. Therefore, the purpose was towards triangulation. Triangulation is a process that increases the validation of the data and was used to increase confidence in the study's findings. This study applied methodological triangulation, as two data collection methods were applied in a case.

Furthermore, to assert the scientific quality of this thesis, the researcher sought to explicitly explain how validity, reliability and trustworthiness were achieved in the chosen methodology. The researcher undertook split-halves reliability. This was evaluated through the Cronbach Alpha coefficient. Aspects of validity were discussed through content validity, construct validity and criterion-based validity. To ensure the content validity of the measuring instrument used in this study, the questions in the questionnaire were rationally analysed by a senior academic, referred to as a 'rater' and expert in field of Entrepreneurship. Construct validity of the questionnaire was evaluated by conducting a CFA. Criterion-based validity explained that the external criteria of the questionnaire were categorical, as such the *known-group validity* was measured. In the case of categorical data, the t-test and ANOVA test were conducted.

In the following chapter, the state of entrepreneurship in South Africa is discussed.

CHAPTER 3: THE STATE OF ENTREPRENEURSHIP IN SOUTH AFRICA

3.1   INTRODUCTION

Chapter Two discussed the research methodology and design chosen for this study. The research philosophy, approach, methods, strategy, time horizon, population and sampling and data collection and analysis were discussed. This explanation was deemed important to promote the scientific quality of the thesis in terms of validity, reliability and trustworthiness.

In Chapter Three, a literature review about the state of entrepreneurship in South Africa is performed. Entrepreneurship is a driving force for job creation, innovation and economic growth and supports pillar eight of the Sustainable Development Goals, which aims to "*promote inclusive and sustainable economic growth, employment and decent work for all*"(United Nations, 2015). In developed economies, small businesses account for over 90% of all formal businesses and contribute significantly to GDP, while creating employment (World Bank, 2020b). The return from entrepreneurship distributes wealth to citizens in the form of higher average salaries and wages of low-level jobs.

Currently, in South Africa, there are different estimates regarding the size of the small business sector (OECD, 2020b). The OECD (2020b) explains that various research institutions, such as the (1) Bureau of Economic Research report a GDP contribution of slightly over 20% before tax and subsidies, (2) the GEM reported a GDP contribution of 36% and (3) the Minister of the Presidency reported a contribution of 42% to GDP. Yet, South Africa's GDP per capita has declined and struggles to compete with the growing population (Statistics South Africa, 2020a).

Despite the opportunities presented by productive entrepreneurship, it was reported in October 2020 that South Africa's Gini coefficient stood at 0.63 (Republic of South Africa, 2020; Statistics South Africa, 2020b; World Population Review, 2021), which is one of the most reputable in the world. The level of inequality is related to the disparity in the labour market with the population divided into high-skilled and productive and low-skilled and unproductive (The World Bank, 2018). It is reported that the duality in the labour market has caused rising wage inequality. With such levels of inequality, it becomes imperative to stimulate entrepreneurship.

Stimulating entrepreneurship in South Africa is vital, however, the environment is burdened by the regulatory framework, market access, finance and human capital, amongst other restraints. To promote an understanding of the current state of entrepreneurship in South Africa,

Chapter Three sought to address RO$_2$: *To explore the state of entrepreneurship in South Africa.* Thereby addressing RQ$_2$: "*What is the current state of entrepreneurship in South Africa*?"

This chapter is organised as follows: First, the formal definition and classification of small businesses are provided, which is followed by an overview of the legislation. Thereafter, a description of South Africa's economic status at a high-level is discussed, followed by an overview of the impact of entrepreneurship in terms of employment and sector contribution. The global perceptions of South Africa are highlight by consulting global reports and before concluding, the major constraints as established by the national entrepreneurship context are briefly explained.

Figure 3.1 offers a structural overview of this study and illustrates where Chapter Three is positioned in the overall structure of the thesis. Figure 3.2 illustrates the roadmap for Chapter Three. The chapter begins by providing the formal definition of small enterprises in South Africa.
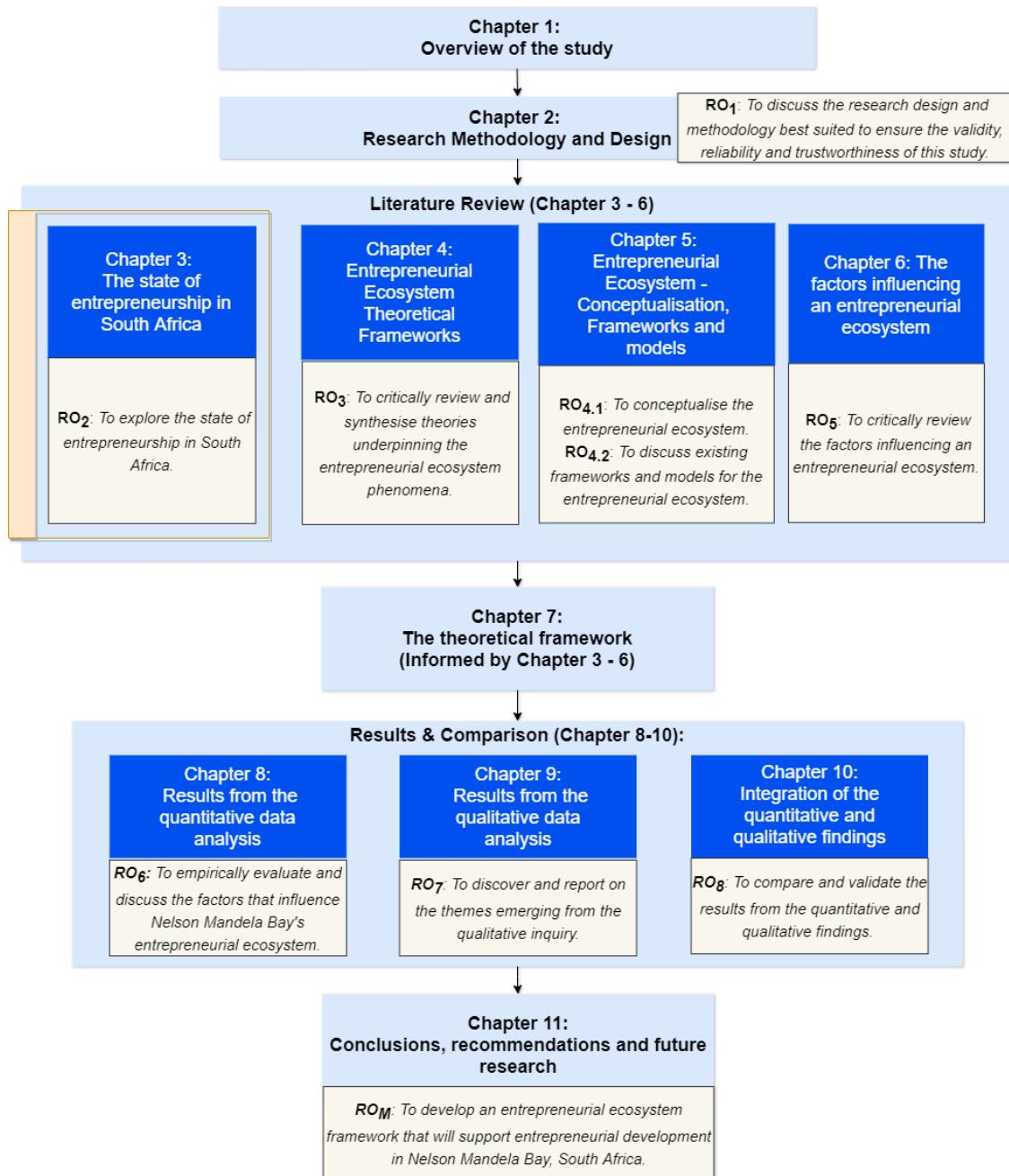
Figure 3.1 - Structural overview of the research study

CHAPTER 1: Overview of the study

CHAPTER 2: Research methodology and design

CHAPTER 3: The state of entrepreneurship in South Africa

- 3.1 Introduction
- 3.2 South Africa's formal small enterprise; definition and classification
- 3.3 Overview of the evolution of small enterprise; legislation and policy
- 3.4 Economic snapshot of South Africa
- 3.5 The impact of enterpreneurship in South Africa
- 3.6 Global perspectives of South Africa
- 3.7 Strengths and weaknesses - national entrepreneurship context index
- 3.8 Summary

CHAPTER 4: Entrepreneurial ecosystem theoretical frameworks

CHAPTER 5: Entrepreneurial ecosystem - conceptualisation, frameworks and models

CHAPTER 6: The factors influencing an entrepreneurial ecosystem

CHAPTER 7: The theoretical framework

CHAPTER 8: Results from the quantitative data analysis

CHAPTER 9: Results from the qualitative data analysis

CHAPTER 10: Integration of the quantitative and qualitative findings

CHAPTER 11: Conclusions, recommendations and future research

Figure 3.2 - Roadmap of Chapter Three

3.2 SOUTH AFRICA'S FORMAL SMALL ENTERPRISE; DEFINITION AND CLASSIFICATION

In 2019, the Minister of the Department of Small Business Development gazetted the *Revised Schedule 1* of the national definition of small enterprises in South Africa (Department of Small Business Development, 2019). The national definition of a small enterprise is as follows: "a separate and distinct business entity, together with its branches or subsidiaries, if any, including cooperative enterprises, managed by one owner or more predominantly carried on in any sector or subsector of the economy mentioned in column 1 of the Schedule and classified as a micro, a small or a medium enterprise by satisfying the criteria mentioned in columns 3 and 4 of the Schedule". The schedule in the definition refers to the threshold for defining enterprises by size class and sector using two proxies.

The proxies refer to *'total full-time equivalent of paid employees'* (Column 3) and *'total annual turnover'* (Column 4) (Department of Small Business Development, 2019). In this definition, micro-enterprises are characterised as having 0-10 employees, small enterprises 11-50 and

medium enterprises 51-250 total full-time equivalent employees. The total annual turnover, indicated in millions, varies by size and sector.

3.3   OVERVIEW OF THE EVOLUTION OF SMALL ENTERPRISE; LEGISLATION AND POLICY

In South Africa, the legislation regarding small businesses has undergone development with multiple changes. In 1995, a White Paper on the National Strategy for the Development and Promotion of Small Businesses in South Africa was developed. The White Paper aimed to promote an integrated approach for small business development (Republic of South Africa, 1995). The White Paper outlined the obstacles that small enterprises were facing, such as the regulatory framework, finance and market access, amongst other obstacles. This White Paper explained that the Department of Trade and Industry (DTI) was the coordinating agent for policies guiding or enabling the SMMEs. Thereafter, the Department of Small Enterprises translated the White Paper into the National Small Enterprise Act 102 of 1996. The most recent amendment to Act 102 of 1996 is the National Small Enterprise Bill of 2020. The aim of the amendment is underpinned by enacting social justice and promoting oversight through an ombudsman. Table 3.1 outlines the evolution of small enterprise legislation in South Africa since 1995.

Table 3.1 - Evolution of South Africa's small enterprise legislation

Legislation	Description
1995 - **White Paper** on the National Strategy for the Development and Promotion of Small Businesses in South Africa	First effort towards an integrated approach to the development and support of Small Enterprises (Republic of South Africa, 1995).
National Small Enterprise Act 102 of 1996 – this act replaced the repealed Small Business Act of 1981 (post-apartheid)	The White Paper was translated into the National Small Enterprise Act No. 102 of 1996 followed by an amendment act in 2003 and an amendment act in 2004 respectively (South African Government, 2021).
National Small Enterprise Act 26 of 2003 – an amendment to the Act of 1996, which revoked provisions of the National Small Business Council	
National Small Business Amendment Act 29 of 2004 – the amendment made provisions for establishing the Small Enterprise Development Agency (SEDA) and revoked Ntsika Enterprise Promotion Agency	
2005 – Integrated Strategy for the Promotion of Entrepreneurship and Small Enterprises	This strategy is a co-ordination document for the DTIs internal unit (DPME/Department X, 2017). The strategy aims to support and promote entrepreneurship through high performance to ensure that success is achieved across all policy and action areas. There are three broad pillars that the strategies aim to achieve: (1) increased supply of financial and non-financial support services; (2) demand for small enterprise

	products and services; and (3) easing regulatory constraints.
2019 - Revised Schedule 1 of the national definition of small enterprises in South Africa	This schedule amended the definitions of SMMEs to satisfy international practise. The schedule removed the category *very small enterprise* into the *micro-enterprise category*. The new definition classifies SMMEs into two proxies, namely *total full-time equivalent of paid employees* and *total annual turnover*. The schedule removed the third proxy, namely *total gross asset value*.
National Small Enterprise Amendment Bill 2020	This amendment to Act No 102 of 1996 seeks for social justice of small businesses and establishes the office of the Small Enterprise Ombud Service.

3.4   ECONOMIC SNAPSHOT OF SOUTH AFRICA

The latest GDP per capita shows that the South African economy is underperforming. The Small Business Institute (2021b, p. 6) asserts that South Africa has been stuck in its longest downward trend in seventy-five years. Unemployment has reached a high level of 32,6% on the official definition and 42,6% on the expanded definition (Statistics South Africa, 2020f).

Figure 3.4 illustrates the unemployment rate as a percentage of the labour force and Table 3.2 shows the official and expanded unemployment rate on a national and provincial level. The expanded unemployment rate includes individuals from the active population who have become discouraged from finding employment (South African Market Insights, 2020). The official unemployment rate includes the active population who are not working, actively seeking employment and are available to take a job.

These statistics may reveal that South Africa is not growth-orientated and innovative and relates to the economic stagnation of the country as seen by the GDP per capita growth (annual percentage) of -8.137%, as illustrated in Figure 3.3 (The World Bank, 2020). In economic terms, the slowing GDP growth per capita will lead to greater inequality over the long term, which means that on average, citizens will become poorer. Based on the declining economic growth and high unemployment rate, entrepreneurship is seen as a response to rectify the situation. However, the economic stage of the country may suggest that efforts to stimulate entrepreneurship cannot be based on the generic concept if the aim is to pursue economic growth.
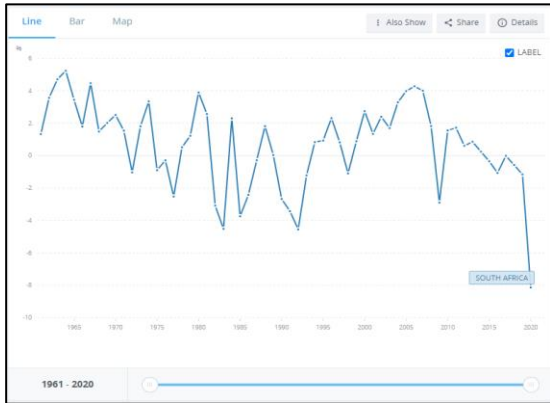
Figure 3.3 - GDP per capita growth (annual %) of South Africa (The World Bank, 2020)
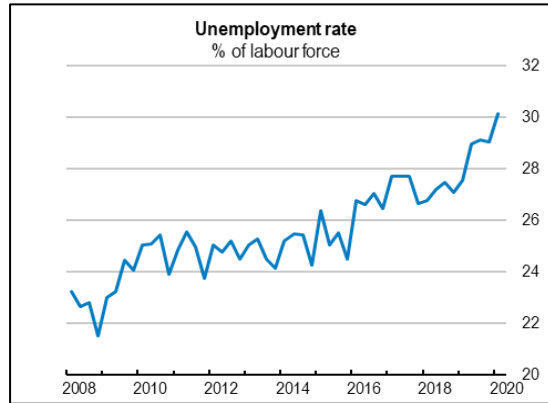
Figure 3.4 - South Africa unemployment rate (OECD, 2020a)

Table 3.2 - South Africa's unemployment rate (Statistics South Africa, 2020f)

	Official unemployment rate					Expanded unemployment rate				
	Oct-Dec 2019	Jul-Sep 2020	Oct-Dec 2020	Qtr-to-qtr change	Year-on-year change	Oct-Dec 2019	Jul-Sep 2020	Oct-Dec 2020	Qtr-to-qtr change	Year-on-year change
	Per cent			Percentage points		Per cent			Percentage points	
South Africa	**29,1**	**30,8**	**32,5**	**1,7**	**3,4**	**38,7**	**43,1**	**42,6**	**-0,5**	**3,9**
Western Cape	20,9	21,6	22,5	0,9	1,6	24,1	29,1	26,8	-2,3	2,7
Eastern Cape	39,5	45,8	47,9	2,1	8,4	47,7	51,2	52,4	1,2	4,7
Northern Cape	26,9	23,1	28,7	5,6	1,8	39,2	44,0	41,8	-2,2	2,6
Free State	35,0	35,5	33,4	-2,1	-1,6	42,3	42,6	39,9	-2,7	-2,4
KwaZulu-Natal	25,0	26,4	29,6	3,2	4,6	41,9	47,5	46,0	-1,5	4,1
North West	28,8	28,3	33,3	5,0	4,5	43,0	46,5	46,0	-0,5	3,0
Gauteng	30,8	33,7	34,1	0,4	3,3	35,3	41,0	41,0	0,0	5,7
Mpumalanga	33,6	27,8	33,0	5,2	-0,6	43,8	45,6	46,4	0,8	2,6
Limpopo	23,1	26,3	27,3	1,0	4,2	44,0	46,9	47,5	0,6	3,5

In this line, the OECD (2020b) states that 70% to 80% of small businesses fail in the first year and approximately half of the balance succeed over the next five years. This may suggest that the focus may need to be shifted to the exploitation of the place-based resources to benefit from agglomeration economies. In developed economies, generic entrepreneurial activity stimulates economic growth (Almodóvar-González, Fernández-Portillo & Díaz-Casero, 2020). However, its works in the inverse direction for developing economies. Essentially, if the rate of contribution of small businesses to GDP and employment does not increase national wealth, it may be argued that a shift of focus onto specific factors in the environment, for a developing economy, such as South Africa is required. In the following section, the employment impact of South Africa's SMMEs is discussed.

3.5   THE IMPACT OF ENTREPRENEURSHIP IN SOUTH AFRICA

The following sections attempt to provide the context regarding the impact of entrepreneurship in South Africa. The section begins by providing an overview of the measure of entrepreneurial activity and corresponding deductions.

3.5.1 Total Early-Stage Entrepreneurial Activity

Currently, South Africa applies the total early-stage entrepreneurial activity (TEA) rate as a measurement for entrepreneurship. TEA is based on the active population, who are individuals between the age of 18 and 64 years, who are (1) nascent entrepreneurs who committed resources and have not paid salaries or wages for more than three months and (2) new business owners who passed the nascent stage and are paying salaries and wages for a period between three and forty-two months (Bowmaker-Falconer & Herrington, 2020; The World Bank, 2021).

In 2019, South Africa's TEA stood at 10,8%, below the average for the African region of 12,1%. The trend data as illustrated in Figure 3.5 and Figure 3.6 shows that TEA has not increased between 2017 and 2019. However, the current entrepreneurial activity does not show a proportionate increase in the annual GDP per capita or employment as noted in Figure 3.3. To this extent, it may be argued that that economic performance is not linked to high rates of entrepreneurship in a developing economy such as South Africa.
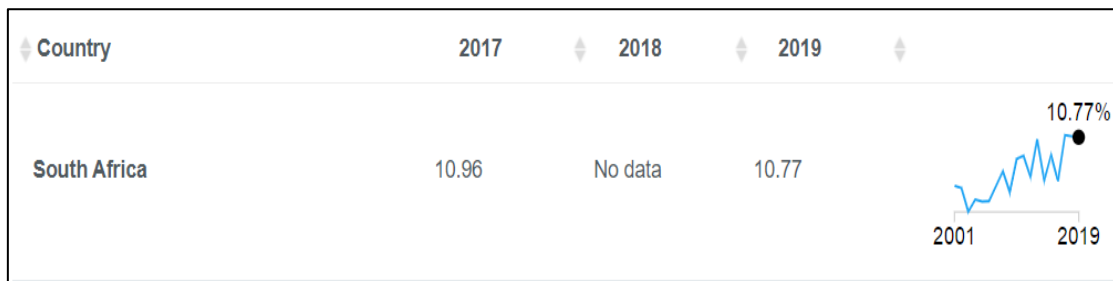
Figure 3.5 - Total Early-Stage Entrepreneurial Activity South Africa (The World Bank, 2021)

Figure 3.6 - Total Early-Stage Entrepreneurial Activity South Africa (The World Bank, 2021)

The disproportionate relationship between South Africa's TEA and economic performance may be explained by the concentration of necessity entrepreneurs. The institutional environment and lack of opportunity-driven entrepreneurs may be the biggest obstacle. The Global Entrepreneurship Index (GEI) explains that high TEA rates indicate poor economic growth and competitiveness (Acs, Szerb & Lloyd, 2018a, p.17). The assertion made by the GEI can be reinforced by a multi-country study called "*Entrepreneurial activity and economic growth: a multi-country study*" which suggested that stimulating generic ideologies of entrepreneurship in less developed economies may not lead to economic growth (Almodóvar-González et al., 2020). In this line, this study underscores the importance of exploiting place-based infrastructure to benefit from agglomeration economies, which are central to entrepreneurial ecosystems.

3.5.2 Formal and Informal SMMEs

The distribution of employment by sector is presented using the QLFS data from Statistics South Africa as illustrated in Figure 3.7 and Figure 3.8. Statistics South Africa (2020e, 2021) reported that formal sector employment in First Quarter of 2021 is 10,6 million compared to that of the First Quarter of 2020, which was 11,3 million. Informal sector employment shows a decline in the First Quarter of 2021 to 2,5 million compared with the First Quarter of 2020, which was 2,9 million. To make more clear deductions, the SEDA quarterly reports were consulted to get a picture of the proportion of SMMEs in the formal and informal sectors. The most recent SEDA report is based on 2020 QLFS data of the First Quarter.

Findings from SEDAs quarterly reports are presented in Figure 3.9 (with its associated data illustrated in Table 3.3) and Figure 3.10 (with its associated data illustrated in Table 3.4) and in particular, the survey data from the First Quarter of 2020 and the Third Quarter of 2020 (The Small Enterprise Development Agency, 2020, 2021). The quarterly reports highlight the proportion of SMMEs falling into the formal and informal sectors. In both reports, most of the SMMEs who are in the formal sector are employers compared with those in the informal sector, who are mostly own account workers. However, the larger distribution of SMMEs mostly operate in the informal sector. SEDA Third Quarter of 2020 data highlights that only 36,7% of all SMMEs are employers, compared with 63,3 % of SMMEs who are classified as own account workers. The distribution of employment indicates that a disproportionate concentration of employment exists in the informal sector.
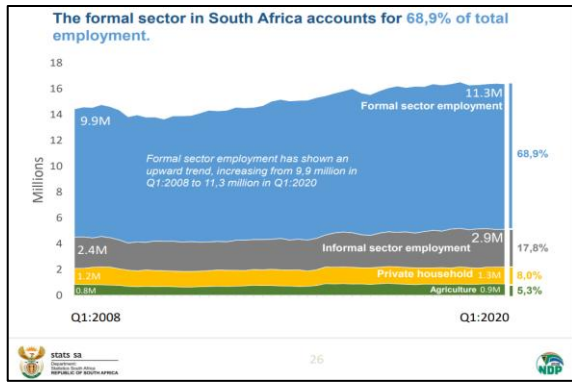
Figure 3.7 - Employment share by sector Q1 2020 (Statistics South Africa, 2020e)
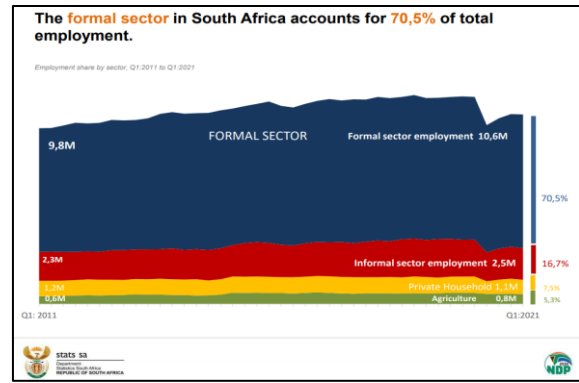
Figure 3.8 - Employment share by sector Q1 2021(Statistics South Africa, 2021)
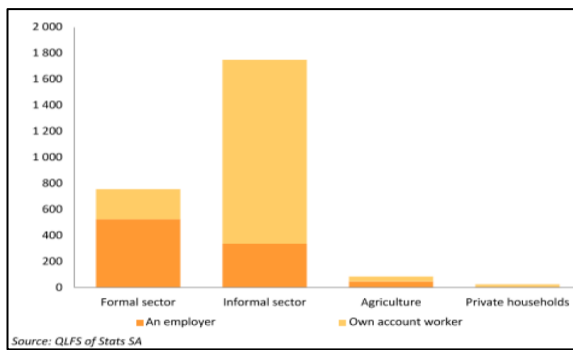
Figure 3.9 - SMMEs by formal and informal sector Q1 2020 (The Small Enterprise Development Agency, 2020)
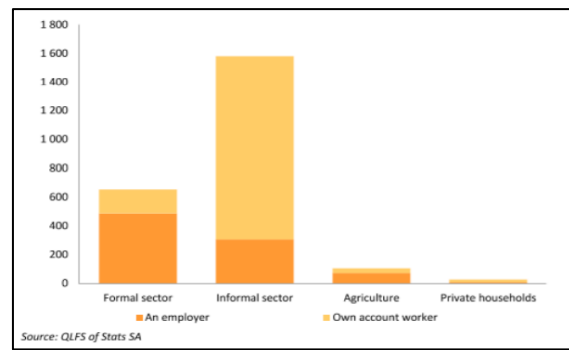
Figure 3.10 - SMMEs by formal and informal sector Q3 2020 (The Small Enterprise Development Agency, 2021)

Table 3.3 - Formal and informal SMMEs in Q1 2020 (The Small Enterprise Development Agency, 2020)

Type	Formal sector	Informal sector	Agriculture	Private households	Total	Distrib.
An employer	524 504	336 639	47 915	4 042	913 100	34.9%
Own account worker	230 761	1 411 392	37 974	20 836	1 700 963	65.1%
Total	755 265	1 748 031	85 889	24 877	2 614 063	100.0%
% per sector	28.9%	66.9%	3.3%	1.0%	100%	
Source: QLFS of Stats SA						

Table 3.4 - Formal and informal SMMEs in Q3 2020 (The Small Enterprise Development Agency, 2021)

Type	Formal sector	Informal sector	Agriculture	Private households	Total	Distrib.
An employer	485 670	305 298	70 432	6 538	867 938	36.7%
Own account worker	167 860	1 274 857	33 757	19 101	1 495 575	63.3%
Total	653 530	1 580 155	104 189	25 639	2 363 513	100.0%
% per sector	27.7%	66.9%	4.4%	1.1%	100%	
Source: QLFS of Stats SA						

Informal businesses are associated with necessity-driven entrepreneurship, which does not contribute significantly to GDP (Herrington & Coduras, 2019). This sector undertakes economic activities but is not subject to government regulation, taxation or protection (Small Business Institute, 2021a). Furthermore, there are high variations in terms of the contribution of SMMEs to GDP due to the number of informal or unregistered businesses (Nieuwenhuizen, 2019). The Small Business Institute (2021a) highlights that limited political action has been seen to advance the implementation of Recommendation No. 204 (International Labour Organisation, 2015) by the International Labour Organisation to formalise informal businesses.

A large concentration of informal businesses leads to missed economic opportunities, in terms of tax revenue and employment creation. As illuminated in Section 3.5.1, entrepreneurial activity does not correlate with socio-economic development in developing economies. However, a supportive environment focused on a place-based strategy may realise scalability and transition into the formal sector (Bosma et al., 2019).

3.5.3 Baseline study of small businesses conducted with firm-level data from the South African Revenue Service and National Treasury

In 2018, a baseline study of small businesses was performed by the Small Business Institute in partnership with the Small Business Project on data from 2011 to 2016. The study aimed to provide evidence based on credible data. The assertion made was that the current data lacks consistency. Therefore, the study used firm-level data from the South African Revenue Service and National Treasury's tax data filed by formal businesses (Small Business Institute and the Small Business Project, 2019). The findings as illustrated in Figure 3.11 and Figure 3.12 show that the formal SMMEs accounted for approximately 98,5% of the formal businesses in the economy (Small Business Institute and the Small Business Project, 2019). However, their employment numbers were inverse, insofar that only 5,1% of the employment was found in micro-enterprises, 11% in small-enterprises and 12% in medium-enterprises. Therefore, SMMEs employed 3,863,104 individuals from the active population accounting for 28% of total formal jobs.
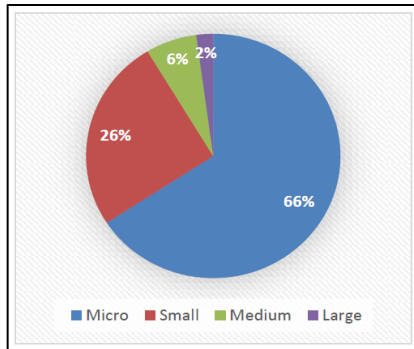
Figure 3.11 - Proportion of firms by size classification
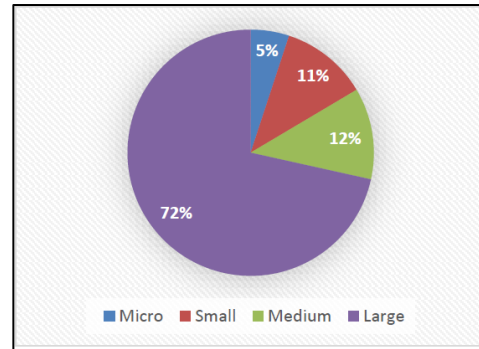
Figure 3.12 - Proportion of employment by size classification

International trends suggest that small businesses should contribute approximately 60% -70% of jobs for an economy. However, in South Africa, large formal businesses and government are the major employers and their employment rates are growing faster than employment created in small businesses.

3.5.4 Entrepreneurship impact - sector

According to the GEM, South African entrepreneurs operate in a variety of sectors (Bowmaker-Falconer & Herrington, 2020). The Third Quarter findings for 2020 indicated that most (39%) SMMEs operated in the trade and accommodation sector (The Small Enterprise Development Agency, 2020). Figure 3.13 illustrates the proportion of SMMEs by sector. Furthermore, a high concentration of SMMEs was found in the finance and business services sector (13%) and community services sector (13%). Medium enterprises operate largely in primary sectors, while the small enterprises are generally concentrated in the manufacturing sector (OECD, 2020b).
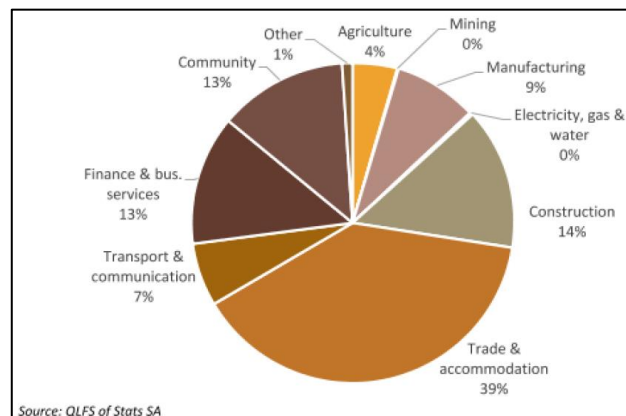
Figure 3.13 - SMMEs by industry in 2020 Q3 (The Small Enterprise Development Agency, 2021)

In 2019, Statistics South Africa reported that more than a quarter of total turnover was generated in the services sector (Statistics South Africa, 2019). Small enterprises in these

industries were explained as a high proportion of small players who were operating businesses such as barber shops, cafes and dry-cleaning services. This aligns with the contention made by the OECD (2020b) who reported that micro-enterprises are concentrated in the services sector. The concentration of micro-enterprises in the services sector may be explained by the low barriers to entry with regard to skills and capital requirements (Bowmaker-Falconer & Herrington, 2020). Comparing these results with Figure 3.9 and Figure 3.10 reinforces that the formal employing SMME segment is small, which echoes the findings made by the Small Business Institute and Small Business Project (2019) to the extent that employment numbers are inverse.

3.6   ENTREPRENEURSHIP – GLOBAL PERSPECTIVES

The finance minister, Tito Mboweni, stated "before we can blame the private sector for not investing in the country, we must check whether the growth environment scores are sufficiently there"(Small Business Institute, 2021b). Against this backdrop, the ranking from global reports, such as the Global Competitiveness Index, the World Bank's Ease of Doing Business and the World Competitiveness Yearbook have reported negatively about South Africa. This has caused a negative perception among foreign investors and reduced the retention of domestic investment (Small Business Institute, 2021b).

In 2020, the World Economic Forum annual meeting, which comprises world leaders was held in Davos-Klosters, Switzerland. The meeting highlighted that international investors do not trust South Africa (World Economic Forum, 2020). The negative sentiments lower the potential to trade and access new markets.

In 2019, the Global Competitiveness Index reported that the government regulations (ranked 101 out of 141) and ease of starting a business (ranked 129 out of 141) were obstacles for South Africa's entrepreneurial ecosystem. The report emphasised that South Africa's competitiveness is below par in terms of the government's adaptability to change, suffered from low business dynamism and onerous processes to start a business (Schwab, 2019). The World Bank (2020a) reinforced these findings and asserted that it was expensive to do business with and in South Africa. In fact, South Africa dropped by two points to 84 out of 190 in the World Bank's Ease of Doing Business 2020 report (World Bank, 2020a). The 2020 World Competitiveness Yearbook reported that the South African government efficiency dropped to 54 out of 63 countries (Department of Employment and Labour, 2020; International Institute for Management Development, 2020).

Further global perspectives include the perception of corruption. The Small Business Institute (Small Business Institute, 2021a) contends that corruption has destabilized the business environment. Herein, corruption is perpetuated by municipalities that are allowed to operate with freedom. It is further claimed that corruption stimulates the informal sector where political expediency is high. The high levels of political expedience, corruption and unethical behaviour in the public sector have impacted South Africa's global competitiveness. In 2019, the Global Competitiveness Index reported a decline in South Africa's ranking on conditions, such as trust in politicians, corruption and bribery, crime and violence (Schwab, 2019). The persistence of corruption, political instability, unethical behaviour and crime negatively impact GDP, foreign direct investment and further increase the cost of doing business.

3.7 NATIONAL ENTREPRENEURSHIP CONTEXT INDEX

The GEM offers a measurement, namely, the national entrepreneurship context index (NECI) and twelve components with average scores for 54 economies (Bosma et al., 2019). The numbers, which are based on composite values, measure and rank the ease of starting and developing a business in each economy. The NECI displays the strengths and weaknesses of each economy against various components of the entrepreneurial ecosystem. In 2019, South Africa ranked 49 out of 54 economies on the NECI index and illustrated in Figure 3.14 (Bowmaker-Falconer & Herrington, 2020, p. 32). The report concluded that South Africa's entrepreneurial ecosystem was among the worst of the participating economies.

However, GEM South Africa reported that the perception of entrepreneurial opportunities increased between 2017 (43.2%) and 2019 (60.4%) (Bowmaker-Falconer & Herrington, 2020). This characteristic is echoed by the Global Entrepreneurship Index that reported South Africa's greatest strength to be based on opportunity perception (Acs et al., 2018). In this line, issues hindering individuals from starting a business were reported to be based on a fear of failure, which was notably high at 49.8%, showing an upward trend from 2017 (Bowmaker-Falconer & Herrington, 2020).

Furthermore, the NECI scores aim to represent the overall impression of various conditions affecting entrepreneurship and infer where employment opportunism and competition may be better. A set of conditions are compared to the participating economies and a deduction is made on specific components that either promote or restrict entrepreneurial development.
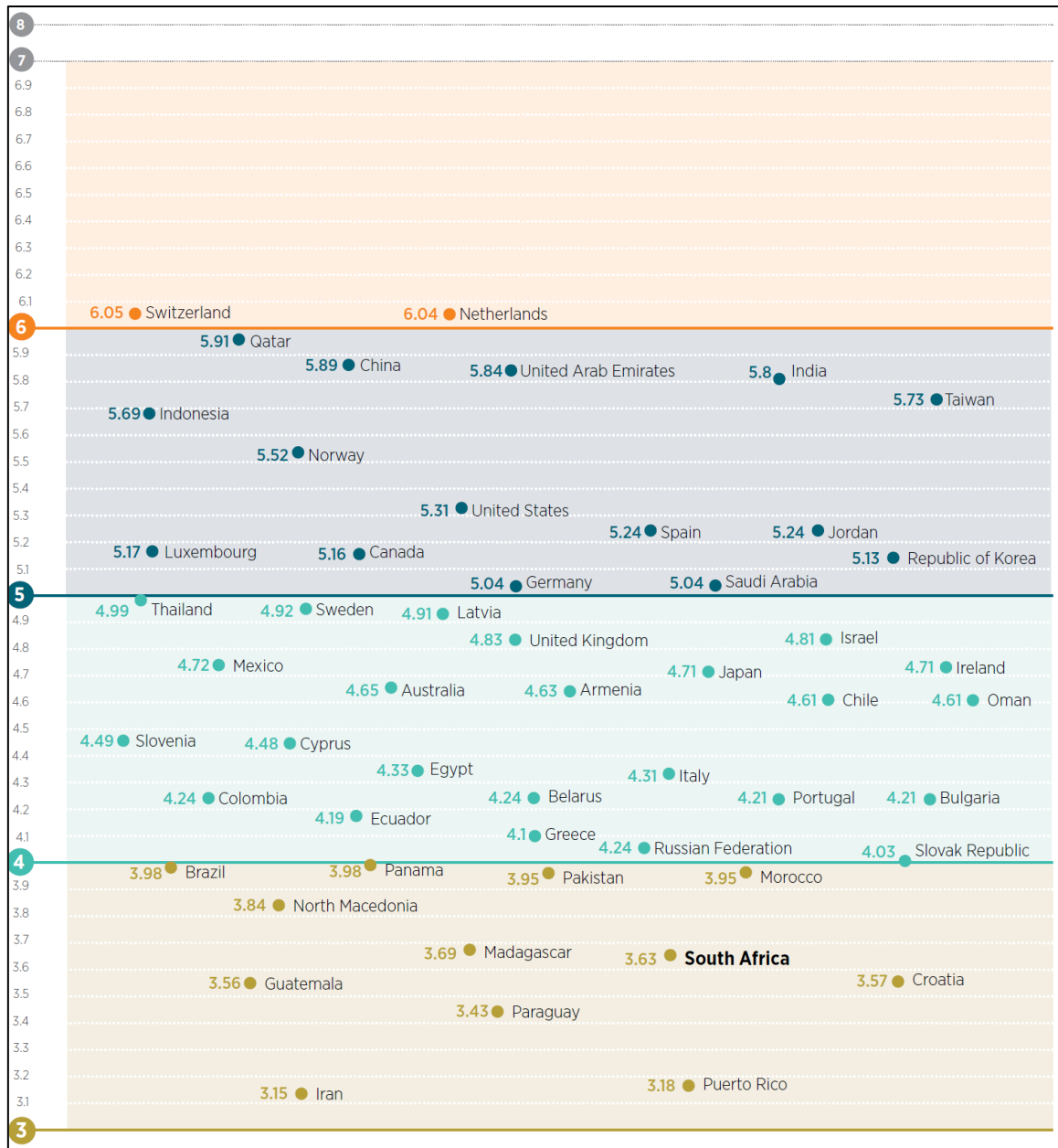
Figure 3.14 - National Entrepreneurship Context Index of 54 economies (Bowmaker-Falconer & Herrington, 2020)

The components that required special attention were (1) the education in the primary and secondary school levels; (2) government policies; (3) research and development transfer; and (4) internal market burdens (Bowmaker-Falconer & Herrington, 2020, p. 42). Additionally, the report indicated that focus should be placed on the spatial differences as locations are unique and are influenced by their cultural, social, political and economic structures (Woolley, 2017; Bosma et al., 2019; Stam & Van de Ven, 2020; Iftikhar et al., 2020). In the following subsections, the main areas as indicated by GEM are discussed. Additionally, infrastructure in terms of city planning will be briefly explained.

3.7.1 Government policies and practices

Multiple authors and reports contend that the regulatory environment is the biggest obstacle for business growth (DPME/Department X, 2017; Herrington & Coduras, 2019; Nieuwenhuizen, 2019; Bowmaker-Falconer & Herrington, 2020; International Institute for Management Development, 2020; OECD, 2020a; Schwab, 2019; World Bank, 2020a). In 2017, a study was conducted on South Africa's Integrated Strategy for the promotion of entrepreneurship and small enterprises as it pertained to the ease of doing business (DPME/Department X, 2017). Findings indicate that South African entrepreneurs faced various regulatory obstacles based on where they were situated. Despite government's commitment through subsequent State of the Nation addresses, the legislative and regulatory environment has proliferated bureaucracy, which has created systemic obstacles for business growth and job creation (Small Business Institute, 2021b). The OECD Economic Survey (OECD, 2020a) asserted that the complexity of the regulatory framework and bureaucratic structures impede competition and growth.

This report measured regulations against six stages: starting a business, dealing with construction permits, accessing electricity, property registration, contract enforcement and trading (DPME/Department X, 2017). Furthermore, restrictive labour laws have a disproportioned effect on small businesses (Nieuwenhuizen, 2019). Beyond, the bureaucracy, the report underscored the poor compliance by public agents and the extent of corruption in the state, which add to the unfavourable environment (Herrington & Coduras, 2019).

3.7.2 Education for human capital

The 2019 Global Competitiveness Index reported that the quality of education in South Africa was ranked as follows: (1) 119 out of 141 countries for quality of vocational training and (2) 102 out of 141 countries for the skillset of graduates (Schwab, 2019, p. 520). Similarly, the 2019 GEM South Africa reported a very low rating of 2.2 out of 10 for the availability of entrepreneurship education at the primary and secondary school levels (Bowmaker-Falconer & Herrington, 2020). Furthermore, the Global Entrepreneurship Index indicates that entrepreneurial skills are less available and inhibitors for sustainable entrepreneurship in sub-Saharan Africa (Acs, Szerb & Lloyd, 2018; Herrington & Coduras, 2019; Bowmaker-Falconer & Herrington, 2020).

It is argued that an educated population, with the requisite knowledge and skills, possess the ability to grow their business, drive innovation and compete (Bowmaker-Falconer &

Herrington, 2020). The low proportion of SMME owners with tertiary-level education may aid in explaining why many businesses remain informal. The 2019 Global Competitiveness Index reported that entrepreneurial skills are less available and inhibitors for sustainable entrepreneurship in sub-Saharan Africa (Acs, Szerb & Lloyd, 2018; Herrington & Coduras, 2019; Bowmaker-Falconer & Herrington, 2020).

Sustainable entrepreneurship in this context is hindered as investors make choices based on the talent in a region. Most 'melting pots' of entrepreneurial activity are associated with a dense concentration of individuals with high human capital to gain returns from knowledge spillover. In light of the current rankings, the South Africa education environment needs to be tailored to become relevant in terms of the type of work and the rapidly evolving labour market.

3.7.3 Finance issues

The Small Business Institute (2021b) highlights that access to finance is often acknowledged as a critical barrier. This is mostly because of the dissonance between the expectations of the funder and the entrepreneur's collateral undertaking. Thus, there are low levels of formal financing through the banks, which are underpinned by the lack of credit information, risk profiles and lack of assets of that small businesses have. For instance, banks are risk-averse based on the extent of the SME credit exposure, which leads to SMEs not being able to access credit. Herrington and Coduras (2019) contend that non-financial support, such as training small businesses to be financially ready is required.

Furthermore, government subsidies declined in 2019 compared to 2017 (Bowmaker-Falconer & Herrington, 2020). This may be related to the fact that the outstanding direct government loans to SMEs for the financial year ending 2017 reported an amount of ZAR 11,48 billion (1.8% of SME loans). The OECD (2020b) highlighted data from the South African Reserve Bank on credit exposure amounting to ZAR 617 billion at the end of 2017. This amount accounted for 28% of all business loans.

The amount of government debt has significant implications for small businesses insofar that the government is limited to the number of subsidies that they can grant, which brings attention to the need for alternative sources of funding. In late 2020, the Department of Trade, Industry and Competition (2020) explained that many black-owned companies would close down due to the effect of COVID-19 as a result of poor balance sheets and insufficient collateral as the government needed to reduce their lending rates. The aforementioned reinforces the

importance of education and training to improve the financial management skills of South African entrepreneurs.

3.7.4 Research and development transfers

Research and development transfers have shown a decline from a weighted average score of 3.8 out of 10 (2015) to 3.2 out of 10 (2019). The GEM average for 2019 was 4 out of 10. The weighted average score was based on the question, "To what extent can research findings, including those from universities and research centres, be translated into commercial ventures?"

Research and development transfer is essential for innovation and access to markets or new sectors. The knowledge from universities and research institutions creates positive spillover effects in learning and innovation (Clarysse, Wright, Bruneel & Mahajan, 2014; Woolley, 2017; O'Connor, Stam, Sussan & Audretsch, 2018). This means that the knowledge obtained from these institutions supports commercial endeavours and promotes entrepreneurial activity. According to van Beers and Zand (2014) and Link and Scott (2019), the underinvestment into knowledge transfer creates negative economic development in an under-resourced environment, such as South Africa. Therefore, research and development transfers support value creation and reduce the cost of talent through labour pooling effects.

3.7.5 Internal market burdens

Applying laws and regulations that allow for ease of establishment and trade, tax rebates, competition policies and entry/exit make starting a new venture attractive (Fritsch & Wyrwich, 2017). In 2019, GEM South Africa (2020) reported a rating of 3.4 out of 10 for the internal market burdens and South Africa scored 48 out of the 54 participating economies.

The OECD (2020a) indicates that there are strict product market regulations, as illustrated in Figure 3.15. South Africa's bar is illustrated as red in the chart and illustrates that South Africa is above the OECD average and its barriers exceed most of the emerging economies. The strict and complex regulations and barriers to entry impede economic growth and competitiveness. This means that South Africa is missing the opportunity to capitalise on critical mass, in economic terms.
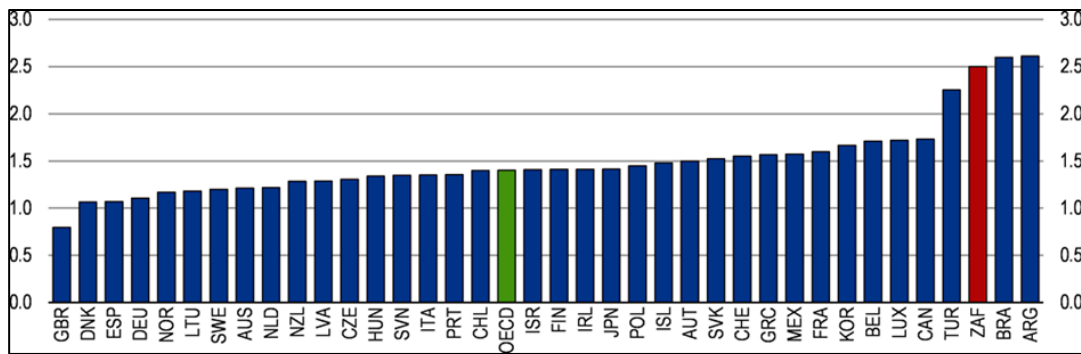
Figure 3.15 - Rate of barriers compared to OECD average(OECD, 2020a)

3.7.6 Infrastructure and city planning

Businesses that compete in a location are influenced by the quality of their surrounding space, land and infrastructure (Neck et al., 2004; Audretsch et al., 2015; OECD, 2019b). In South Africa, informal businesses operate from their houses and make choices on how much to innovate and trade based on a city's design and structure. On the other hand, South Africa's spatial design between disparate groups remains segregated. The OECD (2019b) contends that connectedness through physical connections is essential for social inclusion and improves land value.

Against this backdrop, Skinner and Watson (2017) state that a different approach to city planning and spatial design would be required for informal businesses. Broadly, urban policies need to be designed to promote spaces of production and consumption for small businesses (Glaeser & Gottlieb, 2006; Rousseau, 2009; Miles, 2012). In turn, this would reduce logistic costs and the kind of trade-offs small businesses need to make and induce better network opportunities for knowledge spillovers to occur.

3.8 SUMMARY

This chapter aimed to provide a high-level description of the current state of entrepreneurship in South Africa. Before contextualizing the current entrepreneurial environment, the chapter began by providing the official definition and classification of small businesses in South Africa. Thereafter, the legislation as guided by the Ministry of Small Enterprises was provided by highlighting the main acts and amendments to the acts including the specific strategies to promote entrepreneurship in South Africa. The trail in terms of the legislation has seen multiple changes to the acts, however, the prevailing Act of 1996 was replaced by the now-repealed Act of 1981.

As a prelude to the impact of entrepreneurship in South Africa, the chapter discussed the economic status of the country in terms of the unemployment rate and current economic growth. The impact of entrepreneurship was constructed by first presenting the TEA as the current measurement of entrepreneurial activity in the country. In the discussion of the TEA, the extent of necessity-based entrepreneurship was discussed and its negative correlation to economic growth. In particular, the discussion underlined that South Africa may need to consider the institutional context and the economic status of the country before undertaking generic ideologies of entrepreneurship. Secondly, the formal and informal sector was explained through the sector contribution to employment. The quarterly reports from SEDA were consulted and data from the QLFS as published by Statistics South Africa were used. Thirdly, a baseline study that was undertaken by the Small Business Institute was presented as it used firm-level data from the South African Revenue Service and National Treasury, which provided a different dimension of the formal and informal sector. Lastly, an overview of sector contribution was provided.

Following the discussion of the impact of entrepreneurship, global reports were consulted to provide an overview of the perceptions of South Africa. These global reports highlighted that the negative perceptions about South Africa have a direct effect on foreign direct investment, retention of domestic investment and the ability to access markets.

Before concluding this chapter, a summary of the weak components measured in the NECI was provided. NECI measures and ranks the ease of starting and developing a business in fifty-four participating economies and it was established that South Africa was one of the worst-performing economies. The main problem areas were discussed including a section on infrastructure and city planning.

In the following chapter, the entrepreneurial ecosystem theoretical frameworks are discussed.

CHAPTER 4: ENTREPRENEURIAL ECOSYSTEM THEORETICAL FRAMEWORKS

4.1 INTRODUCTION

Chapter Three provided an overview of the current state of entrepreneurship in South Africa. As such, the main objective of Chapter Three was to explore and review literature on the state of entrepreneurship in South Africa.

The current frameworks explaining the entrepreneurial ecosystem lack theoretical underpinning (Auerswald, 2015; Stam, 2015; Roundy & Fayard, 2018; Spigel & Harrison, 2018; Cantner, Cunningham, Lehmann & Menter, 2020). Theories informing the entrepreneurial ecosystem literature are commonly explained through the Systems and Network Theory. In this chapter, a more co-ordinated approach is undertaken to include perspectives from Social Network Theory, Structural Holes Theory, Institutional Theory, Systems Theory, Absorptive Capacity Theory of Knowledge Spillover, Design Thinking and Broken Windows Theory. Thus, Chapter Four addresses RO$_3$: *"To critically review and synthesise theories underpinning the phenomenon of an entrepreneurial ecosystem"*. Thereby answering RQ$_3$: *"What theories exist that support the entrepreneurial ecosystem?"*.

This chapter is organised by reviewing the identified theories and framing them within the context of this study. This is followed by the conclusion. Figure 4.1 provides a structural overview of the study and Figure 4.2 illustrates the roadmap for Chapter Four.
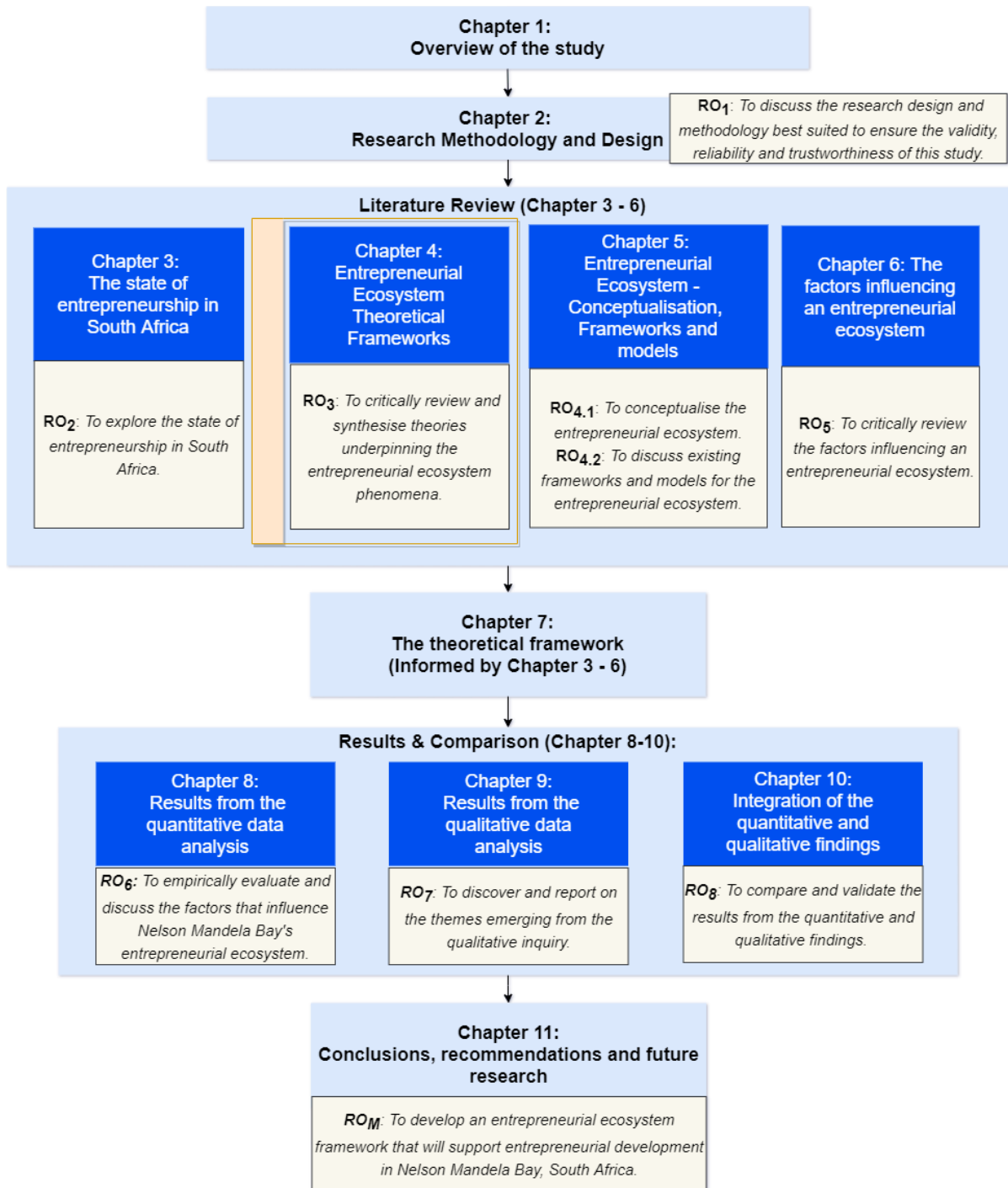
Figure 4.1 - Structural overview of the research study

CHAPTER 1: Overview of the study

CHAPTER 2: Research methodology and Design

CHAPTER 3: The state of entrepreneurship in South Africa

CHAPTER 4: Entrepreneurial ecosystem theoretical frameworks

- 4.1 Introduction
- 4.2 Theoretical framework
- *4.2.1 Social network theory*
- *4.2.2 Structural holes theory*
- *4.2.3 Institutional Theory*
- *4.2.4 Systems Theory*
- *4.2.5 The Absorptive Capacity Theory of Knowledge Spillover*
- *4.2.6 Design Thinking*
- *4.2.7 The Broken Windows Theory*
- 4.3 Summary

CHAPTER 5: Entrepreneurial ecosystem - conceptualisation, frameworks and models

CHAPTER 6: The factors influencing an entrepreneurial ecosystem

CHAPTER 7: The theoretical framework

CHAPTER 8: Results from the quantitative data analysis

CHAPTER 9: Results from the qualitative data analysis

CHAPTER 10: Integration of the quantitative and qualitative findings

CHAPTER 11: Conclusions, recommendations and future research

Figure 4.2 - Roadmap of Chapter Four

4.2 THEORETICAL FRAMEWORK

Chapter Four is informed by the Social Network Theory, Structural Holes Theory, Institutional Theory, Systems Theory, The Absorptive Capacity Theory of Knowledge Spillover, Design Thinking and Broken Windows Theory. Theories in research undergo a systematic attempt to make sense of the world or make sense of the world differently (Key, 1999; du Plooy-Cilliers, Davis & Bezuidenhout, 2014). The following subsections endeavour to discuss the proposed theories and their relevance to this study.

4.2.1 Social Network Theory

Social Network Theory is defined as mechanisms or processes that connect entities in a system to achieve specific results (Burt, 1992; Fritsch & Kauffeld-Monz, 2008; Borgatti & Halgin, 2011; Neumeyer, Santos, Caetano & Kalbfleisch, 2019). Complex systems, such as the entrepreneurial ecosystems comprise a network that is defined by the interaction of various actors and factors (Isenberg, 2010; Evans & Boguchwal, 2014; Stam, 2015; Spigel, 2017). Connections are warranted as they drive co-creation, which leads to new venture creation, such as knowledge spillovers, spinoffs and access to markets (Brown & Mason, 2017; Stam & Spigel, 2018). Co-creation may lead businesses into supply chains within a specific sector.

Weak ties within a network may lead to closed social circles or fragmented ties, which undermine co-operation (Crespo, Suire & Vicente, 2014; Boschma, 2015). Therefore, networks that facilitate information or knowledge exchange and skills transfer need to be developed. It is vital to acknowledge the importance of an advantage ecosystem that aims to keep or preserve knowledge in a specific location. With varying networks in a location, events that create relationships are important to achieve an advantage ecosystem (Ter Wal, Alexy, Block & Sandner, 2016; Roundy, 2017; Spigel, 2017). Therefore, efforts made towards building networks as an enabler for knowledge transformation may be described as essential towards creating an advantage ecosystem.

Borgatti and Halgin (2011) state that these interacting components include a set of actors or shared nodes that are arranged by their type of connections. By applying the theoretical framework from Ofem, Arya and Borgatti (2018), as illustrated in Figure 4.3, it is revealed that the structural embeddedness and centrality of the actors aim towards a balance between co-operation and competition (Borgatti, Mehra, Brass & Labianca, 2009; Stam, 2015; Ofem, Arya & Borgatti, 2018). Structural embeddedness is characterised by the extent of the ties between direct and indirect actors towards social cohesion (Granovetter, 1992). The linkages allow for knowledge spillovers and co-operation. This suggests that there may be strategic capabilities formed within the system to benefit as knowledge and resources are transferred through embedded ties (Pavlovich & Kearins, 2004). Strategic capabilities are dependent upon the strength of the structural connections.

A mediating effect on structural embeddedness, mutual dependence, relates to the extent of the relationship. Ofem et al. (2018) argue that structural embeddedness can foster relationships

based on trust and social norms among the actors. Essentially, problems of uncertainty and resource dependency reduce.

The centrality of the actors refers to the position of the set of actors. The actors' position influences how information flows, how it is exchanged and how decisions are made that would potentially add value for them. Through the lens of social networks, a direct or indirect relationship is formed. The theoretical framework suggests that power is multifaceted and its distribution is based on the context (Ofem et al., 2018). Therefore, any collective actions between actors may determine the social structure.
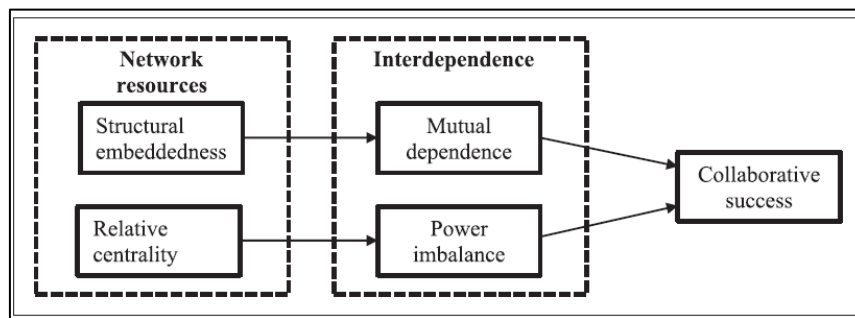
Figure 4.3 - A theoretical framework for Social Network Theory (Ofem et al., 2018)

The network perspective highlights how people, ideas and resources connect and are useful to understand the entrepreneurial ecosystem (Neumeyer et al., 2019; Stam & van de Ven, 2019). The connecting assets may be characterised by experienced people with a range of skills and knowledge as well as resources that support new ventures. Connectors can help new companies realise their growth potential by sharing expertise, information and resources and providing connections to suitable individuals and organisations (such as customers, service providers and talents). The connecting assets can be characterised as entrepreneurs, government, investors, large businesses, mentors, media, service providers, business networks, professional networks and universities (Hechavarría & Ingram, 2019). Dealmakers, on the other hand, are those individuals (serial and previous entrepreneurs), who leverage their social networks and capital to improve the entrepreneurial environment (Pittz, White & Zoller, 2019).

Borissenko and Boschma (2016) as well as Malecki (2018) state that the entrepreneurial ecosystem concept suffers from a static nature as it identified the components in isolation without exploring its relationships (Motoyama & Watkins, 2014; Motoyama & Knowlton, 2017). By applying the social network perspective, the direction between the resources and people are better understood as this may inform how agency is developed within a specific system.

The Social Network Theory is conventionally discussed in terms of understanding the relationships of the actors and factors of the entrepreneurial ecosystem. As this study posits that a key characteristic of an entrepreneurial ecosystem relates to its inclusive relationships, this theory is applied. Essentially, the rationale of understanding a network is based on the return of productive entrepreneurship as it relates to entrepreneurial ecosystems (Isenberg, 2011; Spigel, 2015; Stam, 2015; Stam & Spigel, 2018). This in return creates implications for policy design and practitioners for business strategy. The theoretical grounding for framework development rests in the viewpoint that the entrepreneurial ecosystem represents a set of interrelated and informally co-ordinated actors that interconnect, mediate, promote and manage entrepreneurial performance within the local entrepreneurial environment.

4.2.2   Structural Holes Theory

Structural Holes Theory is defined as the holes within a system or social structure (Burt, 1992). The structural holes are characterised when two or more unrelated groups in a social structure can create a connection for a resource-rich opportunity. A resource-rich opportunity is regarded as an exchange of resources, such as information or assets to achieve economic benefits (Acs, Braunerhjelm, Audretsch & Carlsson, 2009; Acs, Audretsch & Lehmann, 2013; Spigel & Vinodrai, 2020). These benefits are developed through co-operation in the system and are regarded as knowledge spillovers. Acs et al. (2009) and Acs et al. (2013) describe knowledge spillover in the context of the transfer of economic knowledge. The agents, who are the actors of the ecosystem, endogenously pursue the exploitation of knowledge. This highlights that there is a relationship between knowledge spillovers and entrepreneurial activity. Notably, the evolutionary nature of the ecosystem allows resources, such as people, skills, knowledge and capital to flow between actors in an ecosystem (Mack & Mayer, 2016; Spigel & Harrison, 2018).

Entrepreneurship is embedded through social relationships and the resources attained from this connection may be diverse. Diverse, in this context, refers to knowledge, finance, information, trust, entrepreneurial skills, talent workers, customers, suppliers and collective learning opportunities (Fritsch & Wyrwich, 2014; Woolley, 2017; Borissenko & Boschma, 2016; Fritsch & Wyrwich, 2018).

On the other hand, negative consequences are found in structural holes. The negative consequences are linked to the potential exploitation of start-ups and young entrepreneurs (Goyal & Vega-Redondo, 2007; Ahuja, 2000; Aarstad, 2012; Bizzi, 2013; Adams et al., 2014).

Adams et al. (2014) indicate that the exploitation in structural holes occur when entrepreneurs suffer from knowledge gaps. This reinforces the informational context as a catalyst for productive entrepreneurship in the entrepreneurial ecosystem.

Given both the opportunities and risks associated with structural holes, Adams et al. (2014) assert that the return from structural holes is larger than its risks. Therefore, there are substantial gains in bridging the holes in social structures whereby the actors of the ecosystem engage in productive entrepreneurship (Spigel, 2015; Stam, 2015; Iftikhar, Justice & Audretsch, 2020; Stam & Van de Ven, 2020). Bridging the holes tends to imply the commitment of the central actor, namely the entrepreneur, to be aware of risks and develop competencies to mitigate risks.

In addition, new opportunities and resources are mobilised through the entrepreneurial processes and therefore should not be viewed as exogenous (Qian, Acs & Stough, 2013; Acs et al., 2013; Borissenko & Boschma, 2016; Purbasari, Ch, Wijaya & Rahayu, 2019). Therefore, Structural Holes Theory can be justified as it is embedded in Social Network Theory and underscores the importance of density in relationships formed within the entrepreneurial ecosystem (Motoyama & Watkins, 2014; Motoyama & Knowlton, 2017).

Moreover, the Structural Holes Theory argues that opportunities can be created by linking disparate groups of people in a network. This linkage underscores the importance of understanding the importance of connectivity, proximity and density as it relates to productive entrepreneurship. Bell-Masterson and Stangler (2015) argue that the proximity and nature of relationships in an entrepreneurial ecosystem should firstly be understood as they relate to productive entrepreneurship. As this study posits that there are various actors and factors in an entrepreneurial ecosystem attempting to network, this theory may be applied to advance the knowledge of developing an understanding of proximal and dense connections between disparate actors of the entrepreneurial ecosystem.

4.2.3 Institutional Theory

Institutional Theory is defined as the compliance of individuals, groups and organisations to country-specific rules and norms (DiMaggio, 1997; Acs et al., 2013; Stam, 2015; Spigel, 2017; Bosma, Content, Sanders & Stam, 2018). These rules and norms are socially constructed and shape behaviours and outcomes (Sine & David, 2010). Notably, seminal authors (North, 1990; Williamson, 2000; Scott, 2008; Scott, 2014), in the field of institutional economics, argue that formal and informal rules are central to economic development.

Within this study, institutions are characterised as formal and informal. Formal institutions are characterised by government policies, laws and regulations. Informal institutions are characterised by the culture, social norms and social practices (Mason & Brown, 2014; Alvedalen & Boschma, 2017; Lowe & Feldman, 2017; Bosma et al., 2018; Fuentelsaz, González & Maicas, 2019).

The distinction between formal and informal is explained through the pillars developed by Scott (2008) as illustrated in Figure 4.4. In Scott's (2008) seminal work, he offers institutional pillars expressed through regulatory, normative and cultural-cognitive. Regulatory forms part of the formal institutions and compliance with them is driven by expedience with indicators such as rules, laws and sanctions. Normative forms part of informal institutions and compliance is based on societal norms and values that determine choices. Cultural-cognitive is based on a shared understanding or adoption of common beliefs within a society in a country or region.
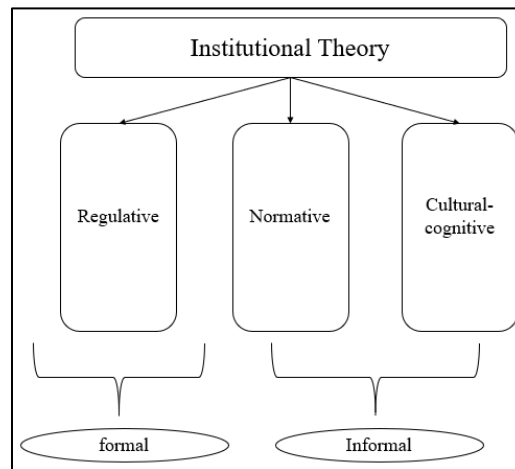
Figure 4.4 - The pillars of Institutional Theory (Scott, 2008)

The application of Institutional Theory provides a direct link to the distinct power that institutions exert on entrepreneurship emerges. Power has the potential to either promote or constrain network development (Huggins, Johnston & Stride, 2012). This indicates the importance of understanding how institutional structures shape agencies and reveal the dynamics within the entrepreneurial ecosystem (Fritsch & Wyrwich, 2018; Fritsch, Pylak & Wyrwich, 2019).

A critique of Institutional Theory is underlined by its simplicity in describing how institutions operate. Munir (2020) argues that there is not enough context regarding the agency implications and advocates that the larger structures of institutions be reduced. Fuentelsaz, Maicas and Mata (2019) suggest that it is not easy to identify the institutions and the extent of their role in the

entrepreneurial ecosystem. However, applying Institutional Theory may guide this study to categorise the formal and informal institutions, which navigate the structure, performance and configuration of the system (Alvedalen & Boschma, 2017; Autio, Nambisan, Thomas & Wright, 2018; Iftikhar et al., 2020; Shwetzer, Maritz & Nguyen, 2019; Stam & Van de Ven, 2020).

The institutional perspective explains that formal and informal institutions within a specific place shape entrepreneurship for new ventures and allocation of resources (Stam, 2014; Acs, Åstebro, Audretsch & Robinson, 2016; Acs, Stam, Audretsch & O'Connor, 2017; Bosma et al., 2018; Bosma, Hill, Ionescu-Somers, Kelley, Levie & Tarnawa, 2019). This study posits that institutions are the foundation of entrepreneurial ecosystems and shape entrepreneurship for new ventures and resource allocation. Shwetzer et al. (2019) suggest that adopting a dynamic perspective on institutions assists in establishing the institutions and location boundaries that impact structure and performance.

4.2.4   Systems Theory

In 1949, Ludwig von Bertalanffy introduced the concept of Systems Theory (Luhman & Cunliffe, 2013). Figure 4.5 offers a basic representation of an open systems model and reveals that within a system there are inputs that go through a process of transformation to provide various outputs. Throughout this process there are feedback loops that seek to improve the activities in transforming inputs. Essentially, this model reveals how value is achieved for the stakeholders in the system.

Systems Theory develops an understanding of the complex relationships within a system and helps to determine the contextual patterns of organisation among a range of actors and factors (Senge & Fulmer, 1993; O'Connor, Stam, Sussan & Audretsch, 2018). The acknowledgement of the relationships of all the actors and factors accounts for the entire system. This reveals that undertaking a systems thinking approach balances the whole and its parts and develops multiple lenses (Cabrera, Colosi & Lobdell, 2008).

The application of the Open Systems Model is applied to understand the phenomenon of social collective research in entrepreneurial ecosystems. The systems model identifies how activities in the entrepreneurial ecosystem follow a process of using inputs from the environment, transforming those inputs within a city's structure and thus, creating outputs for the stakeholders in that ecosystem. It further demonstrates how feedback is used to improve activities. Figure 4.5 illustrates the characteristics and behaviour of the agents in the system.
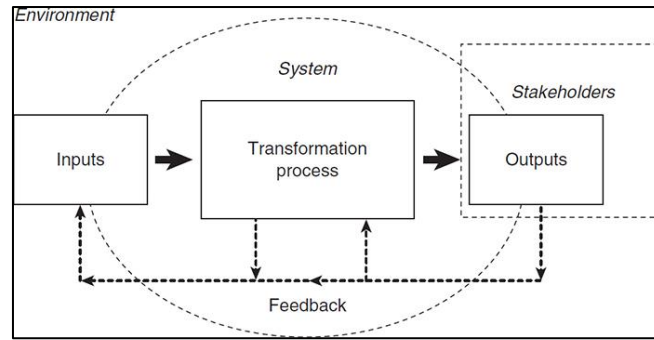
Figure 4.5 - The Open Systems Model (Luhman & Cunliffe, 2013)

Applying a systems perspective guides the scope of an entrepreneurial ecosystem. Herein, it informs the function and roles of the actors and factors within the spatial context (environment). According to Stam and Van de Ven (2019) the systems perspective emphasises that entrepreneurial businesses have limited roles with a set of choices regarding the actors, type of resource endowments and institutional functions.

On reviewing the literature on Systems Theory, it is noted that entrepreneurial ecosystems are often associated with it. If it is accepted that an entrepreneurial ecosystem is a system, it means actors and factors form part of that system. By underpinning this paper in the Systems Theory, this study reveals the interrelatedness between actors and factors within the entrepreneurial ecosystem.

4.2.5 The Absorptive Capacity Theory of Knowledge Spillovers

The Absorptive Capacity Theory of Knowledge Spillovers argues that knowledge is essential for new venture creation (Qian et al., 2013). Qian (2013) explains that the model centres around the entrepreneur, however it can be explained in terms of spatial context. The theory claims that human capital creates knowledge-intensive entrepreneurial opportunities. Isenberg (2010) contends that human capital is characterised by individuals with entrepreneurship skills, knowledge and previous business experience. Spigel (2017) and Neck, Meyer, Cohen and Corbett (2004) continue by underscoring the importance of an experienced pool of skilled workers who own the human capital to assist new ventures. This experience pool is defined by Leenderste et al. (2020) as individuals who own high levels of human capital associated with their type of education and skills.

The model as seen in Figure 4.6 shows that knowledge is produced from science and business within the ecosystem. Within this context, science and business form part of the knowledge ecosystem. Knowledge ecosystems are acknowledged by the presence of universities, research

institutions, entrepreneurial firms, established companies and venture capitalists who network (Clarysse, Wright, Bruneel & Mahajan, 2014; Woolley, 2017; O'Connor et al., 2018).

The entrepreneurial absorptive capacity deals with the way knowledge spillovers occur from research institutions and universities into new ventures. These institutions may be classified as anchor institutions, who are not competing but instead are reinforcing entrepreneurship (Clarysse et al., 2014; Welter, Baker & Wirsching, 2019). A lack of prioritisation of knowledge has the potential to create major disparities for entrepreneurial development (Obschonka & Audretsch, 2019). These disparities reduce business survival, innovation, access to markets or the ability to develop new sectors. Similarly, the underinvestment in knowledge perpetuates negative economic development in under resourced environments (van Beers & Zand, 2014; Link & Scott, 2019).

It may also be underlined that return from knowledge occurs through the presence of social networks as knowledge is recycled and spilled over (Acs et al., 2009, 2013; Braunerhjelm, Ding & Thulin, 2018; Stuetzer et al., 2018). Therefore, isolated knowledge does not offer returns of knowledge, but sharing knowledge allows for value creation that leads to innovation and economic growth.
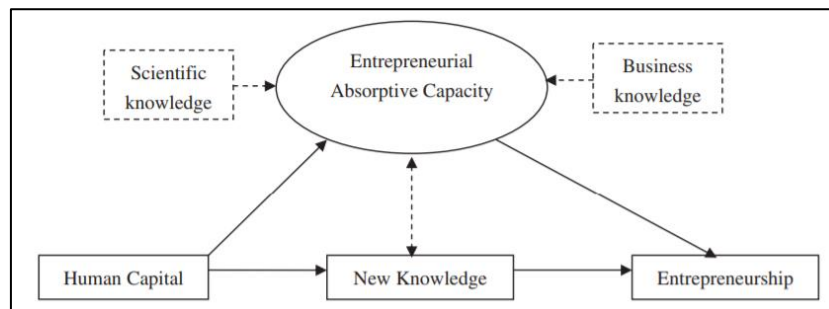
Figure 4.6 - The Absorptive Capacity Theory of Knowledge Spillovers (Qian et al., 2013, p. 6)

To conceptualise the importance of sharing knowledge (knowledge spillovers), the successful cluster of companies in Silicon Valley, California is a popular baseline. Within this cluster people work closely together, share in recreational activities and meet privately through a close proximal density (which relates to Social Network Theory). It may be assumed that private interactions lead to the sharing of work challenges and present an opportunity to debate on challenges across diverse fields. According to the Theory of Creative Problem Solving, problems and solutions repeated across sectors and industries may be solved through discussing the different approaches used (Zlotin & Zusman, 2013). This theory holds true when evaluating

knowledge spillovers. It may be argued that where knowledge is saturated, there is an opportunity for knowledge spillovers to occur.

There is cohesion in understanding how to deal with challenges and a transfer of competencies by networking with experienced entrepreneurs. Through dense networks (informally and formally), there is an opportunity to identify human capital, discover investors and develop new knowledge based on the entrepreneurial community (Spigel, 2017). This reinforces the statement that proximity within a location, the degree of formality and centrality are aspects related develop networks (Bell-Masterson & Stangler, 2015; Ofem et al., 2018). It is also important to acknowledge situations where opportunities may be reduced by knowledge filters (Acs et al., 2013). Knowledge filters emerge in less supportive formal institutional environments, for example where there are strict regulations, compliance and government interference with the market.

4.2.6   Design Thinking

In 1969, Herbert Simon developed one of the first models for the design thinking process (Simon, 1996; Dam & Siang, 2020). This model comprises seven stages and shaped the 21st century design thinking models. Since then, evolving models are benchmarked against Simon's model and differ by the number of stages applied.

Design thinking applies a human-centred principle that provides innovative solutions for complex problems (Brown, 2008; Hasso-Plattner-Institut, 2021). A human-centred approach encompasses the collaborative efforts by the designer, cross-functional team members and users (customers, residents, key stakeholders) to transfer value to the users (Owen, 2007; Dam & Siang, 2020; Hasso-Plattner-Institut, 2021). In this approach, all team members own the responsibility to understand the problem first before solving the problem for innovation to occur (Beckman & Barry, 2007). These complex problems, often referred to as the 'wicked problems' are defined as "a class of social system problems which are ill-formulated, where the information is confusing, where there are many clients and decision makers with conflicting values and where the ramifications in the whole system are thoroughly confusing" (Churchman, 1967; Riel, 2009).

The stages of design thinking are not linear and occur iteratively (Brown, 2008; Compton & Barrett, 2016). Its iterations allow designers to determine errors and opportunities for improvement. This is achieved through the collaborative and flexible approach by the stakeholders to address a problem and or an opportunity. This is the first step and is argued as

critical to understanding the user requirements (Brown, 2008). The following Table 4.1 provides a brief overview of the layout of contemporary Design Thinking models.

Table 4.1 - Overview of contemporary design thinking models (author's construction)

Layout	Characteristics	Goals
• Dynamic process • Begins with predefined goals or activities • Results are partially predictable	• Three stages (Brown, 2008; IDEO, 2021) • Four stages (Aaalto University, 2016; Singapore Polytechnic, 2021; Design Council, 2008) • Five stages (Hasso-Plattner-Institut, 2021) • Human-centred approach through observations, ethnography, surveys, focus groups, data analysis • Non-linear and complex • Multiple information sources • Feedback loops (Irbīte & Strode, 2016)	• Defining user requirements • Interactive designing • Learning by doing
• Partial or complete systemic process with predefined goals.	• Four stages in the Double diamond design thinking model • Focus on identifying and defining the problem • Characterised by convergent and divergent thinking (Design Council, 2008)	Applied in business and marketing towards strategy development.

Although design thinking is a popular problem-solving tool it does not come without criticism. A major criticism is based on the lack of a definition (Johansson-Sköldberg, Woodilla & Çetinkaya, 2013). This means that there is no clear conceptualisation or operationalisation of the term design thinking. However, Owen (2007) contends that the term 'design' comprises two elements, (1) discovery and finding to determine a problem definition and (2) invention and scoping the design. At the same time, there is a debate around design thinking being hailed as the global solution for all complex problems (Lourens, 2015). This is further perpetuated by Brown's (2008) assertion that design thinking is applicable for any businesses operating without guidance as to how optimal solutions are achieved. However, institutions like the Hasso-Platner Institute of Design at Stanford have popularised a toolkit, which may offset the concerns of implementation (Hasso-Plattner-Institut, 2021). The toolkit offers a user-driven approach and a set of problem-solving techniques while using convergent and divergent thinking to solve complex problems.

Within the scope of this study, the entrepreneurial ecosystem literature does not offer information on the development of the entrepreneurial process. Eisenhardt and Martin (2000) explain that without processes, organisations (and by contextualising in terms of entrepreneurial ecosystems) cannot adequately exploit their resources to achieve sustainable competitive advantage. By leveraging insights from design thinking in discourses such as urban planning, design thinking was applied to promote social innovation benefits for its citizens. The following Table 4.2 shows how design thinking was applied in disparate situations to justify the usefulness of the human-centred approach in dealing with problems or opportunities.

Table 4.2 - Design thinking case studies (author's construction)

Case study information and source	Application of design thinking	Outcome
Designing Well-Being: Using Design Thinking to Engage Residents in Developing Well-Being Interventions Location: University of California, San Francisco Period: 8 months design thinking programme in 2016-2017 (Thomas, Nguyen, Teherani, Lucey & Harleman, 2020)	• Eighteen internal medicine residents at the University of California participated to design solutions. • The goals included the improvement of community and connection, reflection space, peer support, individualised wellness services. • 2-hour workshops with project work in between session. • The teams had to share progress and analysed the emerging themes to develop wellbeing solutions.	New interventions emerged to improve well-being through near-peer communities.
Using 'design thinking' to enhance urban redevelopment: a case study from India Location: slum in the city of Srirangapatna, South India Period: one year (Kumar, Lodha, Mahalingam, Prasad & Sahasranaman, 2016)	• The team consisted of a civil engineer, engineering management scholar, three social scientists from the development discipline. • Applied the design framework by Brown (2008). This includes the three phases: inspiration, ideation, implementation. • Empathised with residents (8 months) using conversations, observation, focus groups, basic household surveys and build up activities. • Ideation with residents through brainstorming. Developed 3D parametric	Slum dwellers involvement of the redesign led to a preferred design choice.

	visual models and animations of urban spaces using a multi-disciplinary team. • Implementation by engaging residents in evaluating design solutions, prototyping, and testing.	
Design Thinking to Improve Implementation of Public Health Interventions: An Exploratory Case Study on Enhancing Park Use Location: New York City Period: November 2016 (Huang, Aitken, Ferris & Cohen, 2018)	Public health researchers and the community undertook workshops following the systematic, non-linear design thinking process to discover interventions to improve use of the renovated New York City parks.	The collaboration between public health researchers and the community led to solutions within unique contexts.

Against this backdrop, it may be argued that design thinking is advantageous to address issues, such as entrepreneurial opportunities or problems. In that same vein, it may be argued as a strategy to assist cities to meet their entrepreneurial development goals (Acs et al., 2017). Its user-centric nature may serve as a method or process to deal with the complexity linked to developing an entrepreneurial ecosystem. The complexity arises from the varying performance, practice, strength, weakness, opportunities, threats, objectives and actors embedded in the entrepreneurial ecosystem (Qian et al., 2013; O'Connor et al., 2018, p. 2). By underpinning this study in Design Thinking there is the opportunity to add to the body of knowledge as to how Design Thinking, with its user-centric approach, is applicable for entrepreneurial ecosystem development.

4.2.7 The Broken Windows Theory

The Broken Windows Theory contends that an individual's environment guides his or her social behaviour and norms. Broken windows typically indicate physical and social disorder (Wilson & Kelling, 1982; Doran & Lees, 2005; Skogan, 2012). Physical disorder includes broken windows, litter and graffiti while social disorder includes activities such as prostitution, abuse of alcohol and drugs, loitering and the display of poor public behaviour. The Broken Windows Theory hypothesises that as the physical and social disorder increases so do the broken windows in society (Gladwell, 2003; Lewis, 2019). This in turn communicates a sense of low social controls within a community and encourages more serious crimes (Gladwell,

2003; Doran & Lees, 2005; Skogan, 2012). The persistence of broken windows echoes that criminality is not monitored and detected and results in residents withdrawing from their community (Doran & Lees, 2005). Figure 4.7 outlines the model for the Broken Windows Cycle.
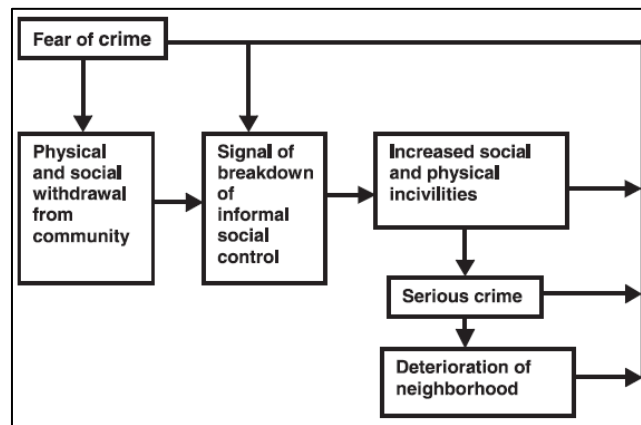
Figure 4.7 - The Broken Windows Cycle (Doran & Lees, 2005, p.3)

During the mid-1990s in New York, under the mayoral leadership of Rudolph Giuliani, the Broken Windows Theory was applied (Change Factory, 2014). This was part of a quality-of-life initiative run by former police commissioner William Bratton. He focused policing efforts on minor offences and crime rates reduced faster than other major cities during that time. Kelling and Sousa Jr. (2001) contend that the policing interventions led to major socio-economic benefits. The socio-economic benefits were described by the decline in violent crimes, change in the number of high school men involved in violent criminal activities and the reduced use of crack cocaine.

The socio-economic benefits gained through these policing efforts align with findings from a study conducted by the political scientist, Wesley Skogan. Skogan's (1990) study established a causal link between disorder and serious crime. In the book, *Tipping Point*, Malcolm Gladwell supports the causality and argues that when a critical level of tolerance of behaviour is reached on activities such as minor arrests, a significant effect is achieved on the social norms and behaviours demonstrated by individuals (Gladwell, 2003; Lewis, 2019).

The work by Harcourt (1998) contradicts the claims in favour of Broken Windows Theory. He discredits the claim that a positive relationship exists between disorder and serious crime as in the case of New York City. This was achieved through an empirical investigation and assessment of social influence on the policing efforts in New York City. Equally, Harcourt (2001) alluded to the prejudicial nature of broken windows. He explained that it was biased in

favour of the views of the white, middle class and prejudicial to the disadvantaged constituencies.

A later article conducted by Skogan (2012) argued that Harcourt's (2001) position on the biases in the Broken Windows Theory was flawed. Skogan (2012) underlines that there was a consensus in survey results from the same neighbourhoods linked to differences in public disorder and vulnerability. The survey results published in the Citizens Commission of New York City revealed that all four ethnic groups: Asian, Blacks, Hispanics and White equally approved (4 on a Likert Scale) of the broken windows approach (Kelling & Sousa Jr., 2001). Moreover, Kelling and Sousa Jr. (2001) assert that the police during that time did not undertake a rote zero-tolerance approach, but applied varying methods depending on the nature of the offence. The survey results indicate contradictory opinions to the notion that broken windows arose from prejudice against the minority groups.

Within the context of entrepreneurial ecosystems, Acs et al. (2008) explain that entrepreneurs and skilled human capital settle into areas that are safe with lower crime rates. Similarly, further studies on the broken windows of corruption and political expediency have been undertaken. Accordingly, it is advocated that city leaders who abuse their power cannot be trusted to ensure the welfare of society (Alford, 2012). Crime, disorder, corruption and political expediency harm GDP, foreign direct investment and increase the cost of doing business (Acs et al., 2008; Detotto & Otranto, 2010; Hoeffler & Fearon, 2014; Mahofa, Sundaram & Edwards, 2016). If it is accepted that the quality of life in an area encourages an entrepreneurial ecosystem, this study advocates the adoption of the Broken Windows Theory as a catalyst for establishing an entrepreneurial ecosystem.

4.3   SUMMARY

Research on entrepreneurial ecosystems relies on the assumption that value creation is the output from entrepreneurship and delivers socio-economic benefits and develops cohesive communities in a location (O'Connor et al., 2018; Bosma et al., 2019). However, research on entrepreneurial ecosystems remain under-theorised (Auerswald, 2015; Acs et al., 2017; Spigel & Harrison, 2018; Roundy & Fayard, 2018) and attention has been based on the set of resources and conditions necessary for entrepreneurial activity to occur within a specific spatial context (Isenberg, 2011; Stam, 2015; Bosma et al., 2018; Roundy & Fayard, 2018; Stam & Spigel, 2018; Stam & van de Ven, 2019).

This study attempted to address this limitation and focused its efforts on evaluating a set of theories to determine a theoretical lens for entrepreneurial ecosystems. Research on entrepreneurial ecosystems has not proposed a framework on how entrepreneurial ecosystems emerge (Mack & Mayer, 2016). This study seeks to address this limitation by integrating the constructs from Social Network Theory, Structural Holes Theory, Systems Theory, Institutional Theory, Absorptive Capacity Theory of Knowledge Spillover, Design Thinking and Broken Windows Theory for entrepreneurial ecosystems.

The contention is that the constructs from the set of theories need to be integrated to facilitate a more comprehensive perspective of how entrepreneurial ecosystems emerge. By identifying how entrepreneurial ecosystems emerge, an opportunity is created to determine the forces preventing co-creation and competition in a spatial context.

In Chapter Five, RO4.1: *To conceptualise the entrepreneurial ecosystem* and RO4.2: *To discuss existing frameworks and models for entrepreneurial ecosystems* will be addressed.

CHAPTER 5: ENTREPRENEURIAL ECOSYSTEM – CONCEPTUALISATION, FRAMEWORKS AND MODELS

5.1 INTRODUCTION

The aim of Chapter Four was to critique and synthesise theories informing the entrepreneurial ecosystem. The chapter sought for a more co-ordinated approach and included perspectives from the Social Network Theory, the Structural Holes Theory, the Institutional Theory, the Systems Theory, the Absorptive Capacity Theory of Knowledge Spillover, Design Thinking and Broken Windows Theory. The critique stimulated new thinking about how entrepreneurial ecosystems emerge and function.

Chapter Five aims to conceptualise the entrepreneurial ecosystem by providing definitions, exploring the conditions that are necessary within a spatial context and by understanding the relevance of the location through the lens of localisation and urbanisation economies. This is deemed an important step toward the development of the entrepreneurial ecosystem framework as ecosystems are place-based. Thereafter, the current frameworks and models are introduced followed by a birds-eye view construction, which integrates constructs that are based on the findings of this preliminary literature investigation.

Chapter Five addresses RO$_{4.1}$: *To conceptualise the entrepreneurial ecosystem* and RO$_{4.2}$: *To discuss existing frameworks and models for entrepreneurial ecosystems.* Thereby answering RQ$_{4.1}$: *How can the concept of an entrepreneurial ecosystem be understood?* and RQ$_{4.2}$: *What are the current frameworks or models for an entrepreneurial ecosystem?*

This chapter is organised as follows: first, a conceptualisation of the entrepreneurial ecosystem is provided. The conceptualisation is developed by (1) exploring various definitions; (2) a table that sets out the preconditions based on common themes identified from the literature; (3) explaining the importance of connections; and (4) discussing the geographical implications. Second, current models and frameworks dating back to 2010 are presented. Lastly, a conclusion is provided. Figure 5.1 offers a structural overview of this study and illustrates where Chapter Five is positioned in the overall structure of the thesis. Figure 5.2 illustrates the roadmap for Chapter Five. This chapter begins by presenting the definitions of the entrepreneurial ecosystem.
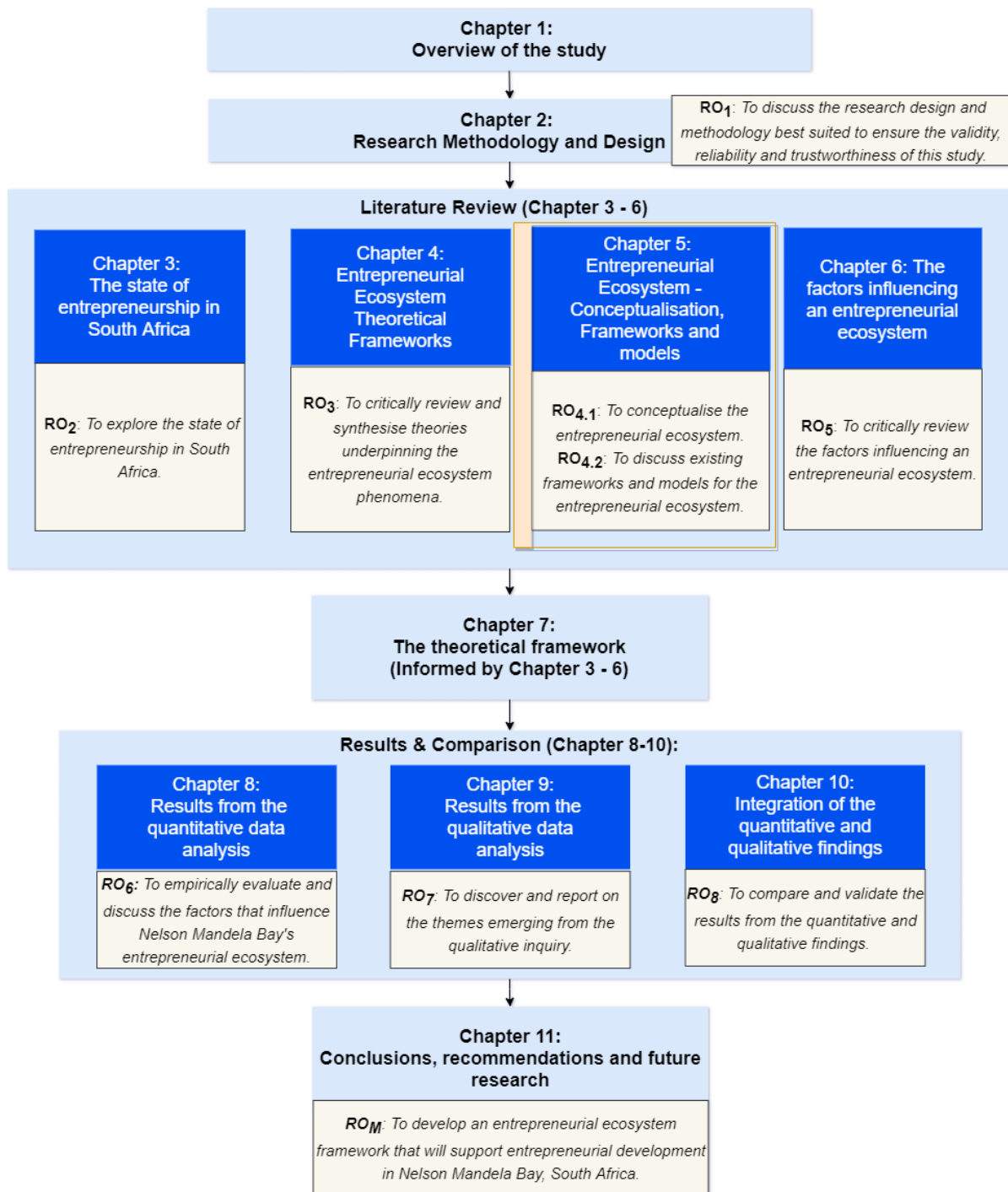
Figure 5.1 - Structural overview of the research study

CHAPTER 1: Overview of the study

CHAPTER 2: Research methodology and Design

CHAPTER 3: The state of entrepreneurship in South Africa

CHAPTER 4: Entrepreneurial ecosystem theoretical frameworks

CHAPTER 5: Entrepreneurial ecosystem - conceptualisation, frameworks and models

- 5.1　　Introduction
- 5.2　　Conceptualisation of the enterpeneurial ecosystem
- *5.2.1 Defining the entrepreneurial ecosystem*
- *5.2.2 The preconditions for an entrepreneurial ecosystem*
- *5.2.3 Connectivity*
- *5.2.4 The geographical implications of an entrepreneurial ecosystem*
- 5.3　　The models and frameworks informing entrepreneurial ecosystems
- 5.4　　Summary

CHAPTER 6: The factors influencing an entrepreneurial ecosystem

CHAPTER 7: The theoretical framework

CHAPTER 8: Results from the quantitative data analysis

CHAPTER 9: Results from the qualitative data analysis

CHAPTER 10: Integration of the quantitative and qualitative findings

CHAPTER 11: Conclusions, recommendations and future research

Figure 5.2 - Roadmap of Chapter Five

5.2　　CONCEPTUALISATION OF THE ENTREPRENEURIAL ECOSYSTM

The study was built on research from scholars in the field of entrepreneurship in order to get a conception of the entrepreneurial ecosystem in the sections that follow. After an evaluation of the publications, a process of data abstraction was performed. The common patterns and themes that arose were included in this discussion. In the following sections the definitions, preconditions, connectivity and geographical implications are reviewed.

5.2.1 Defining the entrepreneurial ecosystem

The entrepreneurial ecosystem concept dates back more than three decades (Malecki, 2018), but it has been gaining wider interest in the past few years (Alvedalen & Boschma, 2017; O'Connor et al., 2018; Stam & Van de Ven, 2020). The concept was popularised in business circles by Daniel Isenberg (Isenberg, 2010) and Brad Feld (Feld, 2012). Most definitions regarding the entrepreneurial ecosystem share the view of interacting actors and factors that reinforce entrepreneurship within a geographical boundary (Borissenko & Boschma, 2016; Mack & Mayer, 2016; Malecki, 2018).

Roundy (2017, p. 99) defined the entrepreneurial ecosystem as communities of "agents, social structures, institutions and cultural values that act together to produce entrepreneurial activity". The aforementioned definition included the socio-cultural dynamic of the ecosystem. Mason and Brown (2014, p.5) define the entrepreneurial ecosystem as "a set of interconnected entrepreneurial actors, entrepreneurial organisations, institutions and entrepreneurial processes, which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment". Spigel (2017, p.2) describes it as "combinations of social, political, economic and cultural elements within a region that support the development and growth of innovative ventures and encourage nascent entrepreneurs and other actors to take the risks of starting, funding and otherwise assisting high-risk ventures". Audretsch and Belitski (2017, p.2) characterise the entrepreneurial ecosystem as "institutional and organisational as well as other systemic factors that interact and influence commercialisation and identification of entrepreneurial opportunities".

In light of the various definitions pertaining to an entrepreneurial ecosystem it may be broadly explained as an organised set of interdependent components (actors and factors) that enable productive entrepreneurship within a specific spatial location (Isenberg, 2011; Stam, 2015; Acs et al., 2017; Brown & Mason, 2017; Stam & Van de Ven, 2020; Shwetzer et al., 2019). The actors are seen as communities of independent actors, such as government, universities, mentors, service providers, media and large companies (Hechavarría & Ingram, 2019). These actors play a significant role in the development of entrepreneurship in a specific location. Similarly, the factors provide access to finance, business support services (incubators, legal and commercial infrastructure), policies on property rights and ease of entry to start a business, education and infrastructure developed through city planning (Isenberg, 2011; Stam, 2015; Bosma et al., 2018; Hechavarría & Ingram, 2019; Stam & Van de Ven, 2020).

The definitions highlight the central role of the entrepreneur as creators of new ventures and the result of entrepreneurship may reflect both successful or failed businesses (Autio et al., 2018; Bosma et al., 2019). Entrepreneurs are expressed as actively seeking opportunities and the output may be in the form of innovative start-ups, high growth start-ups and entrepreneurial employees (Stam, 2014, 2015; Read, 2016; Bosma et al., 2019). Furthermore, productive entrepreneurship is not limited to successful ventures, but for failed ventures too. Failed ventures may be recycled back into the ecosystem through an economy of an experience lens. The economy of experience lens refers to the experience acquired by these failed entrepreneurs who can spillover their knowledge and expertise into the system.

Notably, the term 'ecosystem' is borrowed from biology and symbolises the existence of mutually inclusive relationships in a system as it induces productive gains for the whole system (Acs et al., 2017; Shwetzer et al., 2019; Stam, 2015; Stam & van de Ven, 2019). However, this analogy includes implications as it applies a biological view in developing an understanding of entrepreneurial ecosystems. Essentially, there are distinct differences between physical and entrepreneurial ecosystems (Brown & Mason, 2017). Biological ecosystems do not cater for human agencies, such as entrepreneurs and other ecosystem participants with their aspirations (Read, 2016; Roundy et al., 2017). On the other hand, entrepreneurial ecosystems are human-constructed systems and their diversity is the result of intentional actions, shared goals and behaviours of the actors in the system (Stam & Spigel, 2018).

5.2.2 The preconditions for an entrepreneurial ecosystem

Various models, frameworks and perspectives are accepted, but the presence of the entrepreneur is the central actor and various aspects legitimise the system in that it is situated within a range of socio-economic, institutional and informational contexts (Audretsch & Belitski, 2017; O'Connor et al., 2018; Bosma et al., 2019). The range of preconditions is echoed through other models, however not explicitly verbatim. Stam and Van de Ven (2019) refer to institutional arrangements and opt for formal institutions, culture and networks. This is an extension of Eric Stam's previous model that included physical infrastructure and demand as a framework condition (Stam, 2015). In his previous model, he catered for networks in the systemic conditions layer. The GEM separates national and framework conditions into social, cultural, political and economic contexts (Bosma et al., 2019).

Table 5.1 illustrates the prevailing preconditions that need to be present to develop a resilient entrepreneurial ecosystem. The set of preconditions are deduced from a range of sources that

have introduced similar themes and patterns. Certain preconditions or contexts are used interchangeably. Notably, the World Economic Forum, OECD and GEM are global institutions that are guided by the same set of preconditions (OECD, 2013; Bosma et al., 2019; World Economic Forum, n.d.).

Table 5.1 – The preconditions for an entrepreneurial ecosystem (authors' construction)

Construct	Findings	Source
Informal institutions: *Culture and historical knowledge* *(Notably cultural attributes support social attributes)*	The legacy of entrepreneurial traditions within specific spatial location (place, location, region, city) underscores continued entrepreneurial activity and knowledge spill overs. Similarly, within an entrepreneurial culture, society does not shame failure. Entrepreneurs who fail have generated new know-how or competencies and may act as mentors or advisors. Both Daniel Isenberg and Brad Feld indicate that ecosystems should not be opposed to a scenario of fast failure.	(Isenberg, 2010; Feld, 2012; Read, 2016; Spigel, 2017; Fritsch & Wyrwich, 2018; Spigel & Vinodrai, 2020)
Informational *Linked to social attribute*	The informational context serves to describe the presence of knowledge insofar that new knowledge develops entrepreneurial opportunities. However, entrepreneurs with the intention of exploiting such opportunities need to exist.	(Acs et al., 2009, 2013)
The entrepreneur as a central actor	The entrepreneur is the central actor in an entrepreneurial ecosystem. Essentially, entrepreneurs are characterised as those individuals who identify opportunities and are risk-takers. This reveals that the responsiveness of the entrepreneur is a critical feature. As central actors, entrepreneurs deal with the other factors that may be "feeders" of the system. Herein, there is recognition of the multiple actors who are present in the ecosystem. Depending on how entrepreneurs develop their social networks and draw on opportunities, they may emerge as leaders to build new firms and institutional support.	(Feld, 2012; Stam, 2015; Lowe & Feldman, 2017; O'Connor et al., 2018; Bosma et al., 2019; Iftikhar et al., 2020)
Social networks *(Notably social attributes reinforce social attributes)*	The presence of social networks is argued to generate knowledge spillovers. Spillovers within this context develop innovation and economic growth. These opportunities may be in the form of connections, access to funding, access to supply chains and access to new markets. Certain connections have been directly linked to the presence of dealmakers who leverage their existing social networks and capital to develop co-creation. The advantage of co-creation is the legitimisation of new ventures and access to markets. Furthermore, skilled workers are important for their expertise for new ventures and develop innovative products. These individuals provide skills and insights surrounding processes and market opportunities that were developed from previous employment.	(Van De Ven, 1993; Bell-Masterson & Stangler, 2015; Spigel, 2015; Stam, 2015; Eckardt, Skaggs & Lepak, 2017; Motoyama & Knowlton, 2017; Spigel, 2017; Wu, Jin & Hitt, 2017; Nicotra, Romano, Del Giudice & Schillaci, 2018)
Material attribute: Formal institutions	Formal institutions refer to formal rules like policies and regulated markets. Policies are directed by	(Spigel, 2015; Stam, 2015; Woolley, 2017;

	institutions to promote an entrepreneurial culture. Moreover, the focus of targeted policies reflects the unique set of resources and capabilities of a place.	Bosma et al., 2018; O'Connor et al., 2018)
Material attribute: Denoted as geography, location, region, city, place	Entrepreneurial ecosystems emerge in specific locations that own a set of place-based resource endowments. The presence of a range of place-based resource endowments may have a direct impact on the economic prosperity of entrepreneurs. Economic prosperity may be characterised by new ventures, new sectors and innovation.	(Mason & Brown, 2014; Spigel, 2015; Stam, 2015; Woolley, 2017; Stam & van de Ven, 2019)

Isenberg (2010) elaborated that all components (actors and factors) are important for the ecosystem. Roundy, Bradshaw and Brockman (2018) emphasised that focusing on the factors separately is a limitation to determine how they emerge. This reinforces the view of the ecosystem as being complex in nature and underpins the Systems Theory in developing a holistic understanding (Isenberg, 2010). Moreover, as Table 5.1 indicates, these interactions occur through the range of preconditions, which may be viewed as catalysts. The set of conditions embraces the complexity of the entrepreneurial ecosystem and explicates that place-based resources are mutually inclusive, which affects the entire system (O'Connor et al., 2018; Roundy, Bradshaw & Brockman, 2018; Stam & van de Ven, 2019).

5.2.3 Connectivity

Connectivity or co-operation may be best understood by the way that an entrepreneur interplays with other actors (for example, a combination of investors, governments, mentors, media, established businesses, knowledge institutions and service providers) of the ecosystem (Auerswald, 2015; Mack & Mayer, 2016; Brown & Mason, 2017; Hechavarría & Ingram, 2019). Actors and factors need to be connected, which means that they cannot work in isolation. These connections indicate that actors share similar intentions, behaviours and values (Roundy et al., 2017).

The interactions of the actors and factors are emphasised through their connectivity and draw on the Social Network Theory (Motoyama & Knowlton, 2017). Brown and Mason (2017) elaborate by describing the entrepreneurial ecosystem as a system that develops a supportive environment that promotes entrepreneurial activity. This supporting environment may be underscored by the extent of co-operation between actors and factors. This is deemed a salient feature. The mutually inclusive relationships may be argued to induce co-operation and competition among the actors (either in partisan, distributed or embedded) of the entrepreneurial ecosystem (Stam & Van de Ven, 2020).

Bell-Masterson and Stangler (2015, p.5) assert that entrepreneurs, together, actively gather knowledge and assistance from different sources. The OECD (2013) suggests that the quantity and quality of interactions between actors are essential for productive entrepreneurship. This means connectors and dealmakers, who develop entrepreneurial networks have to be present (OECD, 2013; Spigel, 2015; O'Connor et al., 2018; Pittz et al., 2019).

A further unique feature of the ecosystem is the presence of dealmakers who make networks possible both formally and informally. Dealmakers are those individuals, who leverage their social networks and capital to improve the entrepreneurial environment (Pittz et al., 2019). These individuals, through their networks, legitimise new ventures and develop access to domestic and international markets (Alvarez, Young & Woolley, 2015). Dealmakers are characterised as entrepreneurs, experienced management teams or investors who leverage off their existing networks with other actors. Moreover, the benefits of such networks are viewed as the return of knowledge, resources and more networks. They also facilitate start-ups and business development (OECD, 2013; Bell-Masterson & Stangler, 2015). It is important to highlight that the agency with critical actors, such as experienced human capital and dealmakers, are not sufficiently emphasised in entrepreneurial ecosystem literature and are qualified as equally important (O'Connor et al., 2018; Purbasari et al., 2019). The consideration of specific actors, such as dealmakers and human capital are argued as strong catalysts and are underdeveloped within developing a productive ecosystem. Thus, the density of relationships between actors within the network underpins the importance of applying the Structural Holes Theory.

There is a lack of available literature and empirical studies regarding the type, extent and complexity of the relationships of the actors and factors within an entrepreneurial ecosystem (Borissenko & Boschma, 2016; Mack & Mayer, 2016; Roundy et al., 2018). Relationships in this context are formulated against the shared beliefs, degree of collaboration and trust of the actors (Roundy et al., 2017). The lack of clarity regarding the relationships is concerning as it leads to misinterpretations, which may be employed by policymakers (Isenberg, 2010; Stam, 2015; O'Connor et al., 2018; Stam & Spigel, 2018; Audretsch, 2019; Brooks, Vorley & Gherhes, 2019; Shwetzer et al., 2019). Furthermore, its complexity is explained through the micro, meso and macro-level process (Roundy et al., 2018). The micro-level considers the entrepreneurial intention, the meso-level refers to the resources available and the macro-level focuses on the influence of socio-cultural forces.

The limitations surrounding the type, extent and complexity of the relationships between the resources, actors and catalyst conditions provide implications for governments, researchers and practitioners. These limitations reduce the ability to identify where there are potential integration challenges, therefore it is more difficult to apply more efficient business strategies or targeted public policy designs (Purbasari et al., 2019). Policies that are not designed to account for differences may incur inefficient spending (Evans & Boguchwal, 2014; Woolley, 2017). This reveals the importance of understanding that entrepreneurial ecosystems are unique and distinct and it must be repeated that they do not lend themselves to a static framework (Borissenko & Boschma, 2016; Brooks et al., 2019).

By focusing on connections, policymakers and practitioners may gain a better understanding of the way entrepreneurs engage within their informal institutions and how they foster social networks. Defining informal institutions as lived experiences offers an understanding of cases in which entrepreneurial opportunities are strengthened when actors within an entrepreneurial community build 'power' through and within their affiliated institutions. With these analytical steps, economic geography can better capture the concurrent and intersecting institutional experiences and interpretations of entrepreneurs.

Stam and Van de Ven (2019) highlight that co-operation arises from the integration of functional specialisations. This gives rise to the recycling of complementary benefits and may lead to spinoffs, extrapolated through the embedded links between entrepreneurs, experienced human capital and dealmakers. This supports the view of Bell-Masterson and Stangler (2015) who argue that connectivity over time induces spinoffs. Herein lie significant economic benefits, which infers that actors subsequently engage in common behaviours and actions (Roundy et al., 2017). Munoz and Encinar (2014) elaborate on these commonalities by giving a practical example. This example indicates that actors who share common behaviours and actions may seek investors and customers, including testing their business models to achieve positive cash flows.

The interplay or co-operation, though not embedded in any formal structure or linear, is underscored by the goal of optimising the performance of ventures (Acs et al., 2016; Hilary & Hoover, 2016; Pittz et al., 2019). However, gaps remain present regarding the way firms navigate co-operation (Hannah & Eisenhardt, 2018) and this is potentially a major flaw in developing an entrepreneurial ecosystem. These flaws may be explained as poor structural holes, if applying the Structural Holes Theory. Skilton, Bernardes, Li and Creek (2015) assert

that competition is underpinned in the Social Network Theory, as it seeks to develop product market entry points through its relationships.

As highlighted in the background of this study, Brooks et al. (2019) refer to the entrepreneurial ecosystem as a '*Pandora*'s box as a result of poor understanding (Isenberg, 2011; Roundy, 2017; Stam & Spigel, 2018). Despite the lack of a common understanding, entrepreneurial ecosystems still advance with a positive socio-economic narrative amongst policymakers and practitioners towards entrepreneurial development (Stam, 2015; Alvedalen & Boschma, 2017; Stam & Spigel, 2018; Audretsch, 2019).

Isenberg (2010, 2011) and Audretsch (2019) emphasise that policymakers need to be careful in making generalisations and have to refrain from applying a "one-size-fits-all" strategy. This confirms the findings presented by Acs et al. (2017) that entrepreneurial ecosystems strategic approaches are based on the challenges and pathways of various places. Therefore, they avoid a singularity concept (Audretsch, 2019) while also understanding that economic diversification within the location is paramount (Bell-Masterson & Stangler, 2015).

5.2.4 The geographical implications of an entrepreneurial ecosystem

Value creation in the context of entrepreneurial ecosystems seeks to exploit a region's place-based infrastructure, knowledge, capabilities and specialisms to promote a regional competitive advantage (Bailey, Pitelis & Tomlinson, 2018). Therefore, value creation is central to entrepreneurship and delivers socio-economic benefits and cohesive communities to a location (O'Connor et al., 2018; Bosma et al., 2019). However, entrepreneurial ecosystems develop within a system boundary, which means that they vary in scale in terms of their performance, practice, strength, weakness, opportunities, threats, objectives and actors (Qian et al., 2013; Roundy et al., 2018). Each place has distinct development pathways and this infers that each place would respond or co-ordinate itself differently (Acs et al., 2017).

Researchers (Isenberg, 2011; Stam, 2015; Bosma et al., 2018; Stam & Spigel, 2018; Stam & Van de Ven, 2020) argue that the location where entrepreneurial activity thrives is related to certain preconditions. Stam (2015), Spigel (2015) as well as Stam and Van de Ven (2019) highlight preconditions, such as formal and informal institutions, physical infrastructure and social networks. These assertions are supported by Iftikhar et al. (2020) who underline the significance of culture, social practices and place infrastructure as facilitators or hindrances for economic activity. Using Chinitz's (1961) words, "for a given size of the area, the

entrepreneurial supply curve is also a function of certain traditions and elements of the social structure, which are heavily influenced by the character of the area's historic specialisations".

Vedula and Kim (2019) argue that the attractiveness to pursue new ventures in a location are based on these conditions as they mediate entrepreneurial activity. The environment is described by Pittz et al. (2019, p.4) as networks of entrepreneurs, investors, firms and big businesses that drive entrepreneurial behaviour, investor focus and innovation hot spots within specific industry sectors. These entrepreneurial networks translate into information flows between knowledge, labour and capital and therein lies the significance of networks. The information flows spur new ventures, informal market participation and access to domestic or international markets (Autio & Fu, 2015; Woolley, 2017). The diffusion of information may be explained as positive spillovers for innovation, growth and market disruption (Spigel, 2017; Woolley, 2017; Nicotra et al., 2018).

Positive spillovers create tangible outputs, which accrue benefits in the form of tax revenue, corporate revenue, employment and better governance (Isenberg, 2011; Woolley, 2017). Notably, the evolutionary nature of the ecosystem allows resources, such as people, skills, knowledge and capital to flow between firms in an ecosystem (Mack & Mayer, 2016; Spigel & Harrison, 2018). Spigel and Vinodrai (2020) refer to this as recycling. Recycling in this context occurs when the resources created or attracted by large businesses or local ventures scale up and flow to new start-ups and scale-ups in each location. These actors leverage the resources to innovate and grow.

On the other hand, there are also negative spillover effects, such as rising land prices and wage rates. This is commonly referred to as negative externalities. It is therefore important that spillovers are defined by size and density. Roundy (2017) asserts that cities have different structures and resource endowments. This means that cities would have different employment rates, different GDPs and may have different sized corporates operating within a place. Within this context, it may be prudent to argue that governments need to extend the support that ensures that the negative externalities are reduced for a specific location to become a supportive entrepreneurial hub (Glaeser, 2011).

As entrepreneurs are central to an ecosystem, they seek a set of resources, such as knowledge, finance, human capital and education. These resource endowments or systemic conditions are acknowledged in the models presented by Isenberg (2010), Stam (2015), Spigel (2015) and Stam and Van de Ven (2019). However, the government, who form part of the formal

institutions, need to provide support. This reinforces Woolley's (2017) assertion about creating accessibility. Government, may for instance create structures to improve licencing approvals to access supply chains, as well as sales from customers (Bell-Masterson & Stangler, 2015).

Glaeser and Hausman (2019) assert that innovation is best rooted in successful and productive cities, as such policies are geared to non-urban areas, which may be ineffective and wasteful. It is therefore important for policies to account for the differences in a place to avoid inefficient spending of budgets (Evans & Boguchwal, 2014; Roundy, 2017; Woolley, 2017). Perhaps this emphasises the importance of measuring the range of present conditions to determine the potential effectiveness of a place to justify any spending. This may reinforce Woolley's (2017) assertion that an abundance of resources does not necessarily mean a place is vibrant. Herein lie implications in the strategies deployed by local government and business practitioners as new ventures are shaped around the perception of the access to resources, which influences entrepreneurship into a location.

To elaborate on the importance of allocating budgets to optimise a return on investment, various case studies surrounding melting pots of entrepreneurial activity have been researched. These melting pots show that entrepreneurial ecosystems stem from locations with place-specific resource endowments, institutional arrangements and propriety functions (Carvalho, 2017). These place-specific resource endowments developed local and regional capacity (Porter, 1990; Spigel, 2015). Some examples that are exhaustively used are related to Boulder in Colorado, Copenhagen pharmaceuticals, Oxford in the United Kingdom and Silicon Valley (Isenberg, 2010; Feld, 2012; Mason & Brown, 2014). For example, Oxford's emergence as an entrepreneurial ecosystem is linked to its strategic location in respect to London and Heathrow airport, its attractiveness as a place to live, its university and associated global brand and its unique cluster of United Kingdom government laboratories. These examples share the presence of certain preconditions linked to place-based resource endowments.

In a study on Waterloo, Canada's entrepreneurial ecosystem, Spigel and Vinodrai (2020) advocate that the region has a strong culture of trust and co-operation between entrepreneurs and community leaders. This emphasises the power associated with the informal institutional resources within a location. To further underscore the importance of place-based resource endowments, Feld (2012) argued Boulder's success was due to a culture of co-operation over competition. In the study, entrepreneurs shared knowledge and expertise while espousing failure as an opportunity. Similarly, in a comparative study conducted by Kilroy (2014b) on competitive cities, he highlights how competitors in Gaziantep, Turkey lobbied for

infrastructure upgrades, which shows co-operation. Based on these examples, the potential impact of the perception of a locations culture, which may be viewed through trust and co-operation offers implications for a place. These implications may underscore the way the location is viewed to draw in entrepreneurs, investors and skilled workers.

5.3   THE MODELS AND FRAMEWORKS INFORMING ENTREPRENEURIAL ECOSYSTEMS

There are several models and frameworks of entrepreneurial ecosystems (Stam, 2015; Alvedalen & Boschma, 2017; Brown & Mason, 2017; Malecki, 2018). A key feature of entrepreneurial ecosystems is presented through their actors and factors that network within a set of preconditions and factors with the aim of new venture creation, innovation and the development of new sectors. In the GEM 2019/2020 report, spatial location is attributed as significantly important and is emphasised as a material attribute from Ben Spigel's work (Spigel, 2015; Bosma et al., 2019).

Mason and Brown (2014, p. 8) and Spigel (2017) assert that entrepreneurial ecosystems emerge in specific locations that own a set of resource endowments, or commonly referred to as place-based assets. The set of attributes increases a specific location's attractiveness and creates opportunities (Vedula & Kim, 2019). Opportunities may be in the form of co-operation and co-creation that leads to the legitimisation of new ventures and access to markets (Van De Ven, 1993; Bell-Masterson & Stangler, 2015; Spigel, 2015; Stam, 2015; Eckardt et al., 2017; Motoyama & Knowlton, 2017; Spigel, 2017; Wu et al., 2017; Nicotra et al., 2018). Table 5.2 summarises a set of models and frameworks dated from 2010, which provides the classification of the factors of an entrepreneurial ecosystem. Thereafter, a short summary is given. This combination of models assists to affect the logical process of deduction to develop the theoretical framework in Chapter Seven.

Table 5.2 – Ecosystem models and frameworks of entrepreneurial ecosystems

Model and frameworks	Key factors	Literature Source
Domains of entrepreneurship ecosystem	• Culture • Finance • Human capital • Markets • Policy • Support	(Isenberg, 2010)
Nine attributes of a successful start-up community	• Capital • Companies • Engagement • Government • Intermediaries	(Feld, 2012)

	• Leadership • Network density • Support services • Talent	
Pillars of the entrepreneurial ecosystem	• Accessible markets • Cultural support • Education and training • Funding and finance • Government and regulatory framework • Human capital/workforce • Major universities as catalysts • Support system/mentors	World Economic Forum (2013)
Entrepreneurial ecosystem elements	• Framework conditions: formal institutions, culture, physical infrastructure, demand • Systemic conditions: networks, leadership, finance, talent, knowledge, support services	(Stam, 2015)
Attributes of the entrepreneurial ecosystem	• Cultural: cultural attitudes, histories of entrepreneurship • Material: universities, support services and physical infrastructure, policies and governance, strong local markets • Social: networks, investment capital, mentors and dealmakers, worker talent	(Spigel, 2015)
Elements and outputs of the entrepreneurial ecosystem	• Institutional arrangements component is captured by the formal institutions, culture and network elements • The resource endowment component is captured by the physical infrastructure, finance, leadership, talent, knowledge, intermediate services and demand elements • The third component output of the entrepreneurial ecosystem is conceptualised as new value creation and captured by productive entrepreneurship	(Stam & Van de Ven, 2020)
Global Entrepreneurship Monitor (GEM) Conceptual Framework	• Social, cultural, political and economic context • Social values and individual attributes • Entrepreneurial activity • Entrepreneurial output • The outcome in the form of socio-economic development	(Bosma et al., 2019)

i. **Domains of entrepreneurship ecosystem (Isenberg, 2010)** – Daniel Isenberg from Babson College provided six domains that make up the entrepreneurial ecosystem, as seen in Figure 5.3. These domains consist of a conducive culture, enabling policies and leadership, availability of appropriate finance, quality human capital, venture friendly markets for products and a range of institutional support. Isenberg explained that the domains consist of multiple factors that network in complex ways. He further highlights that ecosystems develop against distinct preconditions and using a causal analysis would offer no value. This claim advocates the interconnectivity of factors and actors within the ecosystem.

Figure 5.3 - Six domains of the entrepreneurial ecosystem (Isenberg, 2010)

i. **Nine attributes of a successful start-up community** (Feld, 2012) – Suggests nine attributes of the entrepreneurial ecosystem which are presented in Table 5.3. Herein, the presence of connections between the actors of the ecosystem are emphasised. The attributes indicate the presence of network density, connecting events and big businesses engaging with start-ups in the specific geographical location. Brad Feld emphasises access to relevant assets while underscoring the supportive role that government plays. These attributes formed part of a shift from traditional economic thinking (Stam, 2015).

Table 5.3 - Nine attributes of a successful start-up community (Feld, 2012)

Attribute	Description
Leadership	Strong group of entrepreneurs who are visible, accessible and committed to the region being a great place to start and grow a company.
Intermediaries	Many well-respected mentors and advisors giving back across all stages, sectors, demographic and geographic as well as a solid presence of effective, invisible, well-integrated accelerators and incubators.
Network density	Deep, well-connected community of start-ups and entrepreneurs along with engaged and visible investors, advisors, mentors and supporters. Optimally, these people and organisations cut across sectors, demographics and culture.
Government	Strong government support for and understanding of start-ups to economic growth. Additionally, supportive policies should be in place covering economic development, tax and investment vehicles.
Talent	Broad, deep talent pool for all levels of employees in all sectors and areas of expertise, Universities are an excellent resource for start-up talent and should be well connected to the community.
Support Services	Professional services are integrated, accessible, effective and appropriately priced.
Engagement	Large number of events for entrepreneurs and community to connect with highly visible and authentic participants, such as meet-ups, pitch days, boot camps, hackathons and competitions.
Companies	Large companies that are the anchor of a city should create specific departments and programmes to encourage co-operation with high growth start-ups.
Capital	Strong, dense and supportive community of venture capitalist, angel investors, seed investors and other forms of financing should be available, visible and accessible across sectors and demographics.

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ii. **Pillars of the entrepreneurial ecosystem** (World Economic Forum, 2013) – This framework suggests eight pillars of the entrepreneurial ecosystem, as per Figure 5.4. The World Economic Forum highlights that this model is based on previous work conducted by Ernst and Young, the OECD and Professor Daniel Isenberg (Babson College). These factors are said to support the starting and scaling of nascent businesses. As such it is focused on the entrepreneur. Furthermore, the central pillars are *Funding and finance* and *Accessible markets*. The two pillars are invoked as critical to the extent that they refer to the liquidity of a business to survive. Human capital is viewed as the third major pillar as experienced workers support the scaling of a business through the knowledge they acquired to develop and sell products.
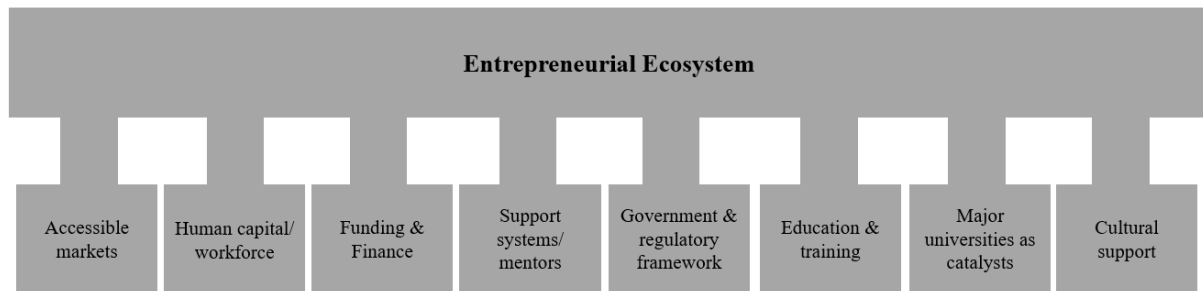
Figure 5.4 - Pillars of the entrepreneurial ecosystem (World Economic Forum, n.d.)

iii. **Entrepreneurial ecosystem key elements, outputs and outcomes** (Stam, 2015) – In 2015, Eric Stam framed the entrepreneurial ecosystem into ontological layers, namely; systemic conditions, framework conditions, outputs and outcomes. The model is provided, as per Figure 5.5. By applying this approach, a deeper sense of the inter-causality between layers emerged. This model reinforced the social network and systems theory in its ability to reveal both upward and downward causation, feedback loops and intra-layer causation (Acs, Autio & Szerb, 2014; Bell Masterson & Stangler, 2015).

Framework conditions include the formal institutions, culture, physical infrastructure and demand. The social and physical conditions are explained as either supporting or limiting for connectivity and highlight exogenous demand for new goods and services as important but are based on the position of the ecosystem.

Systemic conditions include networks, leadership, finance, talent, knowledge and support services. According to Stam (2018), the systemic conditions are central to the

ecosystem and their interaction is what promotes productive entrepreneurship. The systemic conditions may be characterised as follows:

- Networks - develop information flow allowing for the distribution of labour and capital;
- Leadership who are committed to entrepreneurship is advocated as driving direction and providing role models;
- Skilled workers are acknowledged as a source of opportunities, in terms of their knowledge; and
- Support services are acknowledged as intermediaries that lower entry barriers for new projects and reduce time-to-market, which otherwise would be a constraint.
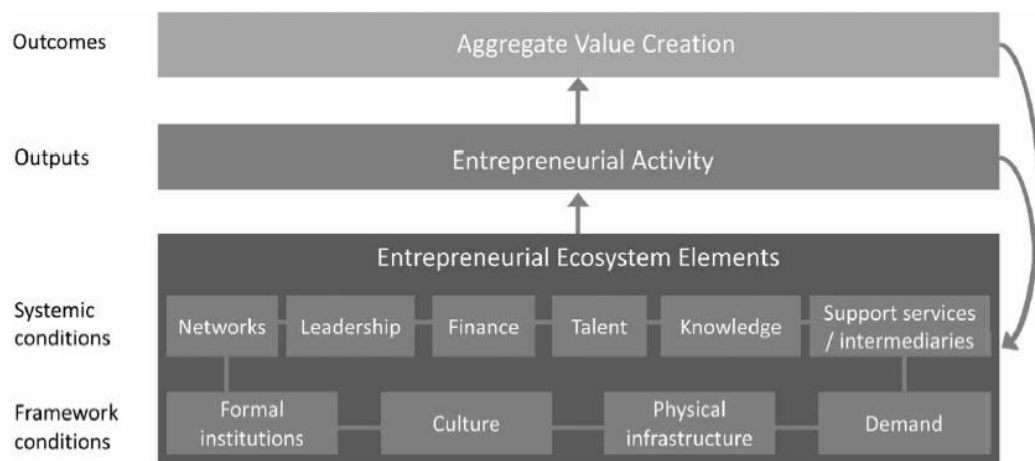
Figure 5.5 - Key elements, outputs and outcomes of the entrepreneurial ecosystem (Stam, 2015, p. 1765)

iv. **Attributes of the entrepreneurial ecosystem** (Spigel, 2015) – In 2015, the attributes of the entrepreneurial ecosystem were modelled, as per Figure 5.6. The model includes attributes, such as cultural (cultural attitudes and histories of entrepreneurship), social (networks, investment capital, mentors and dealmakers, worker talent) and material (universities, support services and physical infrastructure, policies and governance, strong local markets).

Spigel (2015) argues that a supportive culture and histories that advocate a positive view of entrepreneurship are crucial to normalise and legitimise support for entrepreneurship. Essentially, this allows dense networks to emerge and foster entrepreneurial policies and programmes. Similarly, a practical example is offered to underpin this proposition: "*Entrepreneurial support organisations can play an important role in fostering local networks and raising the profile of successful local start-ups. This encourages new actors to engage in networking activities by exposing*

them to success stories, increasing the amount of financial, technical and advisory resources within local social networks. Strong sets of social attributes such as networks, mentors and investment capital within a region then help to reinforce and reproduce the ecosystem's pre-existing culture by normalising these practices and creating new stories of successful entrepreneurship that enter in the region's history" (Spigel, 2015, pp. 7–8).
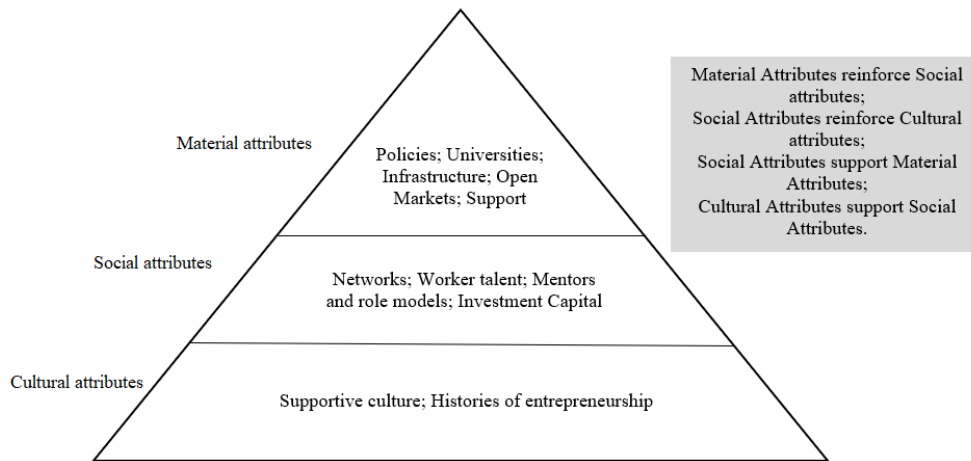
Figure 5.6 - Attributes of the entrepreneurial ecosystem (Spigel, 2015, p.8)

v. **Elements and outputs of the entrepreneurial ecosystem** (Stam & Van de Ven, 2020) This model suggests two layers before the output layer of productive entrepreneurship: the institutional arrangement and the resource endowment layer, as per Figure 5.7. The institutional arrangements layer represents foundational aspects such as formal institutions, culture and networks. These are the preconditions that create the supportive environment that provides the foundation for entrepreneurial activity. The resource endowment layer includes factors such as physical infrastructure, demand, intermediaries, talent, knowledge, leadership and finance. This model extends on the previous work done by Eric Stam, as per Figure 5.5.
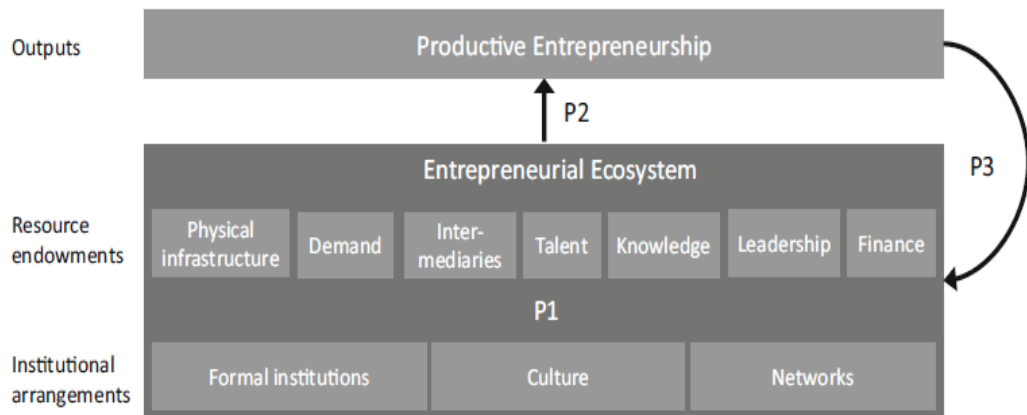
Figure 5.7 - Elements and outputs of the entrepreneurial ecosystem (Stam & Van de Ven, 2020)

vi.   **GEM Conceptual Framework** (Bosma et al., 2019, pp. 24–25) **–** This Framework, as per Figure 5.8, guides entrepreneurial activity based on a set of preconditions, namely; the social, cultural, political and economic context. Herein, the GEM 2019/2020 Global Report states that spatial location is very important. Second, the framework highlights moderating variables, namely, individual attributes and social values. The individual attributes relate to the interaction of individual attributes and describe this as an individual's perception of an opportunity and the ability to act on the opportunity. Similarly, social values act as an additional moderating variable. This gives rise to entrepreneurial activity by phase, impact and type. Third, it shows that entrepreneurship is a cause of value add and job creation, which in turn develops socio-economic development.
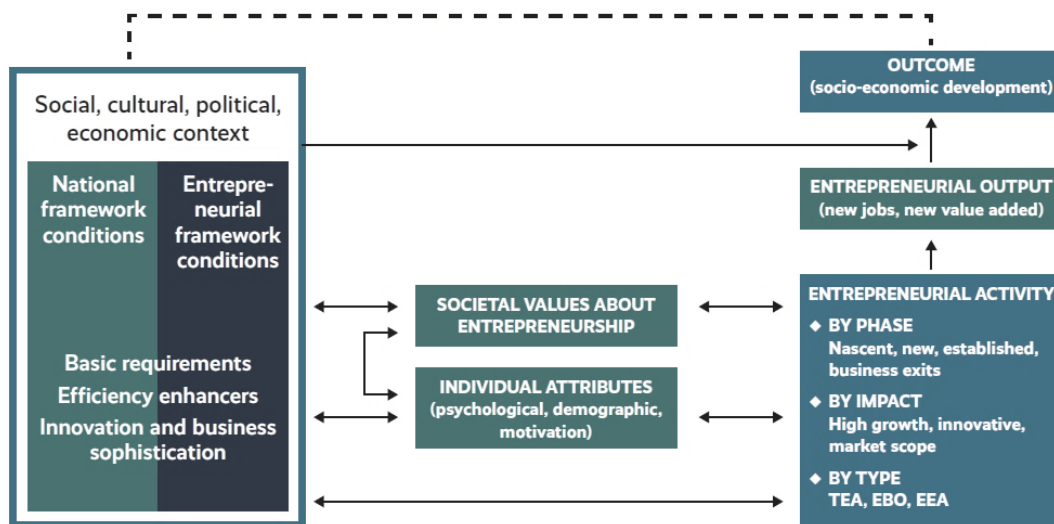
Figure 5.8 - GEM Conceptual Framework (Bosma et al., 2019)

vii.   Framework deduction

The literature indicates the presence of pre-conditions. These preconditions are associated with the prevailing culture, formal institutions, social networks and the physical attributes of the location. Notably, literature asserts that these sets of conditions relate directly to entrepreneurial activity. The framework below, as per Figure 5.9 attempts to deal with the entities, namely the preconditions and actors. The other factors, interchangeably referred to as resource endowments are not included. This is apart from the spatial location. Several frameworks are interchangeable or extended from each other. A key feature is the presence of entrepreneurs and actors who interact with each other to co-create and induce competition. However, co-creation and competition are only possible within a given range of socio-economic, political, place-based assets and social networks. This framework aids to develop a bird's eye view of the shape of an entrepreneurial ecosystem.
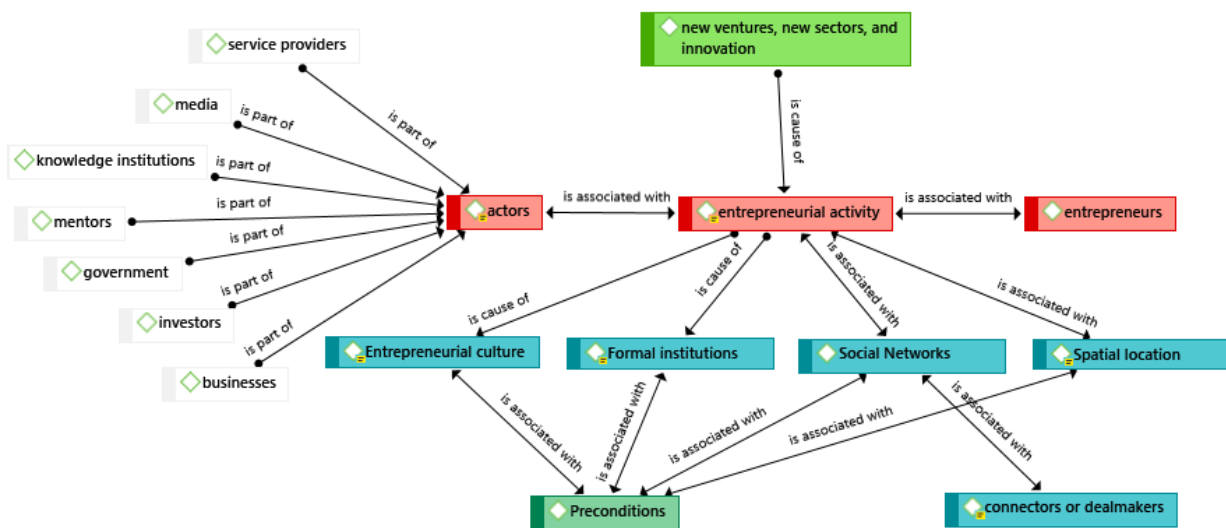
Figure 5.9 - Bird's eye view framework (author's construction)

5.4   SUMMARY

The Chapter addressed $RQ_{4.1}$ and $RQ_{4.2}$, which questions: *What is an entrepreneurial ecosystem?* and *What are the current frameworks or models for an entrepreneurial ecosystem?* The Chapter completed $RO_{4.1}$ and $RO_{4.2}$, which were: *To conceptualise the entrepreneurial ecosystem* and *to discuss the existing frameworks and models for entrepreneurial ecosystems.*

During the conceptualisation, a set of definitions was provided. In organising the discussion, a broad definition was applied followed by framing the central role of the entrepreneurs and the importance of so-called failed entrepreneurs. The argument was presented that the latter group,

through the economy of the lens of experience can facilitate new ventures through the experience that they obtained. Similarly, the type of actors and resources were highlighted to the extent that they mediate the performance of the ecosystem within a geographical boundary.

The preconditions were explained as catalysts to stimulate entrepreneurship. Connectivity was introduced to further conceptualise the entrepreneurial ecosystem in a supporting environment. That is an environment underpinned by a range of preconditions, co-operation and competition among actors. This co-operation and competition may be partisan, distributed or embedded. This is a key feature of the entrepreneurial ecosystem and shows an interplay between Systems Theory, Social Network Theory, Structural Holes Theory and the Absorptive Capacity Theory of Knowledge Spillover.

After the discussion of the preconditions and connectivity, the implications of the location were explained. The literature confirmed that locations are disparate and reinforced the need to perform granulated investigations on sub-national levels, such as in cities and regions (Spigel, Kitagawa & Mason, 2020). Furthermore, the relationship in terms of the set of institutional arrangements and resource endowments in a place correlated to the degree of entrepreneurial activity should be investigated.

The chapter continued by discussing current entrepreneurial ecosystem models and frameworks, which illustrated a pattern of interdependency. The frameworks and models identified preconditions, such as informal institutions, culture, networks and physical infrastructure as the foundations for any entrepreneurial activity to occur.

This chapter synthesised literature to conceptualise the entrepreneurial ecosystem as no uniform understanding exists. The review further identified various factors commonly used among frameworks and models, which aided the logical process of deduction towards the development of the theoretical framework in Chapter Seven. Thus, Chapter Five achieved RO$_{4.1:}$ *To conceptualise the entrepreneurial ecosystem* and RO$_{4.2}$*: To discuss existing frameworks and models for entrepreneurial ecosystems*. In addition, this review answered RQ$_{4.1}$: *How can the concept of an entrepreneurial ecosystem be understood?* and RQ$_{4.2}$: *What are the current frameworks or models for an entrepreneurial ecosystem?*

In Chapter Six, RO$_{5:}$ *To critically review the factors influencing an entrepreneurial ecosystem* will be addressed.

CHAPTER 6: THE FACTORS INFLUENCING AN ENTREPRENEURIAL ECOSYSTEM

6.1   INTRODUCTION

The aim of Chapter Five was to conceptualise the entrepreneurial ecosystem. The conceptualisation of the phenomenon was essential as no uniform definition of the concept exists (Bruns, Bosma, Sanders & Schramm, 2017; Acs, Estrin, Mickiewicz & Szerb, 2018; Vedula & Kim, 2019). This was followed with a summary of the existing frameworks and models of entrepreneurial ecosystems. The prominent models and frameworks were illustrated in Table 5.2, which dates to 2010, albeit studies on the subject date to 1993.

Based on the preconditions operationalised from the literature, as illustrated in Table 5.1, the study replicates and expands on Daniel Isenberg's domains of the entrepreneurship ecosystem (Isenberg, 2011). As stated in the background of this study, a critical inquiry about the factors that influence the performance and survival of entrepreneurship within a place-based context is essential to develop the conceptual framework. Therefore, Chapter Six reviews seminal and current literature on the factors of the entrepreneurial ecosystem. As such, Chapter Six addresses RO$_5$: *To critically review the factors influencing an entrepreneurial ecosystem.* Thereby answering RQ$_5$: *What are the factors that influence an entrepreneurial ecosystem?*

This chapter begins by providing a brief overview. Secondly, the factors are critically discussed in Section 6.3 to Section 6.9. Finally, a summary is presented based on the critique of the factors. Figure 6.1 offers a structural overview of this study and illustrates where Chapter Six is positioned in the overall structure of the thesis.

Figure 6.2 illustrates the roadmap for Chapter Six. This chapter begins by providing a brief overview followed by a critique of the factors.
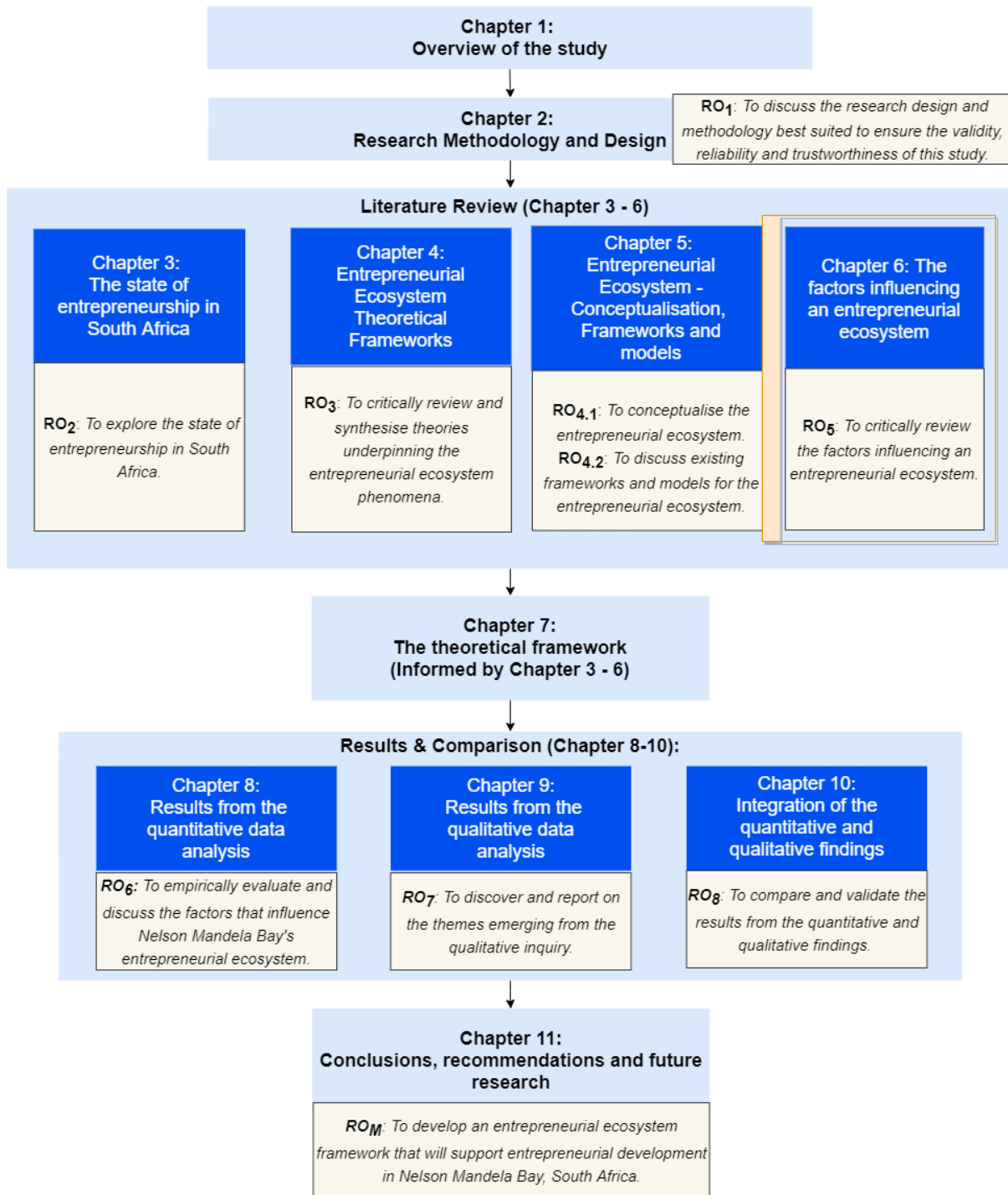
Figure 6.1 - Structural overview of the research study

CHAPTER 1: Overview of the study

CHAPTER 2: Research methodology and design

CHAPTER 3: The state of entrepreneurship in South Africa

CHAPTER 4: Entrepreneurial ecosystem theoretical frameworks

CHAPTER 5: Entrepreneurial ecosystem - conceptualisation, frameworks and models

CHAPTER 6: The factors influencing an entrepreneurial ecosystem

- 6.1   Introduction
- 6.2   Overview
- 6.3   The institutional environment
- 6.4   Networks and knowledge for value creation
- 6.5   Leadership
- 6.6   Access to human capital and talent
- 6.7   Business support services
- 6.8   City Planning
- 6.9   Access to entrepreneurial finance
- 6.10   Summary

CHAPTER 7: The theoretical framework

CHAPTER 8: Results from the quantitative data analysis

CHAPTER 9: Results from the qualitative data analysis

CHAPTER 10: Integration of the quantitative and qualitative findings

CHAPTER 11: Conclusions, recommendations and future research

Figure 6.2 - Roadmap of Chapter Six

6.2.   OVERVIEW

Currently, several entrepreneurial ecosystem frameworks and models exist and are accepted and the presence of the of the entrepreneur as the central actor or legitimises the system insofar that it is situated within an acceptable range of socio-economic, institutional and informational contexts (Audretsch & Belitski, 2017; O'Connor et al., 2018; Bosma et al., 2019). The entrepreneurial ecosystem's broad definition is that of an organised set of interdependent components (actors and factors) that enable productive entrepreneurship within a specific

spatial location (Isenberg, 2011; Stam, 2015; Acs et al., 2017; Brown & Mason, 2017; Stam & Van de Ven, 2020; Shwetzer et al., 2019).

Although the definitions of an entrepreneur differ, some similar factors exist. This study follows the factors from Isenberg's (2010) domains of the entrepreneurship ecosystem with the inclusion of leadership (embedded in policy), city planning (embedded in support) and networks (embedded in markets) explained as separate constructs. The discussion into early customers in the Markets domain is excluded as it will be argued in the analysis as a product from a cohesive entrepreneurial ecosystem. The contention of this chapter is that the factors of the ecosystem must be engineered in a complementary way around the needs of the entrepreneur and the support they need to create value for themselves and the city. The following sections aim to critically review the factors pertaining to the institutional environment, networks and knowledge, leadership, human capital, business support services, city planning and finance.

6.3.   THE INSTITUTIONAL ENVIRONMENT

In Chapter Three, the Institutional Theory was discussed as it shapes entrepreneurial activity within a specific region or location (Stam, 2014; Acs et al., 2016, 2017; Spigel, 2017; Bosma et al., 2018, 2019). Formal institutions are commonly understood as the government policies, laws and regulations. Similarly, informal institutions are broadly referred to as the culture, social norms and social practises in society (Mason & Brown, 2014; Alvedalen & Boschma, 2017; Lowe & Feldman, 2017; Bosma et al., 2018; Fuentelsaz et al., 2019). The distinction between formal and informal is explained through the pillars developed by Scott (2008), which are the regulatory, normative and cultural-cognitive. Regulatory represents the policies, laws and regulations. The normative pillar represents societal norms and values and cultural-cognitive include the shared understanding in society. In the following subsections, the informal (referred to as entrepreneurial culture) and formal institutions will be explored as they relate to the entrepreneurial ecosystem.

6.3.1   Entrepreneurial culture

Informal institutions refer to the culture, social norms and practises shared by a community (North, 1990; Mason & Brown, 2014; Bosma et al., 2018). Multiple authors contend that informal institutions exert a strong role in developing entrepreneurial attitudes and behaviour (Kibler, Kautonen & Fink, 2014; Fritsch & Wyrwich, 2014, 2018; Fritsch, Obschonka & Wyrwich, 2019). This reveals that the informal institution acts as a catalyst for risk taking and

collaboration where the end goal is value creation. Notably, applying Stam and Van de Ven's (2019) model, Leendertse, Schrijvers and Stam (2020) demonstrate operational measures of entrepreneurial culture. The measures include entrepreneurial motivation, cultural and social norms and the importance of innovation and trust. Bosma et al. (2019) apply these measures as moderating factors in the GEM Conceptual Framework. As a moderating factor, the entrepreneurial culture may be viewed as a factor that exerts a force between other independent factors and entrepreneurial activity.

Entrepreneurial motivation is reflected in the normative-cognitive layer. Entrepreneurial motivation is as a result of the acceptance of self-employment and entrepreneurship (Isenberg, 2011; Roundy, 2017; Fritsch & Wyrwich, 2018; Vedula & Kim, 2019). The acceptance of self-employment and entrepreneurship within a location involves norms surrounding individualism, autonomy and achievement (McClelland, 1961; Hofstede & McCrae, 2004; Fritsch & Wyrwich, 2018). A history of self-employment in a location reveals entrepreneurial personalities and innovation capacity. However, each region is very unique with regard to entrepreneurial intention, innovation capacity and new venture establishment (Fritsch et al., 2019).

Cultural and social norms usually indicate that an adequate number of entrepreneurial role models who act as peers and induce a favourable perception of entrepreneurship exist (Fritsch & Wyrwich, 2018). This may indicate that an elevation of the social status of entrepreneurship occurs. For instance, cities like London and Berlin have developed an admired image for entrepreneurs in comparison to the Mediterranean that views entrepreneurship as a less favoured option (European Digital City Index, 2016). The subsequent effect of elevating entrepreneurship includes a tolerance towards risk and failure. This means that failure is perceived as an opportunity to learn (Isenberg, 2011; Feld, 2012; Kibler et al., 2014). The acceptance or tolerance of failure generates new know-how or competencies and may drive those entrepreneurs to become mentors or advisors.

Essentially, those "failed" entrepreneurs recycle their expertise and learnings back into the ecosystem (Mack & Mayer, 2016; Spigel & Harrison, 2018; Spigel & Vinodrai, 2020). This expertise may therefore be viewed as an opportunity for all entrepreneurs to learn, based on the experience gained from failed businesses. Fast failure is an ideology supported by both Isenberg and Feld (Isenberg, 2011; Feld, 2012).

Spigel and Vinodrai (2020) argue that an entrepreneurial culture drives entrepreneurial intention and affords resource endowments, such as entrepreneurial finance and competencies through the supporting infrastructure for new products and services (Autio & Fu, 2015; Woolley, 2017). The resource endowments are as a result of the social legitimacy of entrepreneurship (Kibler et al., 2014; Fritsch & Wyrwich, 2018). Ultimately, the social legitimacy of entrepreneurship spurs an innovation differential (Danish, Asghar, Ahmad & Ali, 2019). An innovation differential is manifested through new product designs, processes, marketing strategies or training methods (Porter, 1990). This coincides with the argument that an entrepreneurial culture is positively correlated with collaboration and new ideation. Notably, there is a salience of trust and reciprocity, or co-operation involved to achieve this.

The social legitimacy of entrepreneurship in a location creates a demand of local goods and services (Porter, 1990; Kibler et al., 2014; Spigel, 2015). Social legitimacy may be attributed to the legacy of entrepreneurial traditions within specific spatial location (place, location, region, city) (Fritsch et al., 2019). The demand factor is recognised by Stam and Van de Ven (2019) as an element and described by the financial means of society to purchase the products and goods. However, in the model by Fritsch and Wyrwich (2017) it is argued that demand is linked to the social legitimacy of entrepreneurship. The operationalisation of these two 'conflicting' views may be linked to the economic development and income levels in a specific location. Apart from the financial means of society, a clear consensus is that local demand is essential for entrepreneurship to occur (Leendertse et al., 2020).

The consensus may be linked to the ideology of competitive nations (Porter, 1990). Local economies achieve competitive advantage in certain sectors where there is local demand. The subsequent effect of local demand is the pressure on businesses to innovate. A classic example offered by Porter (1990) is based on the demand for convenience products in the United States, which sped up innovation of fast food and credit cards. Here, businesses responded to the emerging buyer needs and by responding developed a competitive advantage globally.

Against this backdrop, entrepreneurial culture may be viewed as a dominant construct in determining the efficacy to create a new venture in a specific location. However, Woolley (2017) argues that there is no set predictor of how a location may develop an entrepreneurial culture. Given, the significance and uncertainty surrounding establishing an entrepreneurial culture, it may be prudent to argue that the set of interacting factors is important to induce this character in a set location. Policy makers and practitioners must be careful to develop a perception bias of the entrepreneurial culture, as each location is diverse and its level of

inclusivity may differ. Ideologies of espousal and enactment may be crucial indicators to consider when establishing the entrepreneurial ecosystem and its culture.

6.3.2   Formal institutions or policies

Formal institutions include government policies, laws and regulations that facilitate economic, social and political interactions (Bosma et al., 2018; Fritsch & Wyrwich, 2018; Fuentelsaz et al., 2019). Leendertse, Schrijvers and Stam (2020) operationalise institutions in the context of entrepreneurial ecosystems by measuring government quality and regulatory frameworks. This refers to the regulation of finance, business and labour (Bosma et al., 2018, p. 485).

According to Porter (1990, 1998) and OECD (2007) businesses with onerous regulatory compliance reduce the incentive to start a business. The OECD (2019b) argues that red tape is more expensive for small businesses than big businesses. In fact, a recommendation made was to create lean planning frameworks to respond timeously to entrepreneurial needs. However, Bosma et al. (2018) contend that lower levels of regulation are not correlated with productive entrepreneurship. In fact, poor entrepreneurship may be negated by a quality regulatory environment.

Applying laws and regulations that allow for ease of establishment and trade, tax rebates, competition policies and entry/exit make starting a new venture attractive (Fritsch & Wyrwich, 2017). Therefore, formal institutions should apply policies that target a supportive infrastructure and enterprise promotion activities.

Against this backdrop, formal institutions are argued to have a twin ability to reinforce or weaken local economic development (Fuentelsaz et al., 2019). The concept of reinforcement is linked to high quality government bureaucracy and policy. Reinforcement policies oppose weak policies. For example, weak policies may be presented by the previous product-based policies in Catalonia, Spain. These product-based policies missed the opportunity to capitalise on critical mass. Once, targeted infrastructure interventions were conducted by a SME development unit at the Catalan Competitive Agency, it increased impact through the private sector.

Furthermore, targeted policies may be explained by describing the situation in Valencia, Spain and Silicon Valley, California. In Valencia, Spain, the Valencia City Council created the InnDEA Valencia Foundation to meet their urban innovation goals (European Digital City Index, 2016). This foundation worked to ease infrastructure accessibility for entrepreneurs and researchers to undertake live tests for the benefit of start-ups and the city. Herein, the

foundation reduced the number of permits on behalf of start-ups. This coincides with targeted efforts to improve entrepreneurial development.

In 2014, it was reported that Gaziantep, Turkey had a GDP of 5,5% over 10 years with GDP per capita that was 70% higher than the national average (Kilroy, 2014b). Key policy instruments supporting this growth are attributed to organised industrial zones, education and research funding, tax incentives, trade fare subsidies and entrepreneurial assistance. In New York, a scheme called Startup NY partnered with New York State college and pledged 10-year exemptions from various taxes using a growth incentive. The growth incentive to qualify for tax relief is based on the number of net new jobs after one year of operation (European Digital City Index, 2016).

Fritsch and Wyrwich (2017) argue that policies may be targeted at competition policies. The instance of competition policies may be evaluated by describing Silicon Valley's success through targeted efforts made by the state of California to support open competition and labour mobility (European Digital City Index, 2016). Open competition allowed for knowledge labour to be mobile and rewarded within the spatial location. The state of California prescribed that non-compete clauses that prevent employees from working in competing companies were illegal. Thus, the state prohibited firms from enacting this through Section 16600 of the California Business and Professions Code in 1872. In fact, this law was enforced in 2015 whereby Silicon Valley technology giants like Google, Apple, Intel and Adobe paid fines of US$415 million for anticompetitive behaviour.

By looking at the ease of doing business, the situation of Rwanda versus South Africa may be discussed from an emerging economy perspective. Rwanda has become a strong case study for its ease of doing business. The country ranks 38th out of 190 countries in the world in terms of ease of doing business (The World Bank, 2019a; Trading Economics, 2019). Rwanda is recognised as a one-stop-shop for investors, where a company is registered in less than six hours (Inclusive Business, 2018). They also rank second in the African continent. The country's success is attributed to its supportive environment for businesses. The Rwandan government plays a facilitative role, such as creating business friendly policies, ease in opening a business, easier tax repayments and a plethora of business development centres. Rwanda has made accessing construction permits faster and upgraded their power grid infrastructure for a reliable power supply. South Africa, dropped by two points to 84 out of 190 in the World Bank's Ease of Doing Business 2020 report (World Bank, 2020a). The country has onerous processes with starting businesses, construction permits, registering property, getting credit,

resolving insolvents and cross border trade. Equally, there are significant challenges with power supply. This comparison highlights the twin ability of governments to either reinforce or weaken local economic development (Fuentelsaz et al., 2019). By acknowledging the economic and socio-economic challenges faced by Africa, policies that reinforce may be critical to trigger economic development and induce social welfare.

This set of examples attempts to underscore the power that targeted policies exert on local economic development. It is important to acknowledge that onerous red tape is more expensive for small businesses than big businesses. Therefore, targeted policies allow ease for enterprise promotion activities and local economic development.

6.4   NETWORKS AND KNOWLEDGE FOR VALUE CREATION

In Chapter Five, connectivity was highlighted as a precondition for an entrepreneurial ecosystem. Connectivity is legitimised in entrepreneurial ecosystems by the way actors interact and subsequently engage in common behaviours and actions (Feld, 2012; Borissenko & Boschma, 2016; Roundy, 2017). As previously stated, the actors of the ecosystem consist of entrepreneurs, investors, universities, support institutions, governments and big businesses. Against this background the importance of networks and knowledge are explored. The subsections aim to discuss connections through dense networks, knowledge spillovers and type of networks.

6.4.1   Connections through dense networks

Connections are warranted as they drive co-creation, which leads to new venture creation, such as knowledge spillovers, spinoffs and access to markets (Brown & Mason, 2017; Stam & Spigel, 2018). Co-creation may lead businesses into supply chains within a specific sector. However, certain ties within a network may lead to closed social circles or fragmented ties, which undermines co-operation (Crespo et al., 2014; Boschma, 2015). Therefore, networks that facilitate information or knowledge exchange and skills transfer need to be developed. It is vital to acknowledge the importance of an advantage ecosystem that aims to keep or preserve knowledge in a specific location. With varying networks in a location, events that create relationships are important in order to achieve an advantage ecosystem (Ter Wal et al., 2016; Roundy, 2017; Spigel, 2017). Therefore, efforts made towards building networks may be described as essential towards creating an advantage ecosystem.

An advantage ecosystem is well described by Porter (1990) who demonstrates that innovation and competition are concentrated in a spatial location through networks. For instance, Silicon

Valley is the popular example of a successful entrepreneurial ecosystem. Its network of businesses and institutions enabled complementarities within the Silicon Valley ecosystem (Porter, 1990; Isenberg, 2011).

Hofmann (n.d.) explains that the dense concentration of actors, with similar goals and intentions, provided exchange of knowledge, introductions and strategic advice. These characteristics espoused by the network of actors in Silicon Valley shows how a networks boundary may be defined by the connections and complementarities. This indicates that a network boundary can cut across actors within sectors and institutions that are important for competition. Similarly, Cambridge was challenged by expensive labour costs and living costs. However, Cambridge decided to create spaces to assist start-ups to network. This led to numerous spaces for start-ups, such as IdeaSpace, St Johns Innovation Centre and Cambridge Science Park (European Digital City Index, 2016). This concentration of spaces is ranked well in terms of its mentorship, management training and culture.

Social proximity allows for the social embeddedness of actors in a dense network (Bell-Masterson & Stangler, 2015). The social embeddedness refers to trust through friendship and experience. The advantages of social proximity may be echoed through its knowledge exchange and networking opportunities. This is especially important for start-ups or nascent entrepreneurs. To extend on this claim it may be understood that people who work in an ecosystem at a start-up may learn quickly and develop an experience curve. If the start-up fails, they may move to another start-up within the same ecosystem with that experience (Spigel & Vinodrai, 2020). However, a non-start-up environment may lose that experience. This supposition pertains to research at universities. If researchers develop a new product, service or patent and their contract ends, they leave the university and that knowledge is lost. This underlines that an advantage ecosystem recycles knowledge back into the ecosystem.

Previously, this study acknowledged Rwanda's friendly business environment and ease of doing business in terms of the established policies. However, Rwanda suffers from network gaps (Inclusive Business, 2018; Meier, Batamuliza & Ross, 2020). For instance, in Kigali Rwanda, the network gaps are attributed to the isolated initiatives and duplication of services with very little functional specialisations. Meier et al. (2020) argue that Kigali requires active efforts to promote a dense network with specialisation. This reveals the extent that collaborative support services, anchored in specialisation are needed to create competition. As with Silicon Valley, a location that becomes competitive and innovative simultaneously attracts

skilled talent. Herein, emerges the importance of human capital and the importance of recycling knowledge back into the ecosystem within a location.

Thus, understanding networks is important to gain insight into how firms navigate co-operation (Hannah & Eisenhardt, 2018). By exploring networks, an understanding of how firms access product market entry market points to induce competition may be established (Skilton et al., 2015). Eventually, by exploring networks, the essence of knowledge spillovers and access to resources become clearer (Eveleens, van Rijnsoever & Niesten, 2017; Malecki, 2018; van Rijnsoever, 2020). To this end, knowledge may be gained through sector and broader entrepreneurial competencies and may be transferred within a location.

Notably, by applying Systems Theory, the entrepreneurial ecosystem is revealed as neither embedded in a formal structure or linear (Acs et al., 2016; Hilary & Hoover, 2016; Pittz et al., 2019). The connections found between the actors and factors of the entrepreneurial ecosystem are explained as misaligned with varying goals (Almanza, 2020). This has been explained as a major gap in entrepreneurial ecosystems (Brooks, Vorley & Gherhes, 2019). Hence, gaining an overview of networks is important as it is at the core of promoting an entrepreneurial ecosystem.

Figure 6.3 attempts to develop a bird's eye view of the shape of an advantage ecosystem. It is important to acknowledge that all the entities are strongly connected by a network of personal and business relationships. These relationships, however interchangeable, stimulate an advantage ecosystem for a given location. A key feature is that the advantage ecosystem induces co-creation and competition.
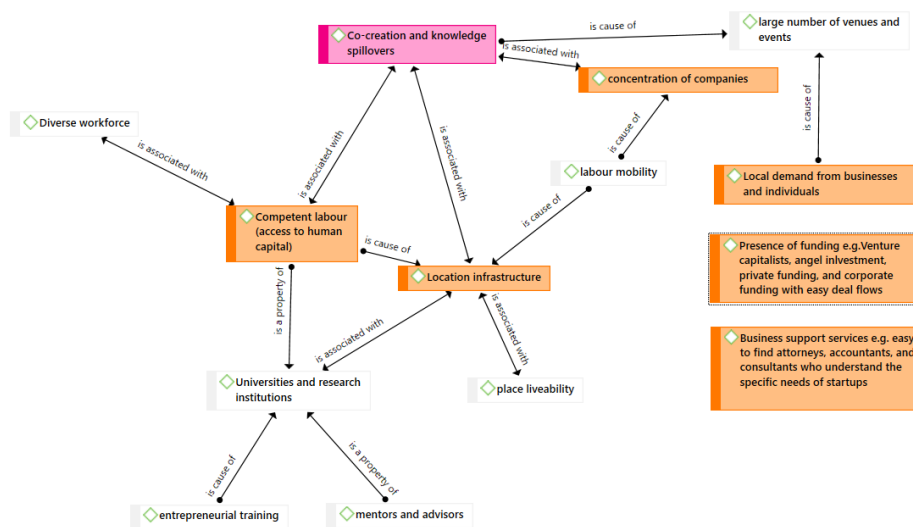
Figure 6.3 - Bird's eye-view of the types of connections for an advantage ecosystem (author's own construction)

In Chapter Four, networks are underpinned in the Social Network Theory and the Structural Holes Theory. Social networks are characterised by the extent of the interconnectivity of actors and factors within the ecosystem (Stam & van de Ven, 2019). Bell-Masterson and Stangler (2015) argued that networks weigh similar importance to that of the actors and factors in isolation. Structural Holes Theory seeks to demonstrate that dense connections lead to resource-rich opportunities in the form of information exchange or assets (Acs et al., 2009, 2013; Spigel & Vinodrai, 2020). Feld (2012) argued that by developing dense networks, there is an opportunity to cut across sectors, demographics and culture. Against this backdrop, the following subsections explore the richness of networks through the lens of knowledge spillovers, business ecosystems and knowledge ecosystems.

6.4.2 Knowledge spillovers

Knowledge spillovers occur through the presence of social networks that share their knowledge (Acs et al., 2009, 2013; Braunerhjelm et al., 2018; Stuetzer et al., 2018). This aligns with the informational context that leads to new opportunities. It is important to acknowledge situations where opportunities may be reduced by knowledge filters (Acs et al., 2013). Knowledge filters emerge in less supportive formal institutional environments, for example where there are strict regulations, compliance and government market interference. This may indicate that isolated knowledge does not offer returns of knowledge, but sharing knowledge allows for value creation. Value creation, in this section is created by knowledge spillovers and leads to innovation and economic growth.

To conceptualise the importance of sharing knowledge (knowledge spillovers), the successful cluster of companies in Silicon Valley, California is a popular baseline. Within this cluster people work closely together, share in recreational activities and meet privately through a close proximal density. It may be assumed that private interactions lead to the sharing of work challenges and present an opportunity to debate for challenges across fields. According to the Theory of Creative Problem Solving (TRIZ), problems and solutions repeated across sectors and industries may be solved through exploring different approaches (Zlotin & Zusman, 2013). This theory holds true when evaluating knowledge spillovers. It may be argued that where knowledge is clustered, there is an opportunity for knowledge to be transferred and transformed. Hence, the more concentrated knowledge is, the greater the opportunity to develop spillovers.

Solidarity in understanding how to deal with challenges and expand know-how comes from networking with experienced entrepreneurs. Through dense networks (informal and formal), there is an opportunity to identify human capital, discover investors and develop new knowledge through an entrepreneurial community (Spigel, 2017). The proximity within a location, the degree of formality and centrality are aspects related to the development of networks (Bell-Masterson & Stangler, 2015).

6.4.3   Types of networks: Knowledge ecosystems or Innovation systems

Knowledge ecosystems are viewed by the presence of universities, research institutions, entrepreneurial firms, established companies and venture capitalists that network and benefit from positive spillover effects (Clarysse, Wright, Bruneel & Mahajan, 2014; Woolley, 2017; O'Connor, Stam, Sussan & Audretsch, 2018). This may reveal that knowledge institutions and research institutions induce knowledge resources. Clarysse et al. (2014) refer to them as anchor institutions, which means that they are not competing in the entrepreneurial ecosystem. Instead, they reinforce entrepreneurship. Anchor institutions also transfer knowledge in both directions of established businesses and new ventures. This means that the presence of new and existing knowledge promotes entrepreneurial activity (Welter, Baker & Wirsching, 2019). Notably, by not prioritising investment into knowledge has the potential to create major disparities for entrepreneurial development (Obschonka & Audretsch, 2019). These disparities reduce business survival, innovation, access to markets or the ability to develop new sectors. Similarly, the underinvestment in knowledge perpetuates negative economic development in under resourced environments (van Beers & Zand, 2014; Link & Scott, 2019).

Connectivity, through dense networks, via proximity, create fluid information exchange. For instance, the proximity to knowledge institutions and research organisations induces labour mobility that generates positive spillover effects in terms of learning and innovation. This reveals the role played by knowledge institutions to lower the cost of talent through labour pooling to facilitate entrepreneurship. Combes and Duranton (2006) describe labour pooling by explaining the effect of businesses that are clustered in the same spatial location and the trade-off of workers whose knowledge lowers costs.

Thus, the location emerges as a stimulator for value creation (Isenberg, 2011; Roundy, 2017; Bosma et al., 2019). Stam and Van de Ven (2019) assert that starting a business in a specific location requires connectivity or so-called cross-realm transposition (Clarysse et al., 2014). The connectivity is achieved by interdependencies between knowledge institutions, venture

capitalists and investors for funding. Cross-realm transposition transfers talent from higher education institutions.

6.4.4   Types of networks: Business ecosystems or regional clusters

Business ecosystems are characterised by a cluster of companies who are mutually complementary and lead to a competitive advantage (Clarysse et al., 2014; Attour & Lazaric, 2020). The mutually complementary nature underlines how companies co-operate and compete within the same sector or supply chain (Spigel, 2017). Autio (2015) and Spigel (2017) argue that business ecosystems are different to entrepreneurial ecosystems. This difference is based on their proximity to a sector or supply chain and their market. The business ecosystem is better understood in terms of the leverage it creates (Autio, 2015).

Leverage is developed when a group of companies co-operate through their skills, competencies and resources to create value for the end consumer (Eisenhardt & Galunic, 2000; Clarysse et al., 2014). This means that business ecosystems allow entrepreneurs the opportunity to share in resources and information within a competitive environment. Eisenhardt and Galunic (2000) argue that collaboration occurs when individual businesses see that links make strategic sense to develop value. This may be done by adjusting strategies and processes to co-evolve and co-operate to deliver value creation for the end user (Clarysse et al., 2014). However, business ecosystems tend to be borne from the presence of knowledge ecosystems (Attour & Lazaric, 2020).

6.5   LEADERSHIP

An entrepreneurial ecosystem requires leaders and role models who provide direction and oversight in order to ensure co-operation and competition (Feld, 2012; Stam, 2015; Stam & van de Ven, 2019). In Porter's (1990) seminal work, *Competitive Advantage of Nations* he underscores that leaders serve their home base towards competitiveness. This places leaders in an uncomfortable position of challenging the status quo and becoming entrepreneurship enablers and mentor driven (Isenberg, 2011; Mason & Brown, 2014).

Isenberg (2010, 2011) highlights that leaders differ based on cultural contexts of a place. For example, the capitalistic culture in the United States caused private entrepreneurial leaders to lead the entrepreneurial ecosystem to establish a robust ecosystem in Silicon Valley (Saxenian, 1994). On the other hand, the socialist United Kingdom used economic development agents to develop the entrepreneurial ecosystem through embedding social events and venture creation projects (Morgan, 2007).

Isenberg (2011, p. 1), Stam (2015) and Fritsch and Wyrwich (2017) argue that leaders need to direct and act as role models in a specific place to enhance an entrepreneurial ecosystem. Furthermore, Isenberg (2011) and Feld (2012) are dismissive of government effectiveness in stimulating an entrepreneurial ecosystem. In fact, a joint strategy should be present albeit the fact that formal leadership in a location rests on the municipality, economic development agents and mayors. This would encompass collaboration with the public and private stakeholders for local economic development endeavours (Isenberg, 2011). For instance, Table 6.2 illustrates the role of the public and private sector in Gaziantap, Turkey and Coimbatore, India (Kilroy, 2014b). In both cases, the private sector led the economic rebalancing for growth.

Feld (2012) on the other hand expresses that an ecosystem be directed by entrepreneurs while being inclusive of others who want to be involved. This argument is underscored by the view that entrepreneurs own the characteristics and skills to adapt to the complexities of their environment. Entrepreneurs who have a vested interest and history in a location may act as the role models or regional champions. This relates back to the assertion made by Feldman (2014), who argues that development in a location can be improved through the story of those entrepreneurs who were able to create connections and ventures. This aligns with the recycling of entrepreneurship to the extent that there is an opportunity for reinvestment of entrepreneurial expertise and know-how (Isenberg, 2011; Roundy, 2017). These positive spillovers extend to serial entrepreneurs who invest in start-ups, business angels contributing experience, mentors, and advisors for entrepreneurship education (Mason & Harrison, 2006).

For example, in Coimbatore, India, the government was not leading but followed the lead of the private sector (Kilroy, 2014b). The mayors had performance contracts and were required to be transparent about their city management achievements against targets on an annual basis. In Bucaramanga, Colombia city management was led by the private sector. The private sector developed an economic development strategy, which included training, a free trade zone and industry-academic linkages. This created a city rebalance, which attracted investment and GDP growth (Kilroy, 2014b).

Table 6.1 - Key success factors in practice (Kilroy, 2014b)

	Gazantiep, Turkey (Private sector led)	Coimbatore, India (Private sector led)
Public Sector	**Municipality**: supportive not dominating; Business friendly; and **City Council**: forum for sharing information and leading to consensus; >300 members (80% private sector, 20% public sector); and **Development of thematic working groups:** issuing of recommendations.	**Local government:** basic service delivery, incentives, Special Economic Zone.
Private Sector	**Local firms** - rivals but worked together on common interests; and **Two business chambers**: helped to determine priority areas, build consensus and advocate for business.	**Local firms**: engineering firms build technical schools; collaborative relationships; and **Industry associations**: knowledge sharing, research and testing, skills training, events, advising e.g., taxes, licensing and exporting.
Outcome	Economic rebalancing, investment inflows, GDP growth.	Investment inflows, GDP growth over 9% between 2007 and 2012.

In light of the importance of leadership and the varying cultural contexts found in locations, it may be prudent to conduct a city economy Strengths, Weaknesses, Opportunities, Threats and diagnostics analysis to identify priorities and trade-offs (Kilroy, 2014b). This section acknowledges the importance of the private sector towards implementation and the importance of coalition with relevant institutional actors. Therefore, the prevalence of private institutions and public-private partnership are essential to reach the economic priorities of a place.

6.6   ACCESS TO HUMAN CAPITAL AND TALENT

Human capital and access to competent workers are vital for a flourishing entrepreneurial ecosystem (Isenberg, 2010; Roundy, 2017; Spigel, 2017; Leendertse et al., 2020). Isenberg (2010) claims that human capital is characterised by individuals with entrepreneurship skills, knowledge and previous business experience. Spigel (2017) and Neck, Meyer, Cohen and Corbett (2004) continue by underscoring the importance of an experience pool of skilled workers who own the human capital to assist new ventures. This experience pool is defined by Leenderste et al. (2020) as individuals who own high levels of human capital associated with their type of education and skills. The type of indicators applied to measure this within a region are: tertiary education, vocational training, lifelong learning, entrepreneurship education, innovative skills training, technical skills, creative skills and e-skills (Leendertse et al., 2020, p. 11). Neck et al. (2004) state that without an experience pool, potential entrepreneurs may move away from a location. Many "melting pots" of entrepreneurial activity have been associated with a dense concentration of talent that spill knowledge over within a given location.

Competitive locations need to strategically prioritise their human capital as a way to promote innovation, start-ups and clusters towards value added products and services (Porter, 1990). In Porter's (1990) seminal work he argues that having access to an experience pool of individuals reduces the costs of searching and recruiting, which is an advantage for a place. For instance, Coimbatore, located in India, made investment into an apprenticeship scheme, which was evaluated as a strong instrument for economic development (Kilroy, 2014b). Coimbatore, India reported GDP growth of 3.2% for 10 years and employment increase of 31% from 2002 to 2012. In Kigali, Rwanda a comparative advantage was achieved by attracting human capital through making the place liveable in terms of safety, cleanliness and congestion.

Value creation in the context of entrepreneurial ecosystems seeks to exploit a region's place-based infrastructure, knowledge, capabilities and specialisms to promote a regional competitive advantage (Bailey, Pitelis & Tomlinson, 2018). Therefore, cities need to develop proactive strategies if they wish to benefit from agglomeration economies. The following Table 6.2 highlights case studies of how human capital was leveraged to support growth industries.

Table 6.2 - Competitive cities supporting growth industries (Kilroy, 2014b)

Location	Industry	Leverage	Targeted Industry
Bucaramanga, Columbia	Shoe & apparel manufacturing, food processing/ agribusiness, petroleum-related.	- Existing knowledge and capacity in science and engineering (oil industry; and - High levels of human capital from historically strong education system.	- Medical Devices, Precision Mechanical Parts - Knowledge Service Outsourcing - Higher Value-Added Confectionery - Medical Tourism
Coimbatore, India	Mechanical engineering, textiles, food, jewelry.	High levels of human capital: engineers.	IT/ITES/BPO; Mechanical engineering; tourism; logistics
Changsha, China	Construction engineering, low value add manufacturing, historically agriculture.	Skills from construction engineering and existing firm capacity.	- Construction engineering - Automobile parts manufacturing - Higher value-added manufacturing (electronics)

Furthermore, the presence of education and research institutions is an advantage for a location. These institutions promote scientific and technical knowledge, which leads to entrepreneurial opportunities (Agarwal, Audretsch & Sarkar, 2008, 2010). Universities create exposure to technologies and own human capital, that is, faculty members who may serve in a mentorship, advisory and consultative role (Neck et al., 2004).

Essentially, this aligns to knowledge spillovers and identifies that learning in universities generates so-called knowledge spillovers (Spigel, 2017). For instance, looking at MIT in Boston,

Massachusetts, it was found that this research institution facilitated entrepreneurial training whilst providing business support (training in software development and financial literacy) for new venture creation (Isenberg, 2011; Case & Harris, 2012; Roberts & Eesley, 2012).

This may underline the extent of the ripple effect that human capital plays to develop practical experience within a location. It triggers the influence of nourishing human capital as it creates benefits for those who are not formally trained at a university. So, there is leverage created in a location as a positive correlation exists where skill levels of those without formal education increase through knowledge spillovers (Kirchhoff, Newbert, Hasan & Armington, 2007). This reveals that universities serve as catalysts promoting entrepreneurial intention (Mustafa, Hernandez, Mahon & Chee, 2016).

In the debates surrounding entrepreneurial absorptive capacity, human capital is argued as an essential ingredient (Qian, Acs & Stough, 2013). Entrepreneurial absorptive capacity refers to the way in which an entrepreneur can understand knowledge, utilise existing value and create value by commercialising situations. Therefore, the entrepreneurial absorptive capacity indicates that the profile of an entrepreneur is not bound to that of a scientist or inventor but may be those individuals who search for market opportunities (Qian et al., 2013, p.5).

In the seminal work conducted by Venkataraman (2004) knowledge, new ideation and technology creates opportunities. Woolley (2017) investigated why certain locations are successful in promoting entrepreneurship compared to others and knowledge was a key resource from this investigation.

Labour mobility is described as the flow of human capital. Essentially, human capital has the knowledge and skills and this flows to develop new venture creation and innovation (Mason & Brown, 2014; Stam, 2015; Mack & Mayer, 2016; Braunerhjelm et al., 2018; Malecki, 2018; Nicotra et al., 2018). Skilled workers are an important resource for their expertise that may be transferred to new ventures and the development of innovative products (Nicotra et al., 2018). In the case of Boulder, Colorado, the lay-offs of critical skills at IBM created the opportunity to supply human capital to either start new ventures or move into start-ups (Neck et al., 2004). Neck et al. (2004) refers to this as cross-pollination as it relates to the knowledge spillover within a dense location of high technology skills in densely populated and related entrepreneurial activities. This underscores the importance of understanding the geography of entrepreneurship, knowledge production and spillovers.

These individuals provide skills and insights surrounding processes and market opportunities that were developed from previous employment (Spigel & Vinodrai, 2020). This underlines the essence of human capital as they own the competencies to create and sell products and services (Mason & Brown, 2014; Stam, 2015; Mack & Mayer, 2016; Malecki, 2018).

6.7 BUSINESS SUPPORT SERVICES

Business support services, also referred to as intermediate services act to support new ventures (OECD, European Union, European Training Foundation, & European Bank for Reconstruction and Development, 2015; Fritsch & Wyrwich, 2018; Vedula & Kim, 2019; Leendertse et al., 2020; Stam & van de Ven, 2019). Business support services are argued as the connective tissue for networking opportunities, information about potential sales and advice to scale operations (Isenberg, 2011; Spigel, 2017; Meyers, 2018; Vedula & Kim, 2019).

According to New Growth Theory, knowledge formation is central to any model of economic growth (Clayton, Feldman & Lowe, 2018). In the late 19th-century, Marshallian industrial districts amplified knowledge formation by observing the intraregional social relations. This increased the role that intermediary services (business support services) had on developing regional innovation ecosystems.

Business support services include tangible resources such as incubators, professional services (such as legal, tax, business consulting and spaces), universities, public and private institutions and venture capitalists (Cohen, 2013; Mason & Brown, 2014; Auerswald, 2015; Bell-Masterson & Stangler, 2015; Mack & Mayer, 2016; Stam, 2015; Gura, 2015; Isenberg, 2011). According to Nicotra et al. (2018), the tangible resources include physical and co-working spaces, coaching and mentorship, networking opportunities, access to capital and general services (OECD et al., 2015). The tangible resources may be broadly classified into universities, physical space, service and financial (Clayton et al., 2018). This classification provides information that multiple intermediaries exist, which support opportunities for coexistence and duplication of efforts to address systemic innovation challenges or gaps. Potential drawbacks have been investigated in relation to competitive exposure or information leakage by more powerful intermediaries (Cox Pahnke, McDonald, Wang & Hallen, 2015). These drawbacks are the negative externalities from the intermediaries and occur when businesses are indirectly tied to their competitors through a common intermediary. This aligns to challenges highlighted in the Structural Holes Theory of agency between nascent entrepreneurs and intermediaries.

The OECD et al. (2015) assert that external intermediaries offer the guidance and training to scale capacities towards productive entrepreneurship. However, intermediary service providers struggle from information asymmetry in the demand and supply of their services (OECD et al., 2015). This creates a disproportionate effect on nascent entrepreneurs and are described as follows:

- Demand information asymmetry – this refers to limited knowledge from the nascent entrepreneurs about accessibility, resources and benefits. This may lead nascent entrepreneurs to underinvest in intermediary services; and
- Supply information asymmetry – this refers to limited knowledge about training needs, preventing them from providing tailored and timely business support. Private intermediary service providers face funding challenges, which may crowd out private initiatives.

Meyers (2018) argues that locations can create a supporting infrastructure that simplifies the process of entrepreneurs to start and grow their ventures. For instance, the 1 Million Cups initiative by the Kauffman Foundation opened a platform for entrepreneurs to share their ideas and receive feedback. The 1 Million Cups provided the space, reducing the proximity constraints and climatised the gathering through offering coffee. Meyers (2018) explains that a supporting infrastructure enables nascent entrepreneurs to meet resources, simplify processes and attract capital to the community, which spurs new ideation. This echoes the claim made by Powell (1990) about the inefficiency of vertical integration. This example highlights the essential co-ordinating role played by intermediaries. Berger (2013) underscores the contribution of intermediaries to agglomeration economies as it shapes relational dynamics with the regional or local economy. Essentially, this means that by the facilitation and co-ordination of nascent entrepreneurs to business leaders, mentors and potential partners an industry or common sector starts developing. Herein lies the material substance of knowledge spillovers.

Business support services are available from start-up to maturity phase (Arezzo Innovazione, 2017). Each phase requires specific services with certain services overlapping. Stam and Spigel (2018) state that every phase requires active networking to promote co-operation (Bell-Masterson & Stangler, 2015). Networking in this context relates to information networks (for opportunity identification); exchange networks (for resource acquisition) and influence networks (for legitimacy and competitiveness) (Johannisson, 2000). However, as previously

argued, the density of agency between nascent entrepreneurs and intermediaries should reduce instances of information leakage or exploitation.

6.8   CITY PLANNING

City planning is the act of developing a city's design and structure (Madureira & Baeten, 2016). City planners participate with urban policies to develop spaces of production and consumption (Glaeser & Gottlieb, 2006; Rousseau, 2009; Miles, 2012). City planning includes the arrangement and design of architecture, the transportation infrastructure, open spaces, digital and land usage (OECD, 2019b). The OECD (2019b) argues that the urban fabric of a place is essential for start-up and SME development. Therefore, a city's design and structure support commercial activities and the provision of services.

The strategic implementation of the city design and structure leads to value added industries, services and skilled human capital. At the same time, the strategic implementation should lead to local embeddedness, networking and knowledge spillover opportunities (Audretsch, Heger & Veith, 2015; OECD, 2019). For example, in Kigali, Rwanda, knowledge was attracted by improving the place's liveability. An investigation by the World Bank highlights that Kigali increased the city attractiveness by improving safety, cleanliness and connectivity (Kilroy, 2014b). This underscores the importance of city planning to promote work and place attractiveness to draw in both entrepreneurs, investors, and human capital. This aligns to the report offered by the OECD (2019b), who argue that investment into enhancing work and place liveability promotes a knowledge economy. Similarly, cities that manage their connections among a competent workforce or human capital may strengthen the competitiveness of start-ups and SMEs.

Businesses competing in a location are influenced by the quality of their surrounding space, land and infrastructure (Neck et al., 2004; Audretsch et al., 2015; OECD, 2019b). This means that businesses located in a specific geography make choices on how much to innovate and can trade based on a city's design and structure. The OECD (2019b, p. 2) states that "Creative (re-) use of underutilised centrally located space, example, former factories, railway arches or structures, yields a double dividend of urban regeneration and economic activity". This assertion indicates that space provides opportunities to experiment or expand for scaling.

Considering the physical infrastructure, an inefficient transport facilitation system may negatively impact input supplies and consumer markets (Tonelli & Dalglish, 2012). This highlights the importance of physical connections. The OECD (2019b) contends that

connectedness through physical connections is essential for social inclusion and improves land value. Against this background, it may be sensible for spatial development frameworks to create an integrated approach to connect private and public spaces.

In developing economies, micro-enterprises struggle to reduce logistic costs as there are no alternative transport substitutes and undergo trade-offs between activities in the supply chain. The poor spatial design reduces the ability to access markets, which causes entrepreneurs to reduce their frequency and volume of purchases. Thus, entrepreneurs struggle to negotiate reduced unit costs, which affects the affordability of their goods (Goedhuys & Sleuwaegen, 2010). In light of this, it may be argued that city planning within a geographical location is vital to maximise the return from land use. This may create diversity and meet the economic needs of entrepreneurs (Global Sustainable Development Report, 2016). For instance, in the United Kingdom only 20% of commercial space is used for retail purpose and the balance is used for office and industrial. The OECD (2019, p.2) suggests that "single-use or segregated developments create traffic and hinder entrepreneurial opportunities". Therefore, strategic development areas for commercial activity are vital. For instance, a mixed-use node that supports business and community services are considerations for the viability of starting a business.

Audretsch, Heger and Veith (2015) and Roundy (2017) echo these sentiments and assert that the investment into a city design and structure create a stimulus for connectivity. This connectivity leads to access into global markets of consumers, suppliers and distributors. Belitski and Desai (2016) and Leendertse et al. (2020) argue that networks are developed through infrastructure and assist with business communication, recruiting skilled labour and technological industries into a spatial location. Microeconomic analysis found that investment into roads and communication infrastructure raised labour mobility, access and information, stimulated rural economies and reduced poverty (Global Sustainable Development Report, 2016). Digital infrastructure has the added advantage of easing entry into markets, improving information symmetry and reducing production costs while other forms promote productivity.

For instance, businesses may suffer to employ logistical systems under a poor transportation infrastructure (Porter, 1990). Within the context of entrepreneurial ecosystems, it is argued that firms trade and innovate in geographies with reasonable transport costs and accessible technology. This means that the space economy promotes deal flows and economic activities with the availability of labour, land and infrastructure.

The Global Sustainable Development Report (2016, p. 26) analysed the impact of infrastructure on development areas, as per Table 6.3. Effectiveness is measured as large (+++/---), moderate (++/--), small (+/-) or neutral (0). Findings highlight that infrastructure reduced income poverty and affected non-income aspects of poverty, contributing to improvements in health, nutrition, education and women empowerment. The effects on income inequality varied based on the initial inequality of opportunities and outcome to which individuals benefit from improvements in infrastructure.

Table 6.3 - Infrastructure's potential impact on key development areas (Global Sustainable Development Report, 2016, p. 27)

	Income poverty	Education	Gender parity in education	Child and infant mortality	Maternal health	Commun-icable disease	Environ-mental protection	ICT and trade	Income inequality
Infrastructure:									(-,+++)[abcdef]
Transport (local)	+++	++	++	+	+		+	+	(---,+++)[agh]
Transport (regional)	+++	+	+	++	+	+	--	+++	
Modern energy	+++	+	+	++	+	+	++	+	(--,+++)[afh]
Telecom	++	+	+	+	+	+	+	++	(0,+)[ahi]
Water (private use)	++	++	+	+++	+	+	+++	+	(+,+++)[ad]
Sanitation	+	+	++	+	+	+	++	+	+++[d]
Water management	+++		+	+			++		

However, there is an opposing argument that infrastructure may negatively affect incumbent businesses (Bennett, 2019). The incumbent businesses suffer closure and job losses because of infrastructure development. This leads to the supposition that infrastructure development co-incides with the entry and exit of businesses. By evaluating the advantages and disadvantages of infrastructure, a twofold argument regarding infrastructure investment emerges. On the one hand, infrastructure and amenities are underlined as stimulators of a location's attractiveness (Glaeser, Kolko & Saiz, 2001; Audretsch et al., 2015). Opposing this view underlines that infrastructure development offers both enabling and disabling effects (Davidsson, 2015; Wood & McKinley, 2017). To further capitalise the opposing position, Bennett (2019) asserts the incapacitating effect on incumbent businesses. For instance, the extent of the redistribution effects on incumbent businesses is explained by describing the effect of a new bypass (Chandra & Thompson, 2000; Handy et al., 2000; Babcock & Davalos, 2010). The example explains that the new bypass may create new growth centres for new business but redirects customers away from incumbent businesses located spatially away from the bypass.

Given both the promoting and countering views, there tends to be an overarching consensus surrounding the positive externalities regarding the accessibility to resources. Bell-Masterson and Stangler (2015) and Woolley (2017) argue that access to resources is vital as it influences mobility and relocation of entrepreneurs to certain locations. The infrastructure facilitates connectivity between individuals and underscores labour mobility and knowledge spillovers, which increases the returns on investment in a spatial location (Roundy, 2017). To this end, several authors (Acs et al., 2013; Braunerhjelm et al., 2018; Stuetzer et al., 2018; Spigel & Vinodrai, 2020; Stam & van de Ven, 2020) argue that an advantage ecosystem requires infrastructure investment as it not only attracts entrepreneurs, investors and skilled human capital but promotes a plethora of knowledge spillovers and spinoffs in a location.

To extend, the salience of the severe infrastructural disparities of poorer locations needs to be considered. In poorer spatial locations with inadequate infrastructure, there is the opportunity to raise equality through infrastructure investment (Ferreira, 1995; Global Sustainable Development Report, 2016). This would raise the equality of opportunity among entrepreneurs or the less favoured segments of society (Ferreira, 1995). For instance, if rural roads that are commonly described by inadequate conditions are revitalised, there may be the opportunity to raise non-agricultural wage rates (Global Sustainable Development Report, 2016). The dependency on that sector would reduce due to improved access. Moreover, within these less favoured segments, infrastructure investment promotes access to new markets and lowers unemployment rates through fluidity.

Indeed, the quality of infrastructure and amenities in a location plays an enabling role towards new ideation (Lowe & Feldman, 2017). Herein lies the power that infrastructure exerts on developing dense networks (Bell-Masterson & Stangler, 2015). A location that invests in infrastructure and amenities may attract and subsequently connect skilled individuals, knowledge institutions and actors. This induces the cross-realm transposition and knowledge spillover effects (Clarysse et al., 2014; Stam, 2014). This results in employment opportunities, mobility, intermediate service, new market sectors and ideation (Belitski & Desai, 2016; Audretsch & Belitski, 2017). Disinvestment in infrastructure risks higher costs for producers, suppliers and customers (Glaeser et al., 2001).

6.9   ACCESS TO ENTREPRENEURIAL FINANCE

The availability and accessibility of entrepreneurial finance for businesses are vital for their scalability, ability to access new markets and survival (Hirsch & Walz, 2016; Spigel &

Harrison, 2018; Stam & van de Ven, 2019). Entrepreneurial finance may be in the form of equity financing, bank loans, internal financing, informal investors, venture capital and government grants (Stam, 2018; Stam & Spigel, 2018; Bosma et al., 2019; Vedula & Kim, 2019).

Access to entrepreneurial finance is based on the lifecycle of the business. Each phase of the lifecycle has varying business needs and characteristics (Roundy, 2017; Hwang, Desai & Baird, 2019). Woolley (2017) and Malecki (2018) indicate that investment capital from venture capitalists, angel investors and family and friends are important components to develop an entrepreneurial ecosystem. Therefore, venture capitalists and angel investors may be characterised as part of the funding infrastructure.

New ventures and smaller businesses leverage from the presence of knowledge and social networks to access finance (Fritsch & Schilder, 2008; Spigel, 2015). Finance in the development stage is generally accessed through informal finance from personal savings, family, friends or other seed investors (Spigel & Harrison, 2018). This suggests that in the start-up phase, access to finance is not a precondition. Entrepreneurs who are in the development stage have limited access to funding or personal funding. However, the start-up phase primarily requires infrastructure like space, access to human capital and access to contacts to make connections and customers.

For instance, both Steve Jobs and Jeff Bezos started their businesses in garages (Entrepreneur, 2008a, 2008b) without funding. A common resource for both entrepreneurs was competent knowledge and skills, notwithstanding the location, which had a dense concentration of technology savvy human capital to develop the connections. These examples serve to underline that in the start-up phase other supporting infrastructure is critical and finance follows.

In the scale-up stage, finance is accessed through investment from angel investors and venture capitalists. Angel investment is funding for a start-up firm in exchange for a share of equity ownership of the firm or convertible debt from single individuals or teams of individual investors with similar investment strategies who pool individual capital together (Woolley, 2017). Venture capital is a form of private equity and focuses on higher risk ventures with high profit potential in exchange for some equity and control (Scarborough & Zimmerer, 1999). As the entrepreneur loses partial or majority equity, it may be argued that a set of benefits are accrued such as technical advice, strategic support, managerial expertise, research and mentorship.

In the maturity stage, businesses may choose between debt or equity financing. Debt financing requires collateral, such as property, plant, or equipment. Equity financing offers the investor a position of ownership. The choice between either debt or equity implicates a trade-off, which affects profitability, risk and voting control (Longenecker, Moore & Petty, 2000). However, the implications of equity financing tend to be a concern amongst entrepreneurs due to ownership that may be relinquished in the transaction (Hwang, Desai & Baird, 2019; Leendertse et al., 2020). However, research conducted by Vedula and Kim (2019) highlights that experienced business owners are less reliant on their local ecosystems finance. These experienced business owners are deemed connectors or dealmakers as they play the pertinent role of leveraging social networks and capital to improve the entrepreneurial environment (Pittz et al., 2019).

If it is accepted that finance is a factor for scaling and growing businesses, it may be important to promote targeted funding mechanisms for entrepreneurial activity (Van de Ven & Garud, 1989; Woolley, 2017). However, as explained it may be argued that false causality or a perception bias may exist in locations to the extent that they believe start-ups require access to finance. In fact, it may be prudent to argue that new businesses require supporting infrastructure and finance generally follows. Similarly, angel investors or venture capitalist tend to locate themselves in dense concentrations of businesses with worthwhile deal flows. Equally, this subsection highlights that most funding tends to be required once the business lifecycle moves into its scaling phase.

6.9.1 The interplay of information asymmetry to access finance and social networks

Stable access to finance is limited by information asymmetry. Hirsch and Walz (2016) argue that information asymmetry affects the agency between financiers and entrepreneurs and this is systemic over the business lifecycle. Information asymmetry is defined as the information gap between borrowers of capital (small businesses) and the suppliers of money. This highlights that poor structural holes exist in the social network as it impedes information sharing and transformation (Ma, 2018).

Information asymmetry occurs because of the lack of established records of start-ups or smaller businesses, which induce the perceived risks of extending loans or investment by suppliers of money (Ma, 2018; Hwang et al., 2019). Investors must consider the costs and benefits before investing in entrepreneurs. This suggests that information asymmetry impedes the relationship between financiers and borrowers.

Extending on these challenges, entrepreneurs are faced with a high cost of capital that may be attributed to the attitudes and stringent regulations of formal lenders (Abraham & Schmukler, 2017). The stringent regulations impact lending limits due to the relative costs involved to evaluate risk profiles of businesses (Ključnikov, Belás, Kozubíková & Paseková, 2016). The risk profiles include the size, age and sector that businesses operate in. Similarly, the financial readiness of businesses is evaluated before extending credit. Thus, it is vital for entrepreneurs to have access to social networks and business support services to improve their opportunities to scale and access supply chains.

In the context of entrepreneurial ecosystems, social networks afford investors the information to identify ventures. Social networks are therefore an essential precondition or moderating variable that reduce information asymmetry as it pertains to accessing finance.

6.9.2 How geographic proximity of ventures and investors affects funding opportunities?

By acknowledging the importance of finance, it remains a systemic challenge for businesses to grow (Abraham & Schmukler, 2017; Stam & Spigel, 2018; World Bank, 2020b). Roundy (2017) contends that these challenges are felt more deeply in smaller location entrepreneurial ecosystems within emerging markets and developing countries. The World Bank (2020b) reported that the International Finance Corporation estimated that 40 percent of formal micro, small and medium enterprises in developing countries have financing gaps of $5.2 trillion each year. This indicates a 1.4 times equivalent value to the global lending for micro, small and medium enterprises. These systemic challenges may reveal the importance of developing a deeply connected or concentration of local investors in a community to act as catalysts to grow ventures.

Connectors and dealmakers are defined as individuals who are actively involved in the stewardship of new firms. These individuals, who both live and invest in a region, serve as the catalyst for new firm formation and play a central role in enhancing firms' growth and performance (Feldman & Zoller, 2012). Dealmakers have the experience to deal with the strategic implementation of cluster and sector development (Pittz et al., 2019). The network or density of serial entrepreneurs, investors and their affiliated companies exert a force to induce entrepreneurship (Pittz et al., 2019). This network also attracts investment and innovation in sectors. Certain connections have been directly linked to the presence of dealmakers who

leverage their existing social networks and capital to develop co-creation. The advantage of co-creation is the legitimisation of new ventures and access to markets.

Seasoned investors, tend to locate themselves in larger metropolitan regions where significant deal flows are present (Isenberg, 2011; Spigel, 2017). For instance, California has a high concentration of venture capitalists who have located themselves close to high technology start-ups (specifically in Silicon Valley). In 2018, venture capitalists invested approximately $77 billion in start-ups.

Venture capitalists tend to emerge where there are positive deal flows. According to Kenton (2020a, p. 1), deal flows are the speed that business proposals and investment pitches are received. Kenton (2020a) offers the example of the high technology industries in the 1980s, where healthy deal flows for inputs in both direction of the supply chain were adopted. This induced the hype around information technology that by the 2008s economic downturn, the Internet of Things gained leverage. It may be clear that with economic expansion and strong equity markets, there is a greater utility for deal flows among financiers.

In the melting pot clusters of entrepreneurial activity in the United States, venture concentration revealed that 80 percent of $21.1 billion venture capital funding was disbursed in quarter one of 2018 (Hwang et al., 2019). These regional clusters were in San Francisco (North Bay Area), Silicon Valley (South Bay Area), New England, New York City metro and Los Angeles or Orange County with slightly more than 44 percent in the North and South Bay Areas (Hwang et al., 2019, p. 9). These investments undertaken by emerging venture capitalists in the United States indicates the tendency of venture capitalists to locate themselves close to areas with deal flows and regions, which are near to them.

Therefore, smaller deal flows impact investor presence and lead them to locations with dense networks of venture capitalists (Roundy, 2017). This reality emphasises that in underdeveloped entrepreneurial ecosystems, entrepreneurs may leave a location due to the lack of investment capital or demand from investors and human capital (Spigel & Harrison, 2018).

6.10   SUMMARY

Chapter Six addressed RQ$_5$, which questions: *What are the factors that influence an entrepreneurial ecosystem?* As such, the chapter addressed RO$_5$, which was: *To identify the factors that influence an entrepreneurial ecosystem.*

Chapter Six focused on the following factors: (1) entrepreneurial culture, (2) formal institutions, (3) networks and knowledge – discussed through the lens of connections through

dense networks and knowledge spillovers (4) leadership, (5) access to human capital and talent (6) city planning, (7) business support services and (8) access to entrepreneurial finance. Each factor attempts to explain its significance for venture survival in local and regional ecosystems. Moreover, the factors are deemed dynamic, social and economic that provide resources for venture creation and growth in ecosystems (Vedula & Kim, 2019).

First, entrepreneurial culture is deemed important as it acts as a catalyst for risk taking, innovation and new venture creation. The cultural and social norms in a specific location were argued to exert a strong force on the legitimacy of entrepreneurship. Therefore, the more socially accepted entrepreneurship is, the more entrepreneurial activity exists. However, Woolley (2017) boldly stated that framing entrepreneurial culture as a dominant factor without understanding its roots is circular logic. Therefore, this chapter argued that it may be important for policy makers and practitioners to carefully consider each location's history, diversity and level of inclusivity to penetrate espousal and enactment towards entrepreneurial culture. Within the conversation of entrepreneurial culture, the social legitimacy of entrepreneurship is explained to afford a favourable attitude towards failure. Failure is perceived as an opportunity to learn and may be recycled back into the entrepreneurial ecosystem to the extent that those entrepreneurs may act in the capacity of mentors and advisors.

Second, within the institutional context, formal institutions are argued to have a twin ability to reinforce or weaken local economic development (Fuentelsaz et al., 2019). Therefore, targeted policies may stimulate economic activity. Several examples from different locations were offered to advance the argument towards targeted policy interventions.

Third, networks and knowledge for value creation were explained through connections and knowledge spillovers. Connections were described as a precondition in Chapter Five and argue that they enable co-creation that legitimises new ventures and develop access to domestic and international markets (Alvarez, Young & Woolley, 2015). Connections through dense networks were linked to an advantage ecosystem. An advantage ecosystem preserves knowledge within a location. In Figure 6.3, a bird's eye-view of the types of connections to develop an advantage ecosystem is offered. This framework broadly showcases a network boundary and is underpinned in the Social Network Theory. Essentially, an entrepreneurial ecosystem has connecting assets or connectors that connect people, ideas and resources (Neumeyer et al., 2019; Stam & Van de Ven, 2020). The connections are defined by well-connected and experienced people with skills, knowledge and connections with others as well as resources to support new companies. This also improves the structural holes within a given

ecosystem. Thus, connectors help new companies realise their growth potentials by sharing expertise, information and resources and providing connections to suitable individuals and organisations (such as customers, service providers and talents). The social ties and events that create relationships were also exposed as important predictors for an advantage ecosystem (Ter Wal et al., 2016; Roundy, 2017; Spigel, 2017). Therefore, efforts made towards building connections are essential for an entrepreneurial ecosystem.

Fourth, access to human capital and talent is exposed to be a critical resource for entrepreneurial growth. The ability for a location to attract and produce (knowledge formation) competent individuals was explained to ensure the success of entrepreneurial ventures. Similarly, a dense concentration of businesses and the location infrastructure had a significant effect on attracting skilled workers. Moreover, the section discussed knowledge spillovers and highlighted the importance of labour mobility and knowledge recycling. These concepts are crucial as they underscore that competent workers remain within the local ecosystem.

Fifth, city planning focused on the design and structure of a place. A location that invests in infrastructure and amenities may attract and subsequently connect skilled individuals, knowledge institutions and actors. City planning that seeks to support entrepreneurial activity is purposive in promoting cross-realm transposition and knowledge spillovers (Clarysse et al., 2014; Stam, 2014). This results in employment opportunities, mobility, intermediate services, new market sectors and ideation (Belitski & Desai, 2016; Audretsch & Belitski, 2017). However, the under- or disinvestment in infrastructure risks higher costs for producers, suppliers and customers (Glaeser et al., 2001).

Finally, access to entrepreneurial finance is discussed as a factor for scaling and growing businesses. This section explained that access to entrepreneurial finance differs based on the lifecycle of the business as there are varying business needs and characteristics (Roundy, 2017; Hwang, Desai & Baird, 2019). Moreover, it was highlighted that false causality or perception biases may lead locations to believe that start-ups access to finance is a critical predictor for success. In fact, the claim was made that nascent businesses require a strong supporting infrastructure while finance generally follows.

In Chapter Seven, the literature reviewed in Chapters Three to Six (RO_2 to RO_5) are operationalised and presented in a theoretical framework.

CHAPTER 7: THE THEORETICAL FRAMEWORK (BRIDGING CHAPTER)

7.1 INTRODUCTION AND OVERVIEW

A literature review was performed in Chapters Three to Six, which addressed RO_2 to RO_5 of this study. The literature review critiqued and synthesised existing knowledge about the topic to develop a theoretical framework. The theoretical framework integrated the theories and the main constructs to explore the critical factors necessary within a spatial context. The development of the framework satisfied the data-use criteria of mixed method research (Saunders et al., 2019).

Thus, the theoretical framework lends itself as an organising frame for the interpretation of the analysis and methodological triangulation. The contention is that the theories and constructs facilitate a more comprehensive perspective of how entrepreneurial ecosystems emerge. By identifying how entrepreneurial ecosystems emerge, this theoretical framework clarifies what induces co-creation and competition. Furthermore, in a mixed method study, after performing a cross-validation between datasets, the findings may be convergent, complementary, supplementary or divergent. In light of this, researchers draw on existing theory to help explain contradictions in the datasets, which is a form of abduction (Tashakkori & Teddlie, 2008). In this way, the theoretical framework guided the interpretation of the cross-validation of the datasets.

This chapter is a bridging chapter and is organised as follows: first, a table is presented which is operationalised from literature. Herein, the theories, associated constructs and descriptions or motivation thereof are provided. Second, the theoretical framework is presented, which is based on the theories and constructs as highlighted in Table 7.1. Lastly, a summary is provided. Figure 7.1 offers a structural overview of this study and illustrates where Chapter Seven is positioned in the overall structure of the thesis. Figure 7.2 illustrates the roadmap for Chapter Seven.
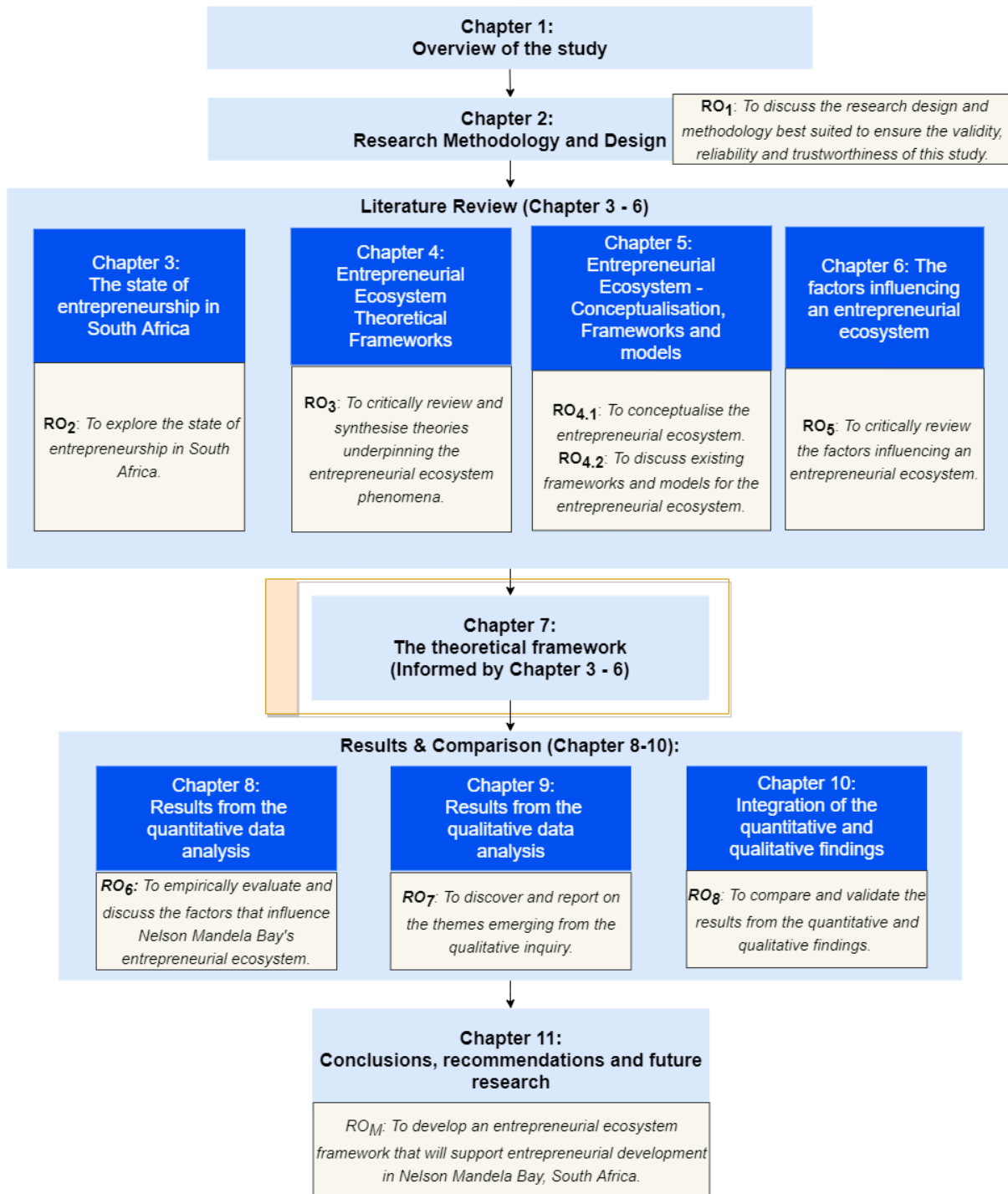
Figure 7.1 - Structural overview of the research study

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CHAPTER 4: Entrepreneurial ecosystem theoretical frameworks
CHAPTER 5: Entrepreneurial ecosystem - conceptualisation, frameworks and models
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CHAPTER 7: The theoretical framework • 7.1   Introduction and overview • 7.2   The theoretical framework • 7.3   Summary
CHAPTER 8: Results from the quantitative data analysis
CHAPTER 9: Results from the qualitative data analysis
CHAPTER 10: Integration of the quantitative and qualitative findings
CHAPTER 11: Conclusions, recommendations and future research

Figure 7.2 - Roadmap of Chapter Seven

7.2   THE THEORETICAL FRAMEWORK

The theoretical framework presented in Figure 7.3 is based on the information in Table 7.1. The table integrates the sets of theories and constructs from the literature review and provides a description of its associated literature support. The theoretical framework incorporates the constructs discussed in the table and will be revised following the methodological triangulation performed in Chapter Ten.

Table 7.1 - An integration of theories and constructs from the literature review

Theoretical lens	Sub-factors	Construct	Theoretical argument	Literature source
Social Network Theory (Ofem et al., 2018)	• **Dense Social Networks** explained by structural embeddedness and centrality of actors in the entrepreneurial ecosystem • **Social Capital Dealmakers** are explained by the leverage they create through existing networks and capital	Serial and previous entrepreneurs, entrepreneurs, government, investors, large businesses, mentors, media, service providers, business networks, professional networks and universities.	The actors share similar intentions, behaviours and values in order to achieve co-operation for knowledge spillovers. This co-operation between actors builds an advantage ecosystem.	(Isenberg, 2010; Motoyama & Watkins, 2014; Motoyama & Knowlton, 2017; Hechavarría & Ingram, 2019; Pittz et al., 2019).
Structural Holes Theory (Burt, 1992)	**Centrality**	Information flow; information exchange; decision making.	The extent of the social relationships between the actors of the ecosystem allows them to transfer economic knowledge. Resources achieved by the centrality of actors allow for knowledge exchange on finance, information, skills, talent workers, customers and suppliers.	(Acs et al., 2009, 2013; Fritsch & Wyrwich, 2014; Borissenko & Boschma, 2016; Woolley, 2017; Fritsch & Wyrwich, 2018; Spigel & Vinodrai, 2020).
Institutional Theory (Scott, 2008)	**Formal**	Policies; laws; regulations; sanctions.	Formal institutions are argued to have a twin ability to reinforce or weaken local economic development.	(Porter, 1990, 1998; OECD, 2007; Fritsch & Wyrwich, 2017; Fuentelsaz et al., 2019; OECD, 2019b).

	Informal	Culture; social norms; shared values; social practices; risk appetite; fast failure.	• Informal institutions exert a strong role in developing entrepreneurial attitudes and behaviour; • Entrepreneurial motivation is reflected in the normative-cognitive layer of Institutional Theory and is as a result of the acceptance of self-employment and entrepreneurship; • Cultural and social norms, in the context of entrepreneurial ecosystems indicate that an adequate number of entrepreneurial role models, who act as peers and induce a favourable perception of entrepreneurship exist; and • There is a tolerance for risk and failure.	(Isenberg, 2011; Feld, 2012; Fritsch & Wyrwich, 2014; Kibler et al., 2014; Roundy, 2017; Fritsch & Wyrwich, 2018; Fritsch et al., 2019; Vedula & Kim, 2019).
Systems Theory (Luhman & Cunliffe, 2013)	**Inputs, transformation process, outputs**	• **Inputs**: knowledge, human capital, institutions, demand, entrepreneurs, social networks; • **Transformation process**: co-operation, leadership, entrepreneurial intention, city vision, city design, quality of life; and • **Outputs**: FDI, new sectors, new markets, knowledge spillovers, innovation, job creation, quality of life.	The systems model identifies how activities in the entrepreneurial ecosystem follow a process of using inputs from the environment, transforming those inputs within the city's structure, creating outputs for the stakeholders in that ecosystem. It further demonstrates how feedback is used to improve activities.	(O'Connor et al., 2018; Stam & van de Ven, 2019; Leendertse et al., 2020)

| The Absorptive Capacity Theory of Knowledge Spillover | **Knowledge** | Universities, research institutions, entrepreneurial firms, venture capitalists, established companies. | • Knowledge ecosystems are viewed by the presence of universities, research institutions, entrepreneurial firms, established companies and venture capitalists that network and benefit from positive spillover effects;

• These institutions are viewed as anchor institutions, which means that they are not competing in the entrepreneurial ecosystem. Instead, they reinforce entrepreneurship. Anchor institutions also transfer knowledge in both directions of established businesses and new ventures. This means that the presence of new and existing knowledge promotes entrepreneurial activity; and

• The underinvestment in knowledge has the potential to creates disparities for entrepreneurial development in terms of innovation, access to market and new sectors. | (Clarysse et al., 2014; Woolley, 2017; O'Connor et al., 2018; Welter et al., 2019). |
| | **Human Capital** | Entrepreneurship skills, knowledge, previous business experience. | Human capital has the knowledge and skills that support new venture creation and innovation. Skilled workers are an important resource for their expertise that may be transferred for new ventures and development of innovative products. This may be explained as knowledge spillovers, which promote an advantage ecosystem.

Locations that have access to a pool of experienced individuals reduce their costs of searching and recruiting, which is an advantage for a place. Potential entrepreneurs and investors may move away from a location with insufficient human capital. | (Mason & Brown, 2014; Stam, 2015; Mack & Mayer, 2016; Braunerhjelm et al., 2018; Malecki, 2018; Nicotra et al., 2018). |

			Many "melting pots" of entrepreneurial activity have been associated with a dense concentration of talent within a given location.	
Design Thinking		Customer centricity, stakeholder focus, problem solving, ideation.	Entrepreneurial ecosystems do not offer extant literature as to the development of the entrepreneurial process. Thus, national and sub-national governments struggle to allocate resources optimally. Design thinking was argued to be well-positioned to address issues, such as entrepreneurial opportunities or problems. Thus, it may act as a strategy to assist cities to meet entrepreneurial goals. Design thinking follows a human-centered approach to solve problems or opportunities through unified ideation that transfers value to the actors of an entrepreneurial ecosystem.	(Eisenhardt & Martin, 2000; Brown, 2008; Acs et al., 2017; O'Connor et al., 2018; Hasso-Plattner-Institut, 2021).
Broken Windows Theory (Doran & Lees, 2005)	**Quality of life**	Place: Safety; Place: Order; Place: Crime rates; Place: Corruption; Place: Ethics; Place: Political stability.	According to the theory, broken windows communicate a sense of low social controls within a community and encourage more serious crimes to occur. The persistence of broken windows results in residents withdrawing from their community. The theory is applied because entrepreneurs, skilled human capital and investors migrate to locations that are safe, have low corruption, low crime rates and low disorder. Essentially, the persistence of poor social controls has a negative effect on GDP, foreign direct investment and increases the cost of doing business.	(Gladwell, 2003; Doran & Lees, 2005; Skogan, 2012; Mahofa et al., 2016).
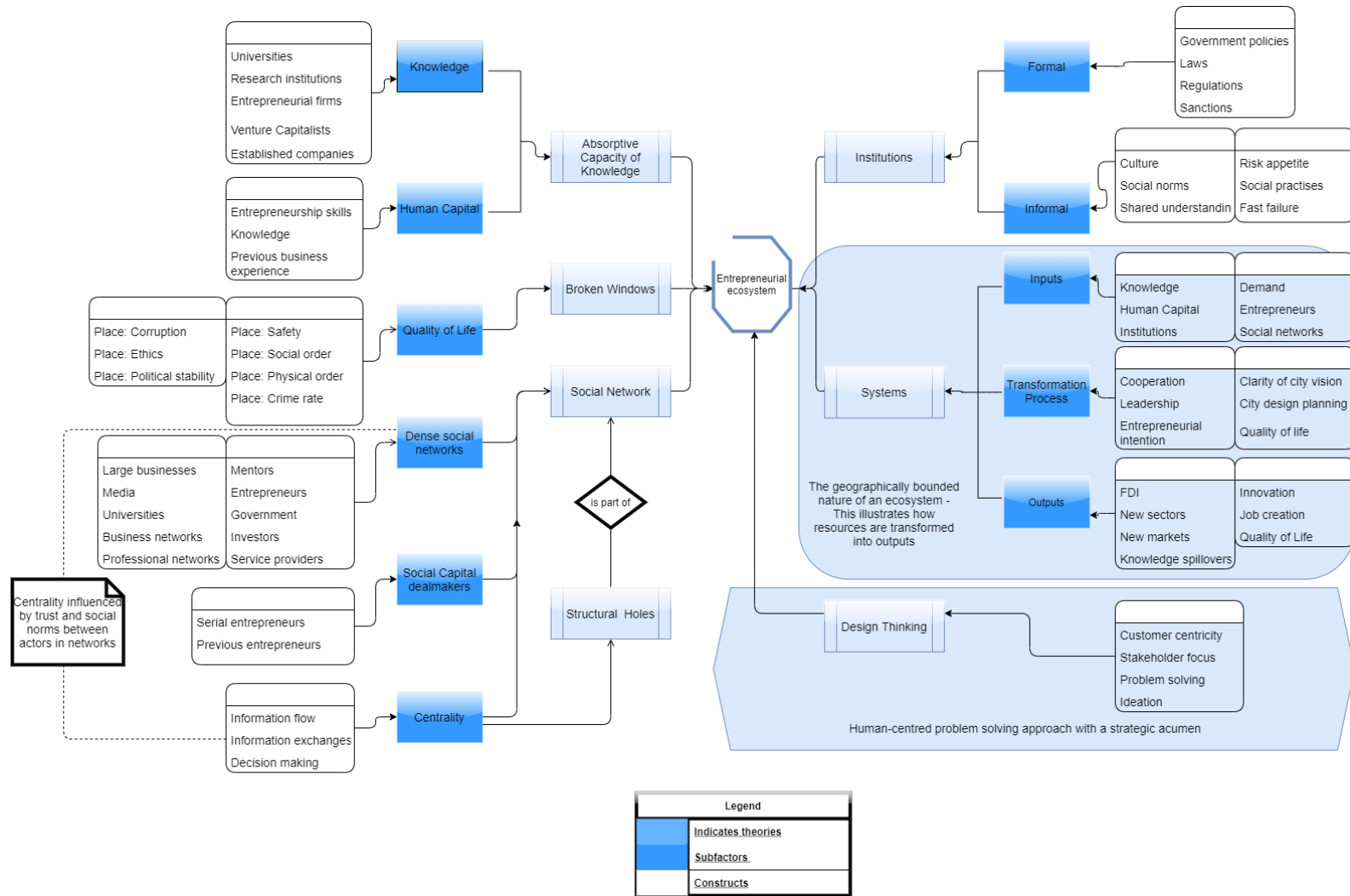
Figure 7.3 - Theoretical framework (author's construction)

7.3   SUMMARY

Research on entrepreneurial ecosystems is under-theorised (Auerswald, 2015; Acs et al., 2017; Spigel & Harrison, 2018; Roundy & Fayard, 2018). Thus, a theoretical framework based on the pragmatic world view that the entrepreneurial ecosystem is an organised interconnected system was established. The theories are argued to intersect with epistemological values, which broadened the way that the concepts were applied. Against this backdrop, the theoretical framework and literature are intrinsically linked and align with the study's purpose, research question and design.

In Chapter Eight, the results from the quantitative data analysis are presented, which addresses RO_6: *To empirically evaluate and discuss the factors that influence Nelson Mandela Bay's entrepreneurial ecosystem.*

CHAPTER 8: RESULTS FROM THE QUANTITATIVE DATA ANALYSIS

8.1   INTRODUCTION

Chapters Three to Six critically reviewed the literature as it pertains to an entrepreneurial ecosystem. The review emphasised that no consensus exists as to what qualifies as the correct or measurable factors for a given spatial context (Bruns, Bosma, Sanders & Schramm, 2017; Acs, Estrin, Mickiewicz & Szerb, 2018; Vedula & Kim, 2019). Chapter Seven acted as a bridging chapter to introduce the theoretical framework. The theoretical framework was developed based on the predominant themes and patterns emerging from the literature review. Following an abductive research approach implies that there is a movement between the deductive and inductive perspectives. Therefore, the development of the theoretical framework was a critical step as it satisfies the data use criteria associated with mixed method research (Saunders et al., 2019).

Chapter Eight reported on an empirical investigation to evaluate the perceptions of a sample of n=300 respondents to the set of factors that was operationalised from the literature review. Chapter Eight addresses RO_6: *To empirically evaluate and discuss the factors that influence Nelson Mandela Bay's entrepreneurial ecosystem.* Thereby answering RQ_6: *"What factors influence the entrepreneurial ecosystem in Nelson Mandela Bay?"* .

The empirical investigation forms part of Phase One of this mixed methods study. As detailed in Chapter Two, a *sequential independent design* was followed. By following this type of mixed method design, the data from the questionnaires are analysed independently and the methodological triangulation occurs after the results from Phase Two are analysed.

This chapter includes descriptive and inferential statistics. The descriptive statistics summarised the basic features of the data set and presented data to discover initial patterns. The descriptive statistics begin by describing the respondent's demographic data. Second, each of the questionnaires constructs and items were analysed according to the distribution of their responses. Third, an Exploratory Factor Analysis (EFA) was conducted to explore the relationships between the factors. The EFA determined the relationships and significance by employing the Eigenvalue, Scree Plot and factor loadings. Fourth, the Cronbach's Alpha Coefficient was calculated to measure the reliability of the measuring instrument. Fifth, descriptive statistics such as the average frequency of responses, measure of central tendency and measure of spread were evaluated.

Inferential statistics were conducted to make (1) generalisations about the population, (2) for comparison, testing and prediction and (3) to make conclusions about the population (Unit for Statistical Consultation, 2020). First, a one-sample t-test was conducted to evaluate the statistical and practical significance of the factors. The one-sample t-test assisted to determine the factors deemed to influence the entrepreneurial ecosystem in Nelson Mandela Bay. Second, a Pearson's product moment correlation was undertaken to test whether a linear association existed between the factors. Third, a univariate ANOVA was performed to identify if any statistical relationships existed between the factors and the respondent's demographic information. Fourth, inferential ranking of the factors was evaluated to determine the level of importance of the factors. Finally, a CFA was performed to test the adequacy of the observed data against the developed hypotheses.

As indicated in Chapter Two, the point of integration is triangulation. Therefore, the findings from this independent analysis, which form part of Phase One will be triangulated against the findings in Phase Two. The methodological triangulation occurs in Chapter Ten of this thesis, whereby a comparison of the results will be conducted.

Figure 8.1 provides a structural overview of this study and illustrates where Chapter Eight is positioned in the overall structure of the thesis. This chapter begins by providing a background of the quantitative analysis performed. Figure 8.2 illustrates the roadmap for Chapter Eight.
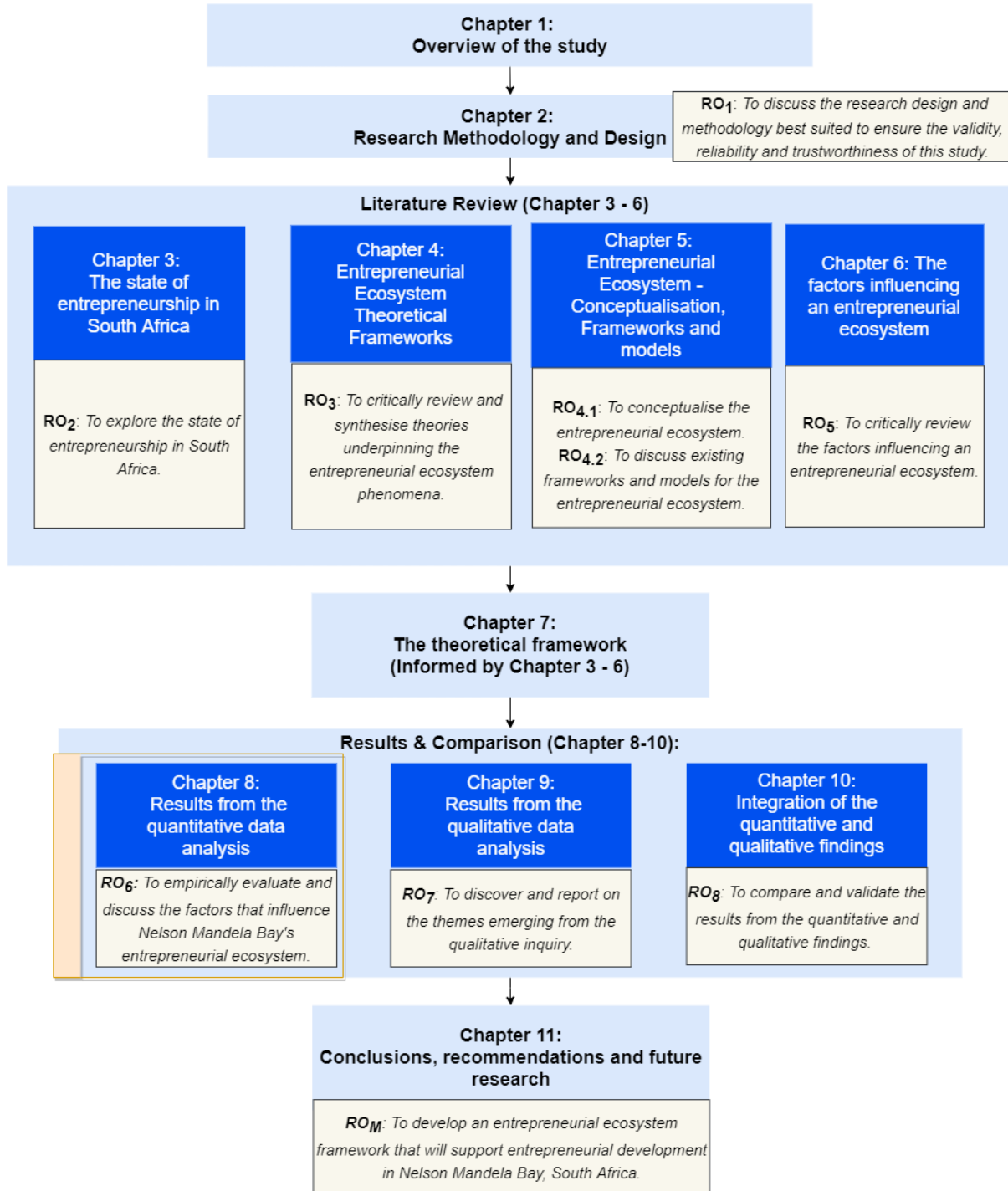
Figure 8.1 - Structural overview of the research study

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CHAPTER 8: Results from the quantitative data analysis

- 8.1 Introduction
- 8.2 Overview of the quantitative data analysis
- 8.3 Demographic profile of the sample
- 8.4 Frequency distributions - measurement items
- 8.5 Exploratory factor analysis
- 8.6 Descriptive statistics for the factors
- 8.7 Inferential statistics for the factors
- 8.8 Conclusions

CHAPTER 9: Results from the qualitative data analysis	
CHAPTER 10: Integration of the quantatitive and qualtiative data analysis	
CHAPTER 11: Conclusions, recommendations and future research	

Figure 8.2 - Roadmap of Chapter Eight

8.2 BACKGROUND TO THE QUANTITATIVE ANALYSIS PERFORMED

The questionnaire was discussed in Chapter Two, Section 2.10.2. Each factor in the questionnaire: *An entrepreneurial ecosystem framework for Nelson Mandela Bay* was statistically analysed. The data are analysed by using descriptive and inferential data analysis techniques (Collis & Hussey, 2014). The statistical findings deemed significant and applicable to the proposed framework will be reported on.

The questionnaire was divided into two main sections and is included in Appendix B. The first section addressed the demographics. The second section dealt with the perceptions of the economically active actors regarding the entrepreneurial ecosystem factors. An overview of the sections is as follows:

 i. **Section 1: Demographics -** In this section the respondents were asked to complete their biographical information; and

 ii. **Section 2: Factors –** In this section respondents were required to rate their perceptions on the set of factors on a 5-point Likert Scale. The questionnaire applied the following set of statements: 1 = Strongly Disagree to 5 = Strongly Agree and 1 = Very Severe

Obstacle to 5 = No Obstacle. These factors were operationalised from existing literature in terms of their influence on an entrepreneurial ecosystem.

The questionnaire was designed to include a set of multiple-choice questions and 5-point Likert Scale statements. The survey consisted of a total of 72 closed-ended questions divided into two main sections. Section 1 of the survey requested respondents to indicate specific demographic data. Participants who formed part of the category start-ups, micro-enterprise and SMEs were asked to complete 11 multiple choice questions, related to specific demographics. Participants who formed part of the category big business, corporate or MNEs were asked to complete 5 multiple choice questions. Section 1 was designed to include a rule that if the respondent fell into the category: *big business, corporate* or *MNE* the questions would branch out to Question 7 of the biographical information.

In total, usable responses were received from three hundred participants falling into the category start-ups, micro-enterprises, SMEs, big business, corporate or MNE (n=300). The data from the questionnaires completed in person by the participants were captured on QuestionPro. By using the Reports function in QuestionPro, all the raw data were exported and presented in a Microsoft Excel.xlsx file. As part of the cleansing process, all unusable or incomplete responses were removed.

A confidence level of 95% were used to determine the sample size, which was based on comparative figures by Dobbin (2019). The comparative figures were calculated by using the results from a 2019 national study of South Africa's SMMEs (Small Business Institute and the Small Business Project, 2019). At a 95% level of confidence an adequate sample size is n=382. The total sample surveyed is n=300 and is acceptable against the contention that a sample size of 200 offers a sound basis for estimation, while a sample size of 400 reduces model sensitivity and a reasonable goodness-of-fit measure (Hair, Black, Babin & Anderson, 2014). A NMU statistician, Ms Kirstie Eastwood, deemed the sample of n=300 acceptable to conduct statistical analysis. The quantitative data are analysed by using descriptive and inferential data analysis techniques as described in Section 8.1.

8.3   DEMOGRAPHIC PROFILE OF THE SAMPLE

In this section the demographic profile of the sample is presented by using frequency tables. Descriptive statistics are used to summarise the basic features of the data set to discover initial patterns (Collis & Hussey, 2014). The demographic data of the sample (n=300) are divided

according to the respondents' category, gender, age, race, country of birth, level of education, when they started their business, the number of employees, sector and business growth.

As indicated in Section 8.2, there was a branching rule built into the questionnaire for individuals falling into the category: *big business, corporate* or *MNE*. This means that individuals from this category did not answer the following biographical questions: "When did you start your business?", "Please indicate the number of employees in your current business (including yourself)?", "What sector does your business operate in?" and "Has your business scaled/grown in the past five years?"

8.3.1 Category of respondents

Table 8.1 details the distribution of the ***category*** that the survey respondents fall into. The categories were as follows: *start-up, micro-enterprises, SME, big business, corporate* or *MNE*. Table 8.1 indicates that 35% (n=104) of the respondents were start-ups, 16% (n=49) were *micro-enterprises*, 32% (n=95) were *SMEs* and 17% (n=52) were *big business, corporate or MNEs*. Most of the survey respondents fell into the start-up category, which may potentially indicate bias. Bias is explained due to the fact that the majority of enterprises in Nelson Mandela Bay operate within the micro-enterprise category (Dobbin, 2019). In developing economies, such as South Africa, a disproportionate concentration of employment exists in micro-enterprises, which are often informal (OECD, 2018a). This contention is echoed by the International Labour Organisation (2019), which asserts that 80% of employment lies within the self-employed and micro-enterprise category for sub-Saharan countries.

Table 8.1 - Category of respondents

Category	Frequency	%
Start-up	104	35%
Micro-enterprise e.g., hawker	49	16%
SME	95	32%
Big Business, Corporate or MNE	52	17%
Total	300	100%

8.3.2 Gender

Table 8.2 details the distribution of the survey respondents' ***gender***. Most of the respondents were male (60%, n=181), while 40% (n=119) were female. While more males participated in the study, the difference was deemed immaterial to the practical significance of the study. In 2020, GEM South Africa reported that men are twice as likely to become new enterprise entrepreneurs (Bosma et al., 2019). In 2021, the World Economic Forum (2021) reported that

the COVID-19 pandemic increased the gender disparity. Therefore, a fair representation of gender can be assumed.

Table 8.2 - Gender of the respondents

Gender	Frequency	%
Male	181	60%
Female	119	40%
Total	300	100%

8.3.3 Age

Table 8.3 indicates the *age range* of the survey respondents. The frequency distribution indicates that from a sample of n=300 respondents, 17% (n=51) are between the age range of 18-25, 31% (n=94) are between the age range of 26-35, 26% (n=78) are between the age range of 36-45, 18% (n=53) are between the age range of 46-55, 6% (n=17) are between the ages of 56-65 and 2% (n=7) are 66 years of age or above.

Table 8.3 - Age range of respondents

Age range	Frequency	%
18-25	51	17%
26-35	94	31%
36-45	78	26%
46-55	53	18%
56-65	17	6%
66+	7	2%
Total	300	100%

The concentration of respondents falling into the age range of 26-35 (31%, n=94) and 36-45 (26%, n=78) corresponds with the findings from the 2019/2020 GEM South Africa report. Herein, it is reported that entrepreneurial activity is prevalent among individuals between the age range of 25-34 years and 35-44 years (Bowmaker-Falconer & Herrington, 2020). The popularity of this lower age range is based on lower opportunity costs among those between the ages of 25-34 years. Similarly, individuals falling between the age range of 36-45 years are claimed to have acquired experience, knowledge and skills, wealth in the forms of assets and networks to undertake entrepreneurship. Therefore, the differences were deemed immaterial to the practical significance of the study. A fair representation of age range can be assumed.

8.3.4 Race

Table 8.4 indicates the *race* of the survey respondents. The frequency distribution indicates that from a sample of n=300 respondents, 26% (n=77) are Black, 36% (n=108) are Coloured and 38% (n=115) are White. The distribution of race does not reveal significant outliers. In

South Africa, it has been reported that the White population has had the largest increase (2.6%) in total entrepreneurial activity between 2017 and 2019 (Bowmaker-Falconer & Herrington, 2020).

Table 8.4 - Race of respondents

Race	Frequency	%
Black	77	26%
Coloured	108	36%
White	115	38%
Total	300	100%

8.3.5   Country of birth

Table 8.5 illustrates the frequency distribution of the respondents to the question ***Country of birth***. The responses revealed that 91% (n=272) of the respondents were born in South Africa. Only 9% (n=28) of the respondents were born outside of South Africa.

Table 8.5 - Country of birth of respondents

Country of Birth	Frequency	%
South Africa	272	91%
Other	28	9%
Total	300	100%

8.3.6   Level of education

Table 8.6 illustrates the frequency distribution of the survey respondents to the question, "***Please indicate your level of education***". The responses revealed an even spread between education levels except for those who indicated that their level of education was less than matric (n=21, 7%). The balance of the respondents was distributed as follows:

i.   Of the n=300 respondents, n=72 (24%) had a matric qualification;

ii.   Of the n=300 respondents, n=71 (24%) had a diploma qualification;

iii.   Of the n=300 respondents, n=71 (24%) had a Degree qualification; and

iv.   Of the n=300 respondents, n=65 (22%) had a Post Graduate qualification.

The frequency distribution reveals that 69% (n=207) of the survey respondents continued their studies after having completed their Matric. In contrast, 31% (n = 93) of the respondents had either a Matric qualification or less than Matric. These results may indicate bias as the majority of enterprises in Nelson Mandela Bay operate within the micro-enterprise category (Dobbin, 2019). The sample of micro-enterprises in this study is low (16%, n=49) and this category is

characterised as being informal with low levels of education whereby the individuals are motivated by necessity (Steenkamp & Bhorat, 2016).

Table 8.6 - Level of education of the respondents

Level of Education	Frequency	%
Less than matric	21	7%
Matric	72	24%
Diploma	71	23,7%
Degree	71	23,7%
Post Graduate Degree	65	21,7%
Total	300	100%

It is argued that an educated population, with the requisite knowledge and skills possesses the ability to grow their business and drive innovation and competitiveness (Bowmaker-Falconer & Herrington, 2020). However, in the 2019 Global Competitiveness Index report, the quality of education in South Africa was ranked as follows: (1) 119 out of 141 countries for quality of vocational training and (2) 102 out of 141 countries for the skillset of graduates (Schwab, 2019, p. 520). Education must become relevant in terms of the type of work and the rapidly evolving labour market. As noted in the Global Entrepreneurship Index report, entrepreneurial skills are less available and the shortage are inhibitors for sustainable entrepreneurship in sub-Saharan Africa (Acs, Szerb & Lloyd, 2018; Herrington & Coduras, 2019; Bowmaker-Falconer & Herrington, 2020).

8.3.7 Period of business operation

Table 8.7 illustrates the frequency distribution of the respondents to the question "***When did you start your business?***". The responses indicated that most respondents (30%, n=75) started their business within the last year, while those whose business was underway constituted fifty (20%) of the respondents. Sixty-four (26%) of the respondents started their business within the last five years, while fifty-nine (24%) respondents started their business more than five years ago. The margin of difference between n=248 respondents did not vary significantly.

Table 8.7 - Period of business operation of respondents

When did you start your business?	Frequency	%
Underway	50	20%
Within the last year	75	30%
Within the last five years	64	26%
More than five years ago	59	24%
Total	248	100%

The purpose of this question was to determine whether the years in operation influenced business success. Similarly, this question was applied in the empirical statistics to establish whether significant differences existed across factors. The years in operation or age of a business is associated with its market experience and affects its ability to grow (OECD, 2018a; Bowmaker-Falconer & Herrington, 2020). The ability to scale allows businesses to move into the next size category. Market experience and size category are important to establish a business's access to finance.

Table 8.8 provides a cross-tabulation for the years in operation and business growth. The questions pertaining to business growth allowed for multiple responses, namely (1) increased number of employees, (2) expanded e.g., franchises and/or (3) increased in revenue. The answer "No growth" did not allow multiple responses and was a static variable.

Notably, 45 out of 50 respondents (90%) indicated that their business was underway and experienced no growth. Thirty-nine out of 75 respondents (52%) who started their business within the last year reported no growth. This aligns to international reports, which indicate that businesses that operate for less than one year, experience low growth and are characterised by the highest closure rates (OECD, 2018a).

Table 8.8 - Cross tabulation of years in operation and business growth

Years in operation	Increased nr of employees	Expanded, e.g., franchises	Increased in revenue	No growth
Underway	2	2	2	45
Within the last year	13	1	24	39
Within the last five years	23	3	38	10
More than five years ago	13	11	29	20

The other half of businesses surveyed have been in existence for more than a year. No growth was experienced by 16% (n=10) of respondents who started their business within the last five years. This indicates that the balance of the respondents (84%, n=54) experienced growth. Furthermore, no growth was experienced by 34% (n=20) of the respondents who started their businesses more than five years ago. This indicates that the balance of the respondents (66%, n=39) experienced growth. The results for those operating for more than one year indicate a higher survival rate. The results, as it pertains to a higher survival rate, are encouraging against the backdrop of South Africa's high unemployment rate.

Enabling businesses to scale up is an important issue to address within countries. This may address issues such as the low productivity rates and income inequality (OECD, 2018a). By focusing efforts on assisting the scaling of business in their various stages an effect may be

experienced on innovation, competition, employment and the average wage rates (Acs, Szerb & Lloyd, 2018; OECD, 2018).

8.3.8   Number of employees

Table 8.9 indicates the distribution of the survey respondents to the question "***Please indicate the number of employees in your current business (including yourself)?***". The responses revealed that most of the respondents (75%, n=186) employed between 1 to 10 employees. Generally, businesses with 1 to 10 employees would satisfy the micro-enterprise definition. This is based on the proxy that an enterprise category is linked to its *'total full-time equivalent of paid employees'*. However, in 2019, the South African government established a new schedule that categorises enterprises according to two proxies (Department of Small Business Development, 2019). The two proxies are based on *'total full-time equivalent of paid employees'* and *'total annual turnover'*. According to the OECD (2018a), growth is determined by turnover or employment, where turnover provides greater numbers compared to the employment figures.

Table 8.9 - Number of employees

Number of employees (including owner)	Frequency	%
1	79	32%
2	40	16%
3	20	8%
4	11	4%
5	12	5%
6-10	24	9%
10-15	10	4%
16-25	13	5%
26-50	22	9%
51-100	13	5%
101-200	2	1%
201+	2	1%
Total	248	100%

Table 8.10 and Table 8.11 are broken down to indicate the number of employees who form part of the category start-ups and micro-enterprises, respectively. The respondents who form part of the category *micro-enterprise*, detailed in Table 8.11 satisfy the definition in terms of 'total full-time equivalent of paid employees' as the number of employees does not exceed ten.

Table 8.10 - Number of employees in the start-up category

Number of employees (including owner)	Frequency	%
1	60	58%
2	23	22%
3	8	8%
4	5	5%
5	4	4%
6-10	3	3%
Total	103	100%

Table 8.11 - Number of employees in the micro-enterprise category

Number of employees (including owner)	Frequency	%
1	14	28,5%
2	12	24,5%
3	9	18,4%
4	4	8,2%
5	4	8,2%
6-10	6	12,2%
Total	49	100%

Table 8.12 illustrates the number of employees reported by SMEs and indicates that some of the respondents (14%, n=34) fall outside the South African classification of 10-49 and 11-50 employees as per the 'total full -time equivalent of paid employees' respectively for small businesses. Thirty-four (36%) of the SMEs indicated that they have 1-10 employees. However, a cross-tabulation of the number of employees and growth indicators shows that of the 34 respondents, who fell outside the previous and current classification of a SME, reported growth predominantly in terms of revenue as indicated in Table 8.13.

This may satisfy the second proxy of '*total annual turnover*'. The results align with the claims made by the OECD, where turnovers are more prominent compared to employment (OECD, 2018a). Growth in terms of employees, revenue or market share impact innovation, productivity and employment creation for local and national economies.

Table 8.12 – Number of employees in the SME category

Number of employees (including owner)	Frequency	%
1	6	6%
2	5	5%
3	3	3%
4	2	2%
5	4	4%
6-10	14	15%
10-15	10	11%
16-25	13	14%
26-50	21	22%
51-100	13	14%
101-200	2	2%
201+	2	2%
Total	95	100%

Table 8.13 – Cross tabulation of number of employees and growth indicators (multiple options allowed for growth)

Number of employees	Increased number of employees	Expanded e.g., franchises	Increased revenue
1 employee	0	1	5
2 employees	0	0	4
3 employees	0	0	3
4 employees	1	0	1
5 employees	2	1	4
6-10 employees	4	1	5
Total	**7**	**3**	**22**

8.3.9 Sector

Table 8.14 indicates the distribution of the respondents to the question "***What sector does your business operate in?***". The classification of the economic sectors are based on revision four of the International Standard Industrial Classification of all Economic Activities (International Labour Organisation, 2020). The responses are based on the sample of 248 (83%) out of the 300 respondents who represent the category start-up, micro-enterprise and SME.

The responses indicated that 42 (16,9%) of the respondents operate in the Other Service Activities sector. This is followed by 34 (13,7%) of the respondents operating in the Manufacturing sector, 25 (10,1%) of the respondents in the Information Communication and Technology Sector and 20 (8,1%) respondents operating in the Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcycles.

Seventeen respondents (6,9%) operated in the Construction sector. Seventeen respondents (6,9%) operated in the Arts, Entertainment and Recreation sector. Seventeen respondents (6,9%) operated in the Accommodation and food service activities sector. Twelve respondents (4,8%) operated in the Education sector, while 11 (4,4%) operated in Transport and Storage. Eight respondents (3,2%) operated in the sector, Human Health and Social Work Activities. Seven respondents (2,8%) operated in Financial and Insurance Activities, seven respondents (2,8%) operated in Real Estate Activities and seven respondents (2,8%) operated in Professional, Scientific and Technical Activities.

The smallest number of respondents operated in: Water supply, sewerage, waste management and remediation activities (2,4%, n=6); Electricity, gas, steam and air conditioning supply (2%, n=5); Agriculture, Hunting, Forestry and Fishing (1,6%, n=4); Activities of households as employers, undifferentiated activities of households for own use (0,8%, n=2); Mining and Quarrying (0,4%, n=1); and Activities of extraterritorial organisations and bodies (0,4%, n=1).

Table 8.14 - Sector

Sector	Frequency	%
Agriculture, hunting, forestry and fishing	4	1,6%
Mining and quarrying	1	0,4%
Manufacturing	34	13,7%
Electricity, gas, steam and air conditioning supply	5	2,0%
Water supply; sewerage, waste management and remediation activities	6	2,4%
Construction	17	6,9%
Wholesale and retail trade, repair of motor vehicles and motorcycles	20	8,1%
Transportation and storage	11	4,4%
Accommodation and food service activities	17	6,9%
Information and communication	25	10,1%
Financial and insurance activities	7	2,8%
Real estate activities	7	2,8%
Professional, scientific and technical activities	7	2,8%
Administrative and support service activities	5	2,0%
Education	12	4,8%
Human health and social work activities	8	3,2%
Arts, entertainment and recreation	17	6,9%
Other service activities	42	16,9%
Activities of households as employers; undifferentiated activities of households for own use	2	0,8%
Activities of extraterritorial organisations and bodies	1	0,4%
Total	**248**	**100%**

The high concentration of respondents forming part of the Other Service Activities (16,9%, n=42) may be aligned to the statistics reported by Statistics South Africa (Statistics South Africa, 2019). This report indicated that this sector generated more than a quarter of total turnover in quarter one of 2019. Businesses falling into this category were experienced in business services; trade; and community, social and personal services. Small enterprises were characterised in this report as a high proportion of small players described as those operating businesses such as barber shops, cafes and dry-cleaning services. Therefore, a fair representation of this sector can be assumed.

The concentration of the respondents forming part of the manufacturing sector may be assumed as a fair representation in terms of this sector's dominance in Nelson Mandela Bay. In 2019, GEM South Africa illuminated that entrepreneurial activity within the manufacturing sector increased dramatically to 13.1% in 2019 from 3.6% in 2015 (Bowmaker-Falconer & Herrington, 2020). Notably, in 2016, it was reported that the manufacturing sector is a significant growth and development sector in the Eastern Cape province. However, in 2020, the sector contracted by 15% meaning that it is 20% smaller year on year (Business Insider South Africa, 2020). This decline may be attributed to the COVID-19 pandemic.

The results indicated a concentration of respondents operating in the Information Communication and Technology (ICT) sector (10%, n=25). This may be indicative of the

attention given to the digital economy. Notably, GEM South Africa indicates that this sector requires stimulation (Bowmaker-Falconer & Herrington, 2020). Furthermore, start-ups are characterised as being innovative and this may be a potential reason for the concentration in this sector.

The concentration of the respondents forming part of the wholesale and retail trade, repair of motor vehicles and motorcycles (8%, n=20) are not surprising. The 2019/2020 GEM South Africa report indicated that this sector is characterised by low barriers to entry with regard to skills and capital requirements (Bowmaker-Falconer & Herrington, 2020). In fact, in South Africa, the wholesale and retail sector accounts for approximately 46% of early-stage entrepreneurship.

8.3.10 Business growth

Table 8.15 indicates the distribution of the survey respondents to the question "***Has your business scaled/grown in the past five years?***". The responses are based on the sample of n=248 (83%) who fell into the category start-up, micro-enterprise and SME.

This question allowed for multiple responses for those who experienced growth. The multiple responses included: "Yes, we have increased our number of employees", "Yes, we have increased our revenue" and/or "Yes, we have expanded e.g., franchises". Respondents who did not experience growth selected "No growth". No growth was a static variable, which means if the respondent indicated "No growth" they would not be able to select any of the "Growth" statements. The proportion of respondents who experienced growth were 54% (n=134) compared to 46% (n=114) of respondents who experienced no growth.

Table 8.15 - Business Growth

Business Growth (Growth statements include multiple responses)	Frequency	%
Growth - Increased number of employees	51	17%
Growth - Increased revenue	93	31%
Growth - Expanded e.g., franchises	17	6%
No growth (static variable)	114	46%

To contexualise the results, Table 8.16 accompanied by a bar graph, Figure 8.3 is provided. The results indicate that the most start-ups (80%, n=83) experienced no growth. The results from the micro-enterprises have been explained as potentially biased due to the small sample. Nonetheless, the results align to international reports, which indicate that businesses that operate for less than one year experience low growth rates (OECD, 2018a).

Table 8.16 - Cross-tabulation of enterprise category and growth (n=248)

	Start-up	**Micro-enterprise**	**SME**
Growth	21	28	85
No growth	83	21	10
Total	**104**	**49**	**95**
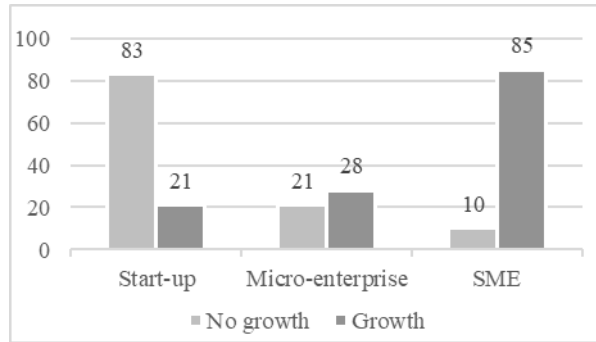
Figure 8.3 - Bar graph of growth by categories (n=248)

8.4   FREQUENCY DISTRIBUTIONS - MEASUREMENT ITEMS

This section details the measure of central tendency for the responses received for each factor, based on a 5-point Likert Scale. The questionnaire included a 5-point Likert scale, which is a rating-scale that attaches the responses to the set of statements to create a numeric value for each participant.

The statements included in the questionnaire, were ranked: 1 = Strongly Disagree; 2 = Disagree; 3 = Neither Agree or Disagree/Neutral; 4 = Agree and 5 = Strongly Agree (Gravetter & Wallnau, 2009; Du Plooy-Cilliers et al., 2014). Factors, such as the *Regulatory Framework* and *Business Environment* applied the following set of rankings: 1 = Very Severe Obstacle; 2 = Major Obstacle; 3 = Neither Agree or Disagree/Neutral; 4 = Minor Obstacle and 5 = No Obstacle. For the evaluation, the following Likert scale ratings were combined, namely Strongly Disagree with Disagree, as well as Agree with Strongly Agree. Similarly, the Likert scale ratings Very Severe Obstacle and Major Obstacle, as well as Minor Obstacle and No Obstacle were combined for reporting purposes.

The combined responses are presented in Table 8.17 to Table 8.25, which indicate the frequency and percentage. The scores are categorised according to the 5-point Likert Scale. The categories are as follows: Disagree (1.00 to 2.59), Neutral (2.60 to 3.40) and Agree (3.41 to 5.00). The scores detail the attitudes and perceptions of the respondents with regard to the factors: *Entrepreneurial Ecosystem, Entrepreneurial Culture, Business Environment, Regulatory Framework, Finance, City Planning, Entrepreneurial Intention* and *Human Capital*.

8.4.1 Factor: Entrepreneurial Ecosystem

Respondents were asked to rate their level of agreement of Nelson Mandela Bay, South Africa's entrepreneurial ecosystem. The purpose of this construct was to determine the overall perception of the *Entrepreneurial Ecosystem* from the surveyed respondents (n=300).

Table 8.17 details the distribution of the items that form part of the construct, *Entrepreneurial Ecosystem*. There were no distinct differences from each of the statements regarding the respondent's perception of Nelson Mandela Bay's Entrepreneurial Ecosystem. This may be due to the heterogenous population (OECD, 2019a). According to the OECD (2019a), a heterogeneous population is influenced differently by various factors, *inter alia*, economy size, market structure, regulatory environment and business environment. Furthermore, divergent responses may be attributed to a decline in certain conditions in the South African environment, such as the regulatory and business environment (Schwab, 2019; Bowmaker-Falconer & Herrington, 2020). These varying responses may be understood by investigating the factors pertinent to an entrepreneurial ecosystem.

Table 8.17 - Frequency distribution of the dependent factor, Entrepreneurial Ecosystem (n=300)

Questionnaire statement	Disagree		Neutral		Agree	
	n	%	n	%	n	%
NMB has a flourishing EE.	101	33,67%	111	37,00%	88	29,33%
The EE in NMB works efficiently.	109	36,33%	102	34,00%	89	29,67%
The EE in NMB encourages foreign direct investment.	88	29,33%	111	37,00%	101	33,67%
Entrepreneurs are connected in the EE.	99	33,00%	104	34,67%	97	32,33%
The resources in NMB connect with the entrepreneurs. Resources include economic agencies that have a mandate to promote entrepreneurship.	102	34,00%	101	33,67%	97	32,33%

8.4.2 Factor: Entrepreneurial Culture

Respondents were asked to rate their level of agreement with seven statements linked to the construct, *Entrepreneurial Culture*. The purpose of the set of statements was to determine the overall perception of the *Entrepreneurial Culture* from the surveyed respondents (n=300). Table 8.18 illustrates the frequency distribution of the items that form part of the construct *Entrepreneurial Culture* and are described thereafter.

Table 8.18 - Frequency distribution of the independent factor, Entrepreneurial Culture (n=300)

Questionnaire statement	Disagree		Neutral		Agree	
	n	%	n	%	n	%
The community supports entrepreneurship.	66	22,00%	64	21,33%	170	56,67%
Businesses in the city support each other.	91	30,33%	84	28,00%	125	41,67%
The city supports female entrepreneurship.	76	25,33%	117	39,00%	107	35,67%
Entrepreneurship is seen as a good career choice.	63	21,00%	54	18,00%	183	61,00%
The city encourages and supports innovation.	73	24,33%	89	29,67%	138	46,00%
The city supports migrant entrepreneurs.	63	21,00%	84	28,00%	153	51,00%
Successful business owners act as mentors.	73	24,33%	67	22,33%	160	53,33%

More than 50% of the respondents agreed to the statements: *the community supports entrepreneurship* (57%, n=170), *Entrepreneurship is seen as a good career choice* (61%, n=183), *The city supports migrant entrepreneurs* (51%, n=153) and *Successful business owners act as mentors* (53%, n=160). Overall, the results in Table 8.18 give the impression that the entrepreneurial culture in Nelson Mandela Bay satisfies the social legitimacy of entrepreneurship (Spigel, 2015; Bosma et al., 2019; Leendertse et al., 2020).

The results align with key findings generated from the 2019/2020 GEM South Africa report that indicate an improvement in the societal values regarding entrepreneurship (Bowmaker-Falconer & Herrington, 2020). In South Africa, societal values regarding entrepreneurship have increased from 2003 to 2019. This report highlighted that the number of people who see entrepreneurship as a good career choice has increased between the period 2017 (69.4%) to 2019 (78.8%). As indicated in the literature review, the social legitimacy of entrepreneurship develops an entrepreneurial attitude (Fritsch & Wyrwich, 2014; Kibler et al., 2014; Fritsch & Wyrwich, 2018; Fritsch, Pylak et al., 2019).

8.4.3   Factor: Business Environment

Respondents were asked to rate their level of agreement with six statements linked to the construct, *Business Environment*. The purpose of the set of statements was to determine the overall perception of the *Business Environment* from the respondents (n=300).

Table 8.19 illustrates the frequency distribution of the items that form part of the construct *Business Environment*. All of the items were deemed as an obstacle to Nelson Mandela Bay's entrepreneurial ecosystem: *corruption* (80%, n=240), *crime* (79%, n=238), *bribery* (76%, n=227), *professionals that act unethically* (65%, n=196), *disorder* (65%, n=194) and *political instability* (66%, n=199). The results presented in Table 8.19, indicate an unfavourable

business environment in Nelson Mandela Bay. This may lead to negative effects on the GDP, foreign direct investment and an increase in the cost of doing business.

Table 8.19 - Frequency distribution of the independent factor, Business Environment (n=300)

Questionnaire statement	Obstacle		Neutral		No Obstacle	
	n	%	n	%	n	%
Corruption	240	80,00%	21	7,00%	39	13,00%
Crime	238	79,33%	27	9,00%	35	11,67%
Bribery	227	75,67%	28	9,33%	45	15,00%
Professionals that act unethically	196	65,33%	61	20,33%	43	14,33%
Disorder e.g., strikes	194	64,67%	46	15,33%	60	20,00%
Political instability	199	66,33%	41	13,67%	60	20,00%

The results reflect an upward negative trajectory regarding the business environment in South Africa. For example, in 2015, a corruption report was undertaken and surveyed over 1,600 legal and compliance professionals from across the globe (Businesstech, 2015a). Fifty-five percent (55%) of the respondents stated that they avoid doing business in South Africa, while sixty-one percent (61%) of South African respondents indicated they had to terminate business deals because of the risk of corruption.

Similarly, in 2019, The Herald, a local newspaper in Nelson Mandela Bay reported on an open letter from the Nelson Mandela Business Chamber to the Mayor and Mayoral committee of Nelson Mandela Bay (Nkosi, 2019). In this open letter, the Nelson Mandela Business Chamber underscored that the political instability had pushed investment out of the city. Political instability in a country reduces the social contract with citizens and is claimed to have significant effects on enterprise innovation (Shumetie & Watabaji, 2019).

In 2019, the Global Competitiveness Index reported a decline in South Africa's ranking on conditions, such as: trust in politicians, corruption and bribery, crime and violence, among others (Schwab, 2019). The results herein are reflective of sentiments as depicted by the respondents to the construct, *Business Environment*.

8.4.4 Factor: Regulatory Framework

Respondents were asked to rate their level of agreement with seven statements linked to the construct, *Regulatory Framework*. The purpose of the set of statements was to determine the overall perception of the *Regulatory Framework* from the surveyed respondents (n=300).

Table 8.20 illustrates the frequency distribution of the items that form part of the construct *Regulatory Framework*. More than 50% of the respondents indicated that *dealing with the local*

municipality (62%, n=185), *cost of doing business* (57%, n=170) and *government generated red tape* (56%, n=167) were obstacles to Nelson Mandela Bay's entrepreneurial ecosystem. Forty-one percent of the respondents (n=123) also indicated that the item, *B-BBEE codes* were an obstacle for the entrepreneurial ecosystem.

Table 8.20 - Frequency distribution for the independent factor, Regulatory Framework (n=300)

Questionnaire statement	Obstacle		Neutral		No Obstacle	
	n	%	n	%	n	%
Dealing with the local municipality	185	61,67%	50	16,67%	65	21,67%
Cost of doing business e.g., cost of complying with tax requirements, regulatory burdens, electricity, and fuel costs.	170	56,67%	58	19,33%	72	24,00%
Government-generated red tape.	167	55,67%	86	28,67%	47	15,67%
B-BBEE codes	123	41,00%	80	26,67%	97	32,33%
Procedure to open a business	117	39,00%	69	23,00%	114	38,00%
Labour Laws	91	30,33%	96	32,00%	113	37,67%
Supply Chain requirements	106	35,33%	92	30,67%	102	34,00%

The regulatory framework may influence the entrepreneurial culture and argues that policy acts to strengthen and reinforce the existing entrepreneurial culture. Businesses with onerous regulatory compliance reduce the incentive to start a business and red tape is more costly for a small business compared to big businesses (Porter, 1990, 1998; OECD, 2007, 2019b).

The perceptions as indicated in Table 8.20 may be indicative of the fact that South Africa, dropped by two points to 84 out of 190 in the World Bank's Ease of Doing Business 2020 report (World Bank, 2020a). In addition, the 2019 Global Competitiveness Report emphasised that South Africa's competitiveness is below par in terms of government's adaptability to change (Schwab, 2019). Further, South Africa suffers from low business dynamism because of insolvency regulation and administrative burdens, such as the onerous processes to start a business. Indeed, these findings are echoed by the perceptions reported by the respondents of the study. Similarly, the perceptions regarding the municipality are echoed through the open letter that was submitted by the Nelson Mandela Business Chamber in 2019 (Nkosi, 2019). Herein, the open letter clearly states that the municipal administration is a hindrance for growth from a strategic and basic service level. The letter refers to the political infighting and subsequent nonservice delivery.

8.4.5 Factor: Finance

Respondents were asked to rate their level of agreement with eight statements linked to the construct, *Finance*. The purpose of the set of statements was to determine the overall perception of *Finance* from the surveyed respondents (n=300).

Table 8.21 illustrates the frequency distribution of the items that form part of the construct *Finance*. The majority of the respondents identified that access to finance can stimulate entrepreneurial activity (87%, n=262). The respondents also showed agreement with the item, *financial support from government agencies impacts the success of entrepreneurship* (60%, n=181).

However, there was a high proportion of the respondents who disagreed with the item, *it is easy to acquire finance from government agencies* (71%, n=213). GEM South Africa reported that government subsidies declined in 2019 compared to 2017 (Bowmaker-Falconer & Herrington, 2020). This may be related to the fact that the outstanding direct government loans to SMEs for the financial year ending 2017 reported an amount of ZAR 11,48 billion (1.8% of SME loans). Equally, in 2017, credit guarantees of ZAR 297 million were granted by the Industrial Development Corporation (IDC) and Small Enterprise Finance Agency (SEFA) (OECD, 2020b).

Notably, three items revealed disagreement with the statements (1) *The commercial banks are willing to finance entrepreneurs* (49%, 147), (2) *It is easy to access finance as a registered business* (42%, n=127) and (3) *It is easy to access finance from venture capitalists* (47%, 140). This may be related to the extent of SME credit exposure experienced by banks. The OECD (2020b) highlighted data from the South African Reserve Bank on credit exposure amounting to ZAR 617 billion at the end of 2017. This amount accounted for 28% of all business loans. Furthermore, the low levels of formal financing through the banks are underpinned by the lack of credit information, risk profiles and lack of assets of SMEs. Ultimately, these factors contribute to SMEs not being able to access credit.

Access to venture capital was reported to be the lowest source of funding in South Africa (Bowmaker-Falconer & Herrington, 2020). This type of funding is not effectively channelled to entrepreneurs, which is potentially due to the fact that entrepreneurs struggle with ideation, prototype testing and preparing for pitching. Herrington and Coduras (2019) explained that efforts should be made to prepare entrepreneurs through practical training to access finance.

Table 8.21 - Frequency distribution for the independent factor, Finance (n=300)

Questionnaire statement	Disagree		Neutral		Agree	
	n	%	n	%	n	%
Access to finance can stimulate entrepreneurial activity.	17	5,67%	21	7,00%	262	87,33%
Entrepreneurs are aware of government agencies that assist with financing.	119	39,67%	80	26,67%	101	33,67%
It is easy to acquire finance from government agencies.	213	71,00%	60	20,00%	27	9,00%
Financial support from government agencies impacts the success of entrepreneurship.	60	20,00%	59	19,67%	181	60,33%
The commercial banks are willing to finance Entrepreneurs.	147	49,00%	101	33,67%	52	17,33%
It is easy to access finance as a registered business.	127	42,33%	91	30,33%	82	27,33%
Entrepreneurs have access to informal finance. e.g., family and friends.	121	40,33%	73	24,33%	106	35,33%
It is easy to access finance from venture capitalists, i.e., venture capital is a type of funding (start-up or growth equity from private investors, development finance from specialised financial institutions) for a new or growing business.	140	46,67%	124	41,33%	36	12,00%

8.4.6 Factor: City Planning

Respondents were asked to rate their level of agreement with five statements linked to the construct, *City Planning*. The purpose of the set of statements was to determine the overall perception of the *City Planning* from the surveyed respondents (n=300).

Table 8.22 illustrates the frequency distribution of the items that form part of the construct *City Planning*. More than 50% of the respondents indicated disagreement with the statement *the service infrastructure of the city is efficient* (53%, n=159). Respondents indicated disagreement with the statements: (1) *the current city spatial development has improved the socio-economic conditions of the residents* (40%, n=119), (2) *the physical infrastructure of the city is efficient* (47%, n=142) and (3) *the city infrastructure makes it easy to conduct business* (42%, n=125).

From the set of statements, both the (1) *physical infrastructure of the city is efficient* and (2) *the service infrastructure of the city is efficient* received the highest disagreement score. The disagreement with these two statements contradicts global perceptions, which indicates that the physical infrastructure is the most developed condition for entrepreneurial activity (Bosma et al., 2019; Schwab, 2019). Further contradictions are noted from the 2019/2020 GEM South Africa report, which indicates that both the physical and service infrastructure received the most favourable score of 50% (Bowmaker-Falconer & Herrington, 2020). This warrants additional investigation.

Table 8.22 - Frequency distribution for the independent factor, City Planning (n=300)

Questionnaire statement	Disagree		Neutral		Agree	
	n	%	n	%	n	%
NMB is inclusive, resource efficient and a good place to live, work, shop and play in.	106	35,33%	93	31,00%	101	33,67%
The current city spatial development has improved the socio-economic conditions of the residents.	119	39,67%	83	27,67%	98	32,67%
The physical infrastructure of the city is efficient. e.g., information and communication, utilities, roads, land, electricity, water and sewerage, transport, or space.	142	47,33%	73	24,33%	85	28,33%
The service infrastructure of the city is efficient.	159	53,00%	63	21,00%	78	26,00%
The city infrastructure makes it easy to conduct business.	125	41,67%	95	31,67%	80	26,67%

8.4.7 Factor: Business Support Services

Respondents were asked to rate their level of agreement with six statements linked to the factor, *Business Support Services*. The purpose of the set of statements was to determine the overall perception of the *Business Support Services* from the surveyed respondents (n=300).

Table 8.23 illustrates the frequency distribution of the items that form part of the construct *Business Support Services*. More than 50% of the respondents indicated agreement with the statements: (1) *it is easy to access tax service in NMB* (53%, n=160) and (2) *enthusiasm towards entrepreneurship exists* (65%, n=194).

Respondents indicated to a lesser extent agreement with the item: *it is easy to access education and training programmes in NMB* (41%, n=123). This may warrant additional investigation as a key implication from the 2019/2020 GEM South Africa report was related to entrepreneurial education to develop entrepreneurial knowledge and skills (Bowmaker-Falconer & Herrington, 2020). Herein, entrepreneurial education is underlined as a foundational requirement for new venture creation and success.

Neutral responses were observed for the items: (1) *it is easy to access incubators in NMB* (44%, n=133) and (2) *it is easy to access competent business consultants in NMB*. The ambivalent responses to these two statements may indicate that a subgroup of the respondents may use the Neutral option as a substantive answer or as a hidden non-response. This may warrant additional investigation as *Business Support Services* are argued as the connective tissue for networking opportunities, information about potential sales and advice to scale operations (Isenberg, 2011; Spigel, 2017; Meyers, 2018; Vedula & Kim, 2019).

Overall, the responses to the items for the factor, *Business Support Services* were divergent. Business support is essential for guidance and training to scale capacities (OECD et al., 2015). The divergent responses may be indicative of information asymmetry in the demand and supply of the business support institutions in Nelson Mandela Bay. If this is the case, a disproportionate effect would be experienced by nascent entrepreneurs.

Table 8.23 - Frequency distribution to the independent factor, Business Support Services (n=300)

Questionnaire statement	Disagree		Neutral		Agree	
	n	%	n	%	n	%
It is easy to access legal services in NMB.	100	33,33%	89	29,67%	111	37,00%
It is easy to access tax services in NMB.	59	19,67%	81	27,00%	160	53,33%
It is easy to access Incubators in NMB.	68	22,67%	133	44,33%	99	33,00%
It is easy to access competent business consultants in NMB.	104	34,67%	121	40,33%	75	25,00%
It is easy to access Education & Training programs in NMB.	94	31,33%	83	27,67%	123	41,00%
Enthusiasm towards entrepreneurship exists.	49	16,33%	57	19,00%	194	64,67%

8.4.8   Factor: Entrepreneurial Intention

Respondents were asked to rate their level of agreement with five statements linked to the factor, *Entrepreneurial Intention*. The purpose of the set of statements was to determine the overall perception of the *Entrepreneurial Intention* from the surveyed respondents (n=300).

Table 8.24 illustrates the frequency distribution of the items that form part of the factor *Entrepreneurial Intention*. More than 50% of the respondents indicated agreement with the statements: (1) *the intention to develop business ideas exist* (69%, n=206), (2) *there is an intention to start a business* (75%, n=224) and (3) *there is intention to take over a family business* (57%, n=171). The results may reveal that respondents believe that there are good opportunities present in Nelson Mandela Bay, South Africa. In South Africa, it has been reported that the perception that entrepreneurial opportunities exist increased between 2017 (43.2%) and 2019 (60.4%) (Bosma et al., 2019; Bowmaker-Falconer & Herrington, 2020).

Deviating from the overall 'Agree' response trend from the respondents is the item: *individuals are willing to take risks*. This item reveals that 41% (n=122) are Neutral and 39% (n=118) Agree to the statement. This contrasts with the 20% (n=60) of respondents who disagree with this statement. Notably, many respondents (79%, n=237) agreed with the item: *a fear of failure restricts people from starting their own business*. The response trend to these two items echoes the results from the 2019/2020 GEM South Africa report. Herein the fear of failure was notably high at 49.8%, showing an upward trend from 2017 (Bowmaker-Falconer & Herrington, 2020).

The divergent responses to the item: *individuals are willing to take risks* may be as a result of the fear of failure among the respondents.

Table 8.24 - Frequency distribution for the independent factor, Entrepreneurial Intention (n=300)

Questionnaire statement	Disagree		Neutral		Agree	
	n	%	n	%	n	%
The intention to develop business ideas exists.	40	13,33%	54	18,00%	206	68,67%
There is intention to start a business.	29	9,67%	47	15,67%	224	74,67%
There is intention to take over a family business.	38	12,67%	91	30,33%	171	57,00%
Individuals are willing to take risks.	60	20,00%	122	40,67%	118	39,33%
A fear of failure restricts people from starting their own business.	19	6,33%	44	14,67%	237	79,00%

8.4.9   Factor: Human Capital

Respondents were asked to rate their level of agreement with twelve statements linked to the factor, *Human Capital*. The purpose of the set of statements was to determine the overall perception of *Human Capital* from the surveyed respondents (n=300).

Table 8.25 illustrates the frequency distribution of the items that form part of the factor *Human Capital*. More than 50% of the respondents indicated their agreement with the following statements: (1) *businesses employ a high percentage of unskilled labour* (56%, n=169), (2) *skilled labour is expensive* (72%, n=217) and (3) *skilled labour makes the business environment more competitive* (70%, n=211). However, to a lesser extent, the respondents disagreed with the item, (1) *businesses employ a high percentage of skilled labour* (42%, n=127) and (2) *it is easy to acquire skilled labour* (43%, n=128). Skilled workers are an important resource for their expertise that may be transferred to new ventures and development of innovative products (Nicotra et al., 2018). Human capital has the knowledge and skills and this flows to develop new venture creation and innovation (Mason & Brown, 2014; Stam, 2015; Mack & Mayer, 2016; Braunerhjelm et al., 2018; Malecki, 2018; Nicotra et al., 2018).

Neutral responses were observed for the items: (1) *the youth or graduates have the right skills* (44%, n=133), (2) *there is a sufficient supply of scientists with the qualification businesses require*, (3) *there is a sufficient supply of engineers with the qualification businesses require*, (4) *there is a sufficient supply of artisans with the qualification businesses require*. The ambivalent responses to these four statements may indicate that a subgroup of the respondents may use the Neutral option as a substantive answer or as a hidden non-response. This may warrant additional probing. However, the 2019 Global Competitiveness Report indicated that

that the quality of vocational training and the skillset of graduates declined according to global standards (Schwab, 2019).

Table 8.25 - Frequency distribution for the independent factor, Human Capital (n=300)

Questionnaire statement	Disagree		Neutral		Agree	
	n	%	n	%	n	%
Businesses employ a high percentage of skilled labour.	127	42,33%	74	24,67%	99	33,00%
Businesses employ a high percentage of unskilled labour.	53	17,67%	78	26,00%	169	56,33%
Skilled labour is expensive.	23	7,67%	60	20,00%	217	72,33%
It is easy to acquire skilled labour.	128	42,67%	103	34,33%	69	23,00%
The youth/graduates have the right skills.	106	35,33%	138	46,00%	56	18,67%
B-BBEE is important.	81	27,00%	78	26,00%	141	47,00%
Skilled labour makes the business environment more competitive.	41	13,67%	48	16,00%	211	70,33%
There is a sufficient supply of top managers with the qualification that businesses require.	106	35,33%	97	32,33%	97	32,33%
There is a sufficient supply of scientists with the qualification businesses require.	94	31,33%	143	47,67%	63	21,00%
There is a sufficient supply of engineers with the qualification businesses require.	95	31,67%	132	44,00%	73	24,33%
There is a sufficient supply of artisans with the qualification businesses require.	99	33,00%	120	40,00%	81	27,00%
Employment equity is important.	93	31,00%	80	26,67%	127	42,33%

8.5   EXPLORATORY FACTOR ANALYSIS

In Chapter Two, it was explained that factor analysis is a multivariate exploratory technique, which helps to examine the correlation between pairs of factors measured on ordinal or continuous variables (Yong & Pearce, 2013; Collis & Hussey, 2014). However, the factor analysis can be performed on categorical or dichotomous variables (Yong & Pearce, 2013). This study uses ordinal variables on a 5-point Likert Scale.

For the purposes of this study, the EFA seeks to explore the relationships among factors and identifies any possible patterns in the factor relationships. Therefore, the EFA aids to summarise data to easily interpret relationships and patterns from the factors (Yong & Pearce, 2013). Furthermore, to determine the relationships between the factors and their significance, this study uses Eigenvalues, Scree Plots and factor loadings.

The number of factors per construct was determined using Eigenvalues greater than 1 as a guideline, while factor loadings of greater than 0.324 were deemed significant for this study's sample size of n = 300. The recommended sample size to undertake an EFA is at least 300

participants to eliminate errors in the data (Comrey & Lee, 1992). At the same time, the recommended items should be at least five to ten. The sample size of this study is n=300 and the number of items per factor, except for the factor *Human Capital* satisfies the minimum requirement to conduct the EFA.

In the following subsections, the Eigenvalues and the percentage variance of each construct that can be explained by a single factor are provided. Scree plot diagrams which graphically demonstrate the Eigenvalues are included. Factor loadings are detailed after the Eigenvalues and scree plots and indicate how much the items contribute to each factor.

8.5.1 Factor Analysis – Entrepreneurial Ecosystems (Dependent factor)

Table 8.26 indicates that for the factor, *Entrepreneurial Ecosystem*, one factor possessed an Eigenvalue of greater than one. This Eigenvalue of 3,528 explains 70.6% of the variance of *Entrepreneurial Ecosystem*. One factor is indicated by the Eigenvalue and one factor is indicated by the Scree Plot in Figure 8.4.

Table 8.26 - Eigenvalues for factors and variances explained for Entrepreneurial Ecosystem

Factor	Eigenvalue	% Total Variance
1	3,528	70,6
2	0,507	10,1
3	0,449	9,0
4	0,316	6,3
5	0,201	4,0
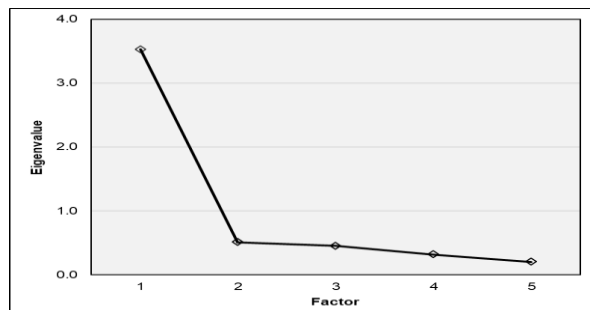
Figure 8.4 - Scree plot of Eigenvalues for Entrepreneurial Ecosystem

Table 8.27 illustrates the final five items loaded for Factor 1. These five items meet the minimum loading of 0.324 to be deemed significant and account for 70.6% of the total variance. Therefore, the five items were retained as part of the main factor, *Entrepreneurial Ecosystem*.

Table 8.27 - Factor loadings for the dependent factor, Entrepreneurial Ecosystem

Item	Factor 1
The EE in NMB works efficiently.	,887
Entrepreneurs are connected with the EE.	,852
NMB has a flourishing EE.	,844
The resources in NMB connect with the entrepreneurs. Resources include economic agencies that have a mandate to promote entrepreneurship.	,836
The EE in NMB encourages foreign direct investment.	,777
Total % of Variance Explained = 70.6%	

8.5.2 Factor Analysis – Entrepreneurial Culture (Independent factor)

Table 8.28 indicates that for the factor, *Entrepreneurial Culture*, one factor possessed an Eigenvalue of greater than one. This Eigenvalue of 3,049 explains 50.8% of the variance in *Entrepreneurial Culture*. This one-factor Eigenvalue is graphically detailed in the Scree plot in Figure 8.5.

Table 8.28 - Eigenvalues for factors and variances explained for Entrepreneurial Culture

Factor	Eigenvalue	% Total Variance
1	3,049	50,8
2	0,808	13,5
3	0,721	12,0
4	0,560	9,3
5	0,493	8,2
6	0,368	6,1
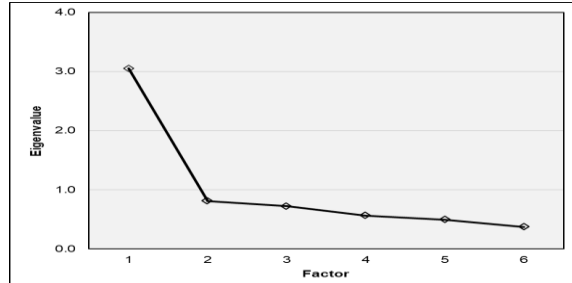
Figure 8.5 - Scree Plot of Eigenvalues for Entrepreneurial Culture

Table 8.29 illustrates the final six items loaded for Factor 1. These six items meet the minimum loading of 0.324 to be deemed significant and account for 50.8% of the total variance. Therefore, the six items are included in the 1-factor model.

Table 8.29 - Factor loadings for independent factor, Entrepreneurial Culture

Item	Factor 1
The community supports entrepreneurship.	,807
Businesses in the city support each other.	,743
The city encourages and supports innovation.	,737
Entrepreneurship is seen as a good career choice.	,717
Successful business owners act as mentors.	,641
The city supports female entrepreneurship.	,615
Total % of Variance Explained = 50.8%	

8.5.3 Factor Analysis – Business Environment (Independent factor)

Table 8.30 indicates that for the factor, *Business Environment*, one factor had an Eigenvalue of greater than one. This Eigenvalue of 3,786 explains 63.1% of the variance in *Business Environment*. This one-factor Eigenvalue is graphically detailed in the Scree plot in Figure 8.6.

Table 8.30 - Eigenvalues for factors and variances explained for Business Environment

Factor	Eigenvalue	% Total Variance
1	3,786	63,1
2	0,710	11,8
3	0,512	8,5
4	0,456	7,6
5	0,362	6,0
6	0,174	2,9
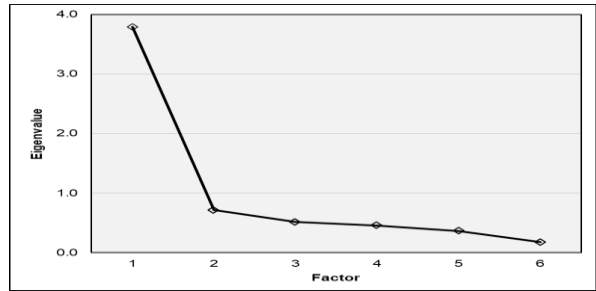
Figure 8.6 - Scree plot of Eigenvalues for Business Environment

Table 8.31 illustrates the final six items loaded for Factor 1. These six items meet the minimum loading of 0.324 to be deemed significant and account for 63.1% of the total variance. Therefore, the six items are included in the 1-factor model.

Table 8.31 - Factor loading for independent factor, Business Environment

Item	Factor 1
Corruption	,860
Bribery	,858
Crime	,797
Professionals that act unethically	,754
Disorder e.g., strikes	,748
Political instability	,741
Total % of Variance Explained = 63.1%	

8.5.4 Factor Analysis – Regulatory Framework (Independent factor)

Table 8.32 indicates that for the factor of *Regulatory Framework*, one factor possessed an Eigenvalue of greater than one. This Eigenvalue of 3,286 explains 46.9% % of the variance in *Regulatory Framework*. This one-factor Eigenvalue is graphically detailed in the Scree plot in Figure 8.7.

Table 8.32 - Eigenvalues for factors and variances explained for Regulatory Framework

Factor	Eigenvalue	% Total Variance
1	3,286	46,9
2	0,952	13,6
3	0,699	10,0
4	0,624	8,9
5	0,586	8,4
6	0,474	6,8
7	0,378	5,4
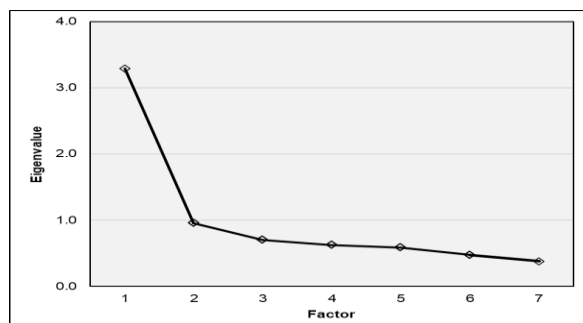
Figure 8.7 - Scree plot of Eigenvalues for Regulatory Framework

Table 8.33 illustrates the final seven items loaded for Factor 1. These seven items meet the minimum loading of 0.324 to be deemed significant and account for 46.9% of the total variance. Therefore, the seven items are included in the 1-factor model.

Table 8.33 - Factor loadings for independent factor, Regulatory Framework

Item	Factor 1
Labour Laws	,749
B-BBEE codes.	,721
Cost of doing business e.g., cost of complying with tax requirements, regulatory burdens, electricity, and fuel costs.	,700
Supply Chain requirements.	,690
Procedure to open a business.	,673
Government-generated red tape.	,627
Dealing with the local municipality.	,627
Total % of Variance Explained = 46.9%	

8.5.5 Factor Analysis – Finance (Independent factor)

Table 8.34 shows that for the factor of *Finance*, a two-factor solution was indicated by the Eigenvalues as it was greater than one. The Scree plot in Figure 8.8 indicated a one-factor solution. The Eigenvalues are 2,444 and 1,089. These two factors explain 34,9% of the variance in *Finance*

Table 8.34 - Eigenvalues for factors and variances explained for Finance

Factor	Eigenvalue	% Total Variance
1	2,444	34,9
2	1,089	15,6
3	0,963	13,8
4	0,808	11,5
5	0,663	9,5
6	0,591	8,4
7	0,442	6,3
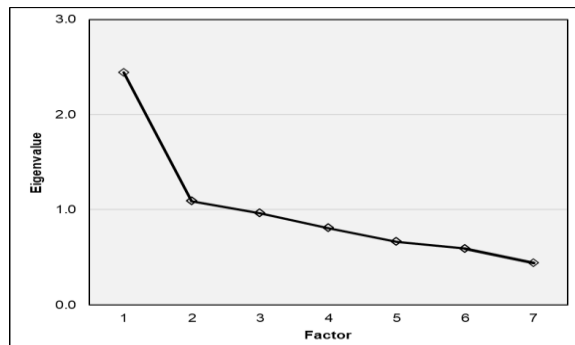
Figure 8.8 - Scree plot of Eigenvalues for Finance

To achieve the most optimal factor model, the EFA loadings for the factor items were evaluated for significance. The minimum loading deemed significant is 0.324. Notably, the item: Access to finance can stimulate entrepreneurial activity was omitted as the item measured the importance of access and not the actual access thereof.

Subsequently, a one-factor model and two-factor model of analysis were performed. The results from the analysis confirmed that a one-factor solution was deemed most appropriate by removing the two items: (1) *entrepreneurs have access to informal finance. e.g., family and*

friends and (2) *financial support from government agencies impacts the success of entrepreneurship*. An overview of the analysis are as follows:

i. **The results from a one-factor model of analysis:** The one-factor model as illustrated in Table 8.35 was deemed most appropriate by removing two items: (1) *entrepreneurs have access to informal finance, e.g., family and friends* and (2) *financial support from government agencies impact the success of entrepreneurship*. The items revealed non-significant loading, which means that the significant loading cut-off was not satisfied.

Table 8.35 - Factor loadings for independent factor, Finance (1-Factor model)

Item	Factor 1
It is easy to access finance as a registered business.	**,782**
It is easy to access finance from venture capitalists, i.e., venture capital is a type of funding (start-up or growth equity from private investors, development finance from specialised financial institutions) for a new or growing business.	**,719**
It is easy to acquire finance from government agencies.	**,702**
The commercial banks are willing to finance Entrepreneurs.	**,660**
Entrepreneurs are aware of government agencies that assist with financing.	**,538**
Entrepreneurs have access to informal finance. e.g., family and friends.	,237
Financial support from government agencies impacts the success of entrepreneurship.	,201
Total % of Variance Explained = 34.9%	

ii. **The results from a two-factor model of analysis:** Non-significant loadings and cross loadings are observed between Factor 1 and Factor 2 for the item: Entrepreneurs are aware of government agencies that assist with financing. Non-significant loadings indicate that the significant loading cut-off was not satisfied. Furthermore, there should be few item cross loadings for each factor to define a cluster of interrelated variables (Yong & Pearce, 2013). Cross loadings occur when an item loads at 0.32 or higher for two or more factors (Costello & Osborne, 2005).

Table 8.36 - Factor loadings for independent factor, Finance (2-Factor model)

Item	Factor 1	Factor 2
It is easy to access finance as a registered business.	**,782**	,048
It is easy to access finance from venture capitalists, i.e., venture capital is a type of funding (start-up or growth equity from private investors, development finance from specialised financial institutions) for a new or growing business.	**,716**	,170
It is easy to acquire finance from government agencies.	**,702**	,024
The commercial banks are willing to finance Entrepreneurs.	**,660**	,038
Entrepreneurs are aware of government agencies that assist with financing.	**,546**	**-,457**
Entrepreneurs have access to informal finance. e.g., family and friends.	,225	**,775**
Financial support from government agencies impacts the success of entrepreneurship.	,209	**-,497**
Explained variance	2.44	1.09
% of Total variance	34.9%	15.6%
Total % of Variance Explained = 50.5%		

iii. **Result**: Table 8.37 indicates that for the factor of *Finance*, one factor possessed an Eigenvalue of greater than one. This one-factor solution is indicated by both the Eigenvalues and Scree Plot in Figure 8.9. The Eigenvalue of 2,384 explains 47,7% of the variance in *Finance*. As explained in the one-factor model of analysis the two items: (1) *entrepreneurs have access to informal finance, e.g., family and friends* and (2) *financial support from government agencies impact the success of entrepreneurship* are omitted. This provides the optimal one-factor model for the factor, *Finance*. Table 8.38 shows the five items loaded for Factor 1. These items meet the minimum loading of .324 (n = 300) to be deemed significant and account for 47,7% of the total variance. The five items are included in the final 1-factor model for *Finance*.

Table 8.37 - Eigenvalues for factors and variances for Finance (final one-factor model)

Factor	Eigenvalue	% Total Variance
1	2,384	47,7
2	0,852	17,0
3	0,680	13,6
4	0,625	12,5
5	0,459	9,2
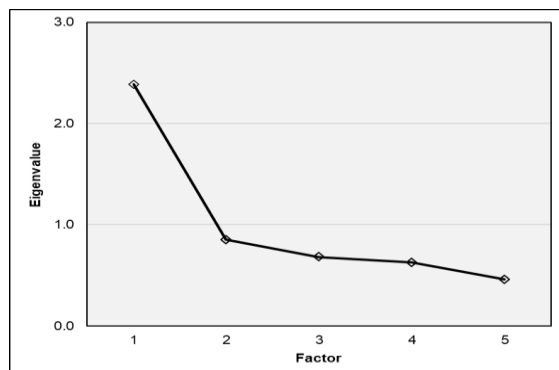
Figure 8.9 - Scree plot of Eigenvalues for Finance

Table 8.38 - Factor loading for independent factor, Finance (final)

Item	Factor 1
It is easy to access finance as a registered business.	,797
It is easy to access finance from venture capitalists, i.e., venture capital is a type of funding (start-up or growth equity from private investors, development finance from specialised financial institutions) for a new or growing business.	,710
It is easy to acquire finance from government agencies.	,706
The commercial banks are willing to finance Entrepreneurs.	,662
Entrepreneurs are aware of government agencies that assist with financing.	,555
Total % of Variance Explained = 47.7%	

8.5.6 Factor Analysis – City Planning (Independent factor)

Table 8.39 indicates that for the factor of *City Planning*, one factor had an Eigenvalue of greater than one. This Eigenvalue of 3,538 explains 70.8% of the variance in *City Planning*. This one-factor Eigenvalue is graphically detailed in the Scree plot in Figure 8.10.

Table 8.39 - Eigenvalues for factors and variances explained for City Planning

Factor	Eigenvalue	% Total Variance
1	3,538	70,8
2	0,633	12,7
3	0,343	6,9
4	0,278	5,6
5	0,208	4,2
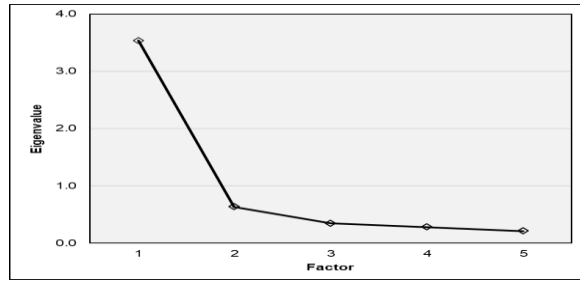
Figure 8.10 - Scree plot of Eigenvalues for City Planning

Table 8.40 illustrates the five items loaded for Factor 1. These five items meet the minimum loading of 0.324 to be deemed significant and account for 70.8% of the total variance. Therefore, the five items are included in the 1-factor model.

Table 8.40 - Factor loadings for independent factor, City Planning

Item	Factor 1
The current city spatial development has improved the socio-economic conditions of the residents.	,866
The physical infrastructure of the city is efficient. e.g., information and communication, utilities, roads, land, electricity, water and sewerage, transport, or space.	,859
The service infrastructure of the city is efficient.	,855
The city infrastructure makes it easy to conduct business.	,849
NMB is inclusive, resource efficient and a good place to live, work, shop and play in.	,772
Total % of Variance Explained = 70.8%	

8.5.7   Factor Analysis – Business Support Services (Independent factor)

Table 8.41 indicates that for the factor of *Business Support Services*, one factor had an Eigenvalue of greater than one. This Eigenvalue of 2,812 explains 56.2% of the variance in *Business Support Services*. This one-factor Eigenvalue is graphically detailed in the Scree plot in Figure 8.11.

Table 8.41 - Eigenvalues for factors and variances explained for Business Support Services

Factor	Eigenvalue	% Total Variance
1	2,812	56,2
2	0,835	16,7
3	0,603	12,1
4	0,440	8,8
5	0,311	6,2
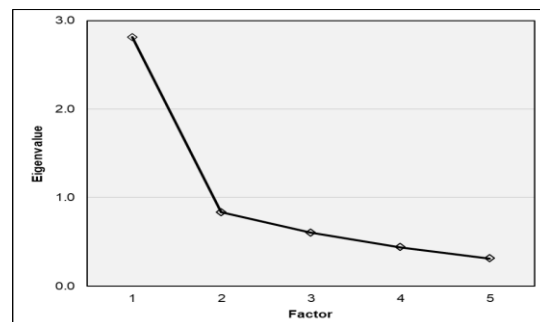
Figure 8.11 - Scree plot of Eigenvalues for Business Support Services

201

Table 8.42 illustrates the five items loaded for Factor 1. These five items meet the minimum loading of 0.324 to be deemed significant and account for 56.2% of the total variance. Therefore, the five items are included in the 1-factor model.

Table 8.42 - Factor loadings for independent factor, Business Support Services

Item	Factor 1
It is easy to access tax services in NMB.	,775
It is easy to access legal services in NMB.	,765
It is easy to access competent business consultants in NMB.	,763
It is easy to access Incubators in NMB.	,738
It is easy to access Education & Training programs in NMB.	,707
Total % of Variance Explained = 56.2%	

8.5.8 Factor Analysis – Entrepreneurial Intention (Independent factor)

Table 8.43 indicates that for the factor of Entrepreneurial Intention, one factor had an Eigenvalue of greater than one. This Eigenvalue of 3,074 explains 61.5% of the variance in Entrepreneurial Intention. This one-factor Eigenvalue is graphically detailed in the Scree plot in Figure 8.12.

Table 8.43 - Eigenvalues for factors and variances explained for Entrepreneurial Intention

Factor	Eigenvalue	% Total Variance
1	3,074	61,5
2	0,764	15,3
3	0,564	11,3
4	0,357	7,1
5	0,241	4,8
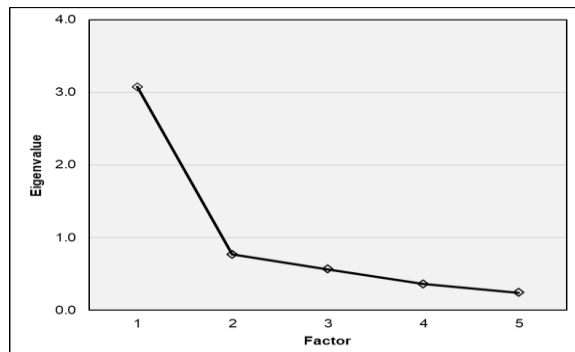
Figure 8.12 - Scree plot of Eigenvalues for Entrepreneurial Intention

Table 8.44 illustrates the five items loaded for Factor 1. These five items meet the minimum loading of 0.324 to be deemed significant and account for 61.5% of the total variance. Therefore, the five items are included in the 1-factor model.

Table 8.44 - Factor loadings for independent factor, Entrepreneurial Intention

Item	Factor 1
The intention to develop business ideas exists.	,880
There is intention to start a business.	,852
Enthusiasm towards entrepreneurship exists.	,814
There is intention to take over a family business.	,711
Individuals are willing to take risks.	,636
Total % of Variance Explained = 61.5%	

8.5.9   Factor Analysis – Human Capital (Independent factor)

Table 8.45 shows that for the factor of *Human Capital*, a four-factor model was indicated by the Eigenvalues as it was greater than one. The Scree plot in Figure 8.13 indicated a two-factor solution. The Eigenvalues are 2,649; 1,666; 1,204 and 1,092. These four factors explain 26,5% of the variance in *Human Capital*.

Table 8.45 - Eigenvalues for factors and variances explained for Human Capital

Factor	Eigenvalue	% Total Variance
1	2,649	26,5
2	1,666	16,7
3	1,204	12,0
4	1,092	10,9
5	0,867	8,7
6	0,764	7,6
7	0,612	6,1
8	0,420	4,2
9	0,411	4,1
10	0,314	3,1
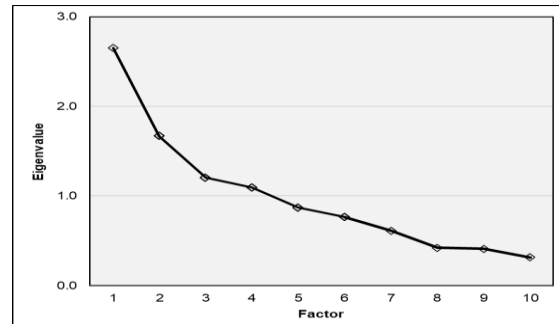
Figure 8.13 - Scree plot for the independent factor, Human Capital

To achieve the most optimal factor model, the EFA loadings for the factor items were evaluated for significance. The minimum loading deemed significant is 0.324. Therefore, a one-factor model (Table 8.46), two-factor (Table 8.47), three-factor (Table 8.48) and four-factor model (Table 8.49) of analysis were performed. The results from the analysis confirmed that a one-factor solution was deemed most appropriate by removing the three items: (1) businesses employ a high percentage of unskilled labour (2) skilled labour is expensive (3) skilled labour makes the business environment more competitive.

i.   **The results from a one-factor model of analysis:** The one-factor model was deemed most appropriate by removing three items: (1) Businesses employ a high percentage of unskilled labour (2) Skilled labour is expensive (3) Skilled labour makes the business environment more competitive. The items revealed non-significant loadings, which mean that the significant loading cut-off was not satisfied.

Table 8.46 - Factor loadings for independent factor, Human Capital

Item	Factor 1
There is a sufficient supply of scientists with the qualification's businesses require.	-,787
There is a sufficient supply of engineers with the qualification's businesses require.	-,784
There is a sufficient supply of artisans with the qualification's businesses require.	-,776
The youth/graduates have the right skills.	-,545
It is easy to acquire skilled labour.	-,462
Businesses employ a high percentage of skilled labour.	-,377

There is a sufficient supply of top managers with the qualifications that businesses require.	**-,366**
Skilled labour is expensive.	,148
Businesses employ a high percentage of unskilled labour.	,064
Skilled labour makes the business environment more competitive.	-,021
Total % of Variance Explained = 26.5%	

ii.   The results from a two-factor model of analysis: Non-significant loadings were observed between Factor 1 and Factor 2, which means that the significant loading cut-off was not satisfied.

Table 8.47 - Factor loadings for independent factor, Human Capital (2-factor model)

Item	Factor 1	Factor 2
There is a sufficient supply of scientists with the qualification's businesses require.	**,813**	,005
There is a sufficient supply of artisans with the qualification's businesses require.	**,791**	,043
There is a sufficient supply of engineers with the qualification's businesses require.	**,790**	,077
It is easy to acquire skilled labour.	**,517**	-,144
The youth/graduates have the right skills.	**,492**	,274
Skilled labour is expensive.	-,180	,101
Businesses employ a high percentage of skilled labour.	,167	**,837**
Businesses employ a high percentage of unskilled labour.	,125	**-,722**
Skilled labour makes the business environment more competitive.	-,109	**,493**
There is a sufficient supply of top managers with the qualifications that businesses require	,274	**,392**
Explained variance	2.58	1.73
% of Total variance	25.8%	17.3%
Total % of Variance Explained = 43.2%		

iii.   The results from the three-factor model of analysis: Non-significant loadings are observed. Non-significant loadings indicate that the significant loading cut-off was not satisfied. Furthermore, cross loadings are observed between Factor 1 and Factor 2 for the item: *the youth/graduates have the right skills*. Cross loadings occur when an item loads at 0.32 or higher for two or more factors (Costello & Osborne, 2005). There should be few item cross loadings for each factor to define a cluster of interrelated variables (Yong & Pearce, 2013).

Table 8.48 - Factor loadings for independent factor, Human Capital (3-factor model)

Item	Factor 1	Factor 2	Factor 3
There is a sufficient supply of engineers with the qualification's businesses require.	**,819**	,044	,075
There is a sufficient supply of artisans with the qualification's businesses require.	**,811**	,022	,030
There is a sufficient supply of scientists with the qualification's businesses require.	**,806**	,021	-,117

It is easy to acquire skilled labour.	**,493**	-,107	-,189
The youth/graduates have the right skills.	**,434**	**,351**	-,286
Businesses employ a high percentage of skilled labour.	,173	**,822**	,154
Businesses employ a high percentage of unskilled labour.	,178	**-,783**	,124
There is a sufficient supply of top managers with the qualifications that businesses require	,264	**,403**	-,011
Skilled labour is expensive.	-,023	-,110	**,806**
Skilled labour makes the business environment more competitive.	,006	**,334**	**,662**
Explained variance	2.54	1.71	1.27
% of Total variance	25.4%	17.1%	12.7%
Total % of Variance Explained = 55.2%			

iv. **The results from a four-factor model of analysis** Non-significant loadings were observed between Factor 1, Factor 2, Factor 3 and Factor 4, which means that the significant loading cut-off was not satisfied.

Table 8.49 - Factor loadings for independent factor, Human Capital (4-factor model)

Item	Factor 1	Factor 2	Factor 3	Factor 4
There is a sufficient supply of engineers with the qualification's businesses require.	**,881**	,047	,049	-,001
There is a sufficient supply of artisans with the qualification's businesses require.	**,855**	,016	,007	,039
There is a sufficient supply of scientists with the qualification's businesses require.	**,774**	-,030	-,119	,232
The youth/graduates have the right skills.	**,390**	,305	-,265	,280
Businesses employ a high percentage of unskilled labour.	,056	**-,854**	,118	,147
Businesses employ a high percentage of skilled labour.	,142	**,762**	,197	,306
Skilled labour is expensive.	-,019	-,137	**,803**	-,057
Skilled labour makes the business environment more competitive.	,001	,291	**,680**	,082
There is a sufficient supply of top managers with the qualifications that businesses require.	,006	,205	,071	**,799**
It is easy to acquire skilled labour.	,250	-,282	-,137	**,684**
Explained variance	2.34	1.63	1.27	1.36
% of Total variance	23.4%	16.3%	12.7%	13.6%
Total % of Variance Explained = 66.1%				

The EFA results confirmed the omission of the following items: (1) *businesses employ a high percentage of unskilled labour*, (2) *skilled labour is expensive* and (3) *skilled labour makes the business environment more competitive*. Similarly, two items: (1) *B-BBEE is important* and (2) *employment equity is important* were moved from the initial factor, *Human Capital* into the factor: *Human Capital to Employment Equity*. Table 8.50 details the notes from the NMU statistician, Dr Danie Venter regarding the initial factors, final factors and the corresponding

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items. Notably, the final factor of *Human Capital* was split into *Human Capital to Skilled Labour* and *Human Capital to Employment Equity*.

Table 8.50 - Statistician's note from the factor analysis performed for Human Capital

Factors Initial	Factors Final	Items	Notes
Human Capital	Human Capital - Skilled Labour	Businesses employ a high percentage of skilled labour.	
Human Capital		Businesses employ a high percentage of unskilled labour.	Omitted in accordance with EFA results
Human Capital		Skilled labour is expensive.	Omitted in accordance with EFA results
Human Capital	Human Capital - Skilled Labour	It is easy to acquire skilled labour.	
Human Capital	Human Capital - Skilled Labour	The youth/graduates have the right skills.	
Human Capital	Human Capital - Employment Equity	B-BBEE is important.	Other HC items, except HC12, is about skilled labour
Human Capital		Skilled labour makes the business environment more competitive.	Omitted in accordance with EFA results
Human Capital	Human Capital - Skilled Labour	There is a sufficient supply of top managers with the qualifications that businesses require	
Human Capital	Human Capital - Skilled Labour	There is a sufficient supply of scientists with the qualification's businesses require.	
Human Capital	Human Capital - Skilled Labour	There is a sufficient supply of engineers with the qualification's businesses require.	
Human Capital	Human Capital - Skilled Labour	There is a sufficient supply of artisans with the qualification's businesses require.	
Human Capital	Human Capital - Employment Equity	Employment equity is important	Other HC items, except HC12, is about skilled labour

v. **Result for Human Capital - Skilled Labour:** Table 8.51 indicates that for the new factor of *Human Capital - Skilled Labour*, a two-factor solution was indicated by the Eigenvalues as it was greater than one. The Scree plot in Figure 8.14 indicated a one-factor solution. The Eigenvalues are 2,633 and 1,228 and explains 37,6% of the variance in *Human Capital - Skilled Labour*. The analysis indicated that a one-factor solution was deemed most appropriate by omitting three items: (1) *businesses employ a high percentage of unskilled labour* (2) *skilled labour is expensive* and (3) *skilled labour makes the business environment more competitive*. This provides the optimal one-factor model for the factor, *Human Capital - Skilled Labour*. Table 8.52 shows the seven items loaded for Factor 1. These items meet the minimum loading of .324 (n =

300) to be deemed significant and account for 37,6% of the total variance. The seven items are included in the final 1-factor model for *Human Capital - Skilled Labour.*

Table 8.51 - Eigenvalues for factors and variances explained for Human Capital (final)

Factor	Eigenvalue	% Total Variance
1	2,633	37,6
2	1,228	17,5
3	0,943	13,5
4	0,769	11,0
5	0,662	9,5
6	0,441	6,3
7	0,323	4,6
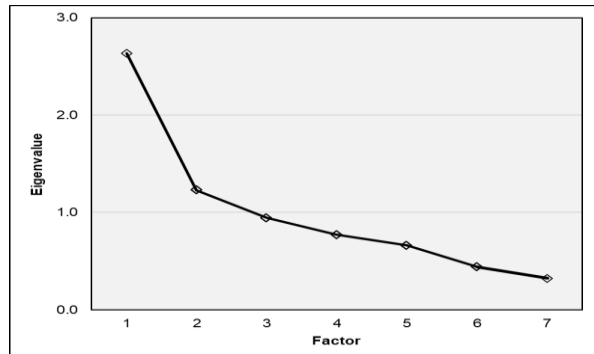
Figure 8.14 - Scree plot of Eigenvalues for Human Capital - Skilled Labour

Table 8.52 - Factor loadings for independent factor, Human Capital (final)

Item	Factor 1
There is a sufficient supply of scientists with the qualification's businesses require.	,795
There is a sufficient supply of engineers with the qualification's businesses require.	,789
There is a sufficient supply of artisans with the qualification's businesses require.	,781
The youth/graduates have the right skills.	,536
It is easy to acquire skilled labour.	,464
There is a sufficient supply of top managers with the qualifications that businesses require	,365
Businesses employ a high percentage of skilled labour.	,364
Total % of Variance Explained = 37.6%	

vi. **Result for *Human Capital - Employment Equity*:** Table 8.53 indicates that for the factor of *Human Capital to Employment*, a one-factor solution was indicated by the Eigenvalues as it was greater than one. A Scree plot is not applicable if number of items equals two. The Eigenvalue of 1,183 explains 59,2% of the variance in *Human Capital - Employment Equity*. Table 8.54 shows the two items loaded for Factor 1. These items meet the minimum loading of .324 (n = 300) to be deemed significant and account for 59,2% of the total variance. The two items are included in the final 1-factor model for *Human Capital - Employment Equity.*

Table 8.53 - Eigenvalues for factors and variances explained for Human Capital to Employment Equity

Factor	Eigenvalue	% Total Variance
1	1,183	59,2
2	0,817	40,8

Table 8.54 - Factor loadings for independent factor, Human Capital to Employment Equity

Item	Factor 1
B-BBEE is important.	,769
Employment equity is important	,769
Total % of Variance Explained = 59.2%	

8.5.10 Reliability – Cronbach Alpha Coefficient Analysis

The *Cronbach Alpha* coefficient (α) was used to measure the reliability of the measuring instrument. The coefficient ranges for 0 to 1, where 0 indicates no reliability and 1 is completely reliable. Reliability were determined based on the interval guides from seminal authors, such as Nunnally (1978) and Zikmund, Babin, Carr and Griffin (2012). Nunnally (1978) contends that a minimum of 0.7 offers good reliability. Fair reliability, according to Zikmund et al. (2012) is achieved at 0.6. The interpretation intervals for the Cronbach Alpha coefficient are detailed in Table 8.55.

Table 8.55 - Interpretation intervals for Cronbach Alpha Coefficient

Cronbach Alpha coefficient (α)	Interpretation
0.80 +	Excellent
0.70 - 0.79	Good
0.60 - 0.69	Fair
0.50 - 0.59	Poor
< 0.50	Unacceptable

Table 8.56 details the Cronbach Alpha coefficients for all ten of the factors. The ten factors were measured for reliability. The coefficients of eight factors were above (>) 0.70 indicating good reliability of the measuring instrument. The factor, *Human Capital to Skilled Labour* had a coefficient of α = 0.69, which is interpreted as fair reliability. The statistician, Dr Danie Venter indicated that the factor, *Human Capital to Employment Equity,* which had a coefficient of α = 0.31 did not lack reliability as the items for the factor related to the factor *Entrepreneurial Ecosystem.* Therefore, the factors measured in the quantitative survey meet the conditions of Zikmund et al. (2009) and Nunnally (1978) for fair to excellent reliability.

Table 8.56 - Cronbach Alpha coefficients for all factors

Factor	*Cronbach Alpha* coefficient (α)	Interpretation
Entrepreneurial Ecosystem	0,90	Excellent
Entrepreneurial Culture	0,79	Good
Business Environment (Obstacles)	0,88	Excellent
Regulatory Framework (Obstacles)	0,81	Excellent
Finance	0,72	Good
City Planning	0,90	Excellent
Business Support Services	0,80	Excellent
Entrepreneurial Intention	0,84	Excellent
Human Capital - Skilled Labour	0,69	Fair
Human Capital - Employment Equity	0,31	Unacceptable

8.6 DESCRIPTIVE STATISTICS FOR THE FACTORS

The following subsections present the data using the average frequency of responses to the Likert scale responses per factor. This is followed by a description of the data through the measure of central tendency and measure of spread. The measure of central tendency is a method that describes the central position of the data within a frequency distribution. The measure of central tendency is done by calculating the mode, median and mean values. The measure of spread describes the data through the range (minimum and maximum values), upper and lower quartiles (Quartile 1 and Quartile 3) and standard deviation (S.D.).

8.6.1 Frequency Distribution of the Factors

The frequency distribution of the factors is represented in Table 8.57. The average scores from the respondents are categorised according to the 5-point Likert scale. The categories are indicated as Negative (1.00 to 2.59), Neutral (2.60 to 3.40) and Positive (3.41 to 5.00).

Table 8.57 - Frequency distribution of factors (n=300)

	Negative 1.00 to 2.59		Neutral 2.60 to 3.40		Positive 3.41 to 5.00	
Entrepreneurial Ecosystem	95	31,67%	116	38,67%	89	29,67%
Entrepreneurial Culture	60	20,00%	78	26,00%	162	54,00%
Business Environment Obstacles	226	75,33%	46	15,33%	28	9,33%
Regulatory Framework Obstacles	130	43,33%	103	34,33%	67	22,33%
Finance	136	45,33%	145	48,33%	19	6,33%
City Planning	121	40,33%	100	33,33%	79	26,33%
Business Support Services	58	19,33%	157	52,33%	85	28,33%
Entrepreneurial Intention	30	10,00%	85	28,33%	185	61,67%
Human Capital - Skilled Labour	92	30,67%	161	53,67%	47	15,67%
Human Capital - Employment Equity	91	30,33%	68	22,67%	141	47,00%

Table 8.57 indicates divergent responses for all the factors except for *Entrepreneurial Culture, Business Environment, Business Support Services, Entrepreneurial Intention and Human Capital to Skilled Labour*. Thus, the data of the balance of the factors is reflective of a bimodal distribution (Wegner, 2012). Samples with a uniform or bimodal distribution may represent a normal distribution if the sample is at least five or more. This is because of the Central Limit Theory. The Central Limit Theory states that the distribution of a sample is approximately normally distributed as the sample increases regardless of the distribution shape (Ganti, 2021). The predominant perceptions from this distribution revealed where the higher concentration lies and is as follows:

i.   From a sample of 300 respondents, more individuals had a Negative perception of the *Business Environment* (75%), *Regulatory Framework* (43%) and *City Planning* (49%);

ii. From a sample of 300 respondents, more individuals had a Positive perception of the *Entrepreneurial Culture* (54%), *Entrepreneurial Intention* (62%) and *Human Capital to Employment Equity* (47%); and

iii. From a sample of 300 respondents, more individuals had a Neutral perception of the *Entrepreneurial Ecosystem* (39%), *Finance* (48%), *Business Support Services* (52%) and *Human Capital to Skilled Labour* (54%).

8.6.2 Central Tendency and Dispersion of Factors

This subsection details the central tendency and dispersion of the set of factors. Central tendency is indicated by the mean and median values. Dispersion is indicated through the standard deviation, range using the minimum and maximum values and the upper (Quartile 3) and lower (Quartile 1) quartile values.

Table 8.58 - Central Tendency and Dispersion of Factors

Factors (n=300)	Mean μ	S.D. σ	Minimum	Quartile 1	Median (me)	Quartile 3	Maximum
Entrepreneurial Ecosystem	2,92	0,84	1,00	2,20	3,00	3,60	5,00
Entrepreneurial Culture	3,29	0,71	1,00	2,86	3,43	3,86	5,00
Business Environment	2,08	0,85	1,00	1,33	2,00	2,50	5,00
Regulatory Framework	2,72	0,77	1,00	2,14	2,71	3,29	4,71
Finance	2,56	0,69	1,00	2,00	2,60	3,00	5,00
City Planning	2,74	0,91	1,00	2,00	2,80	3,60	4,80
Business Support Services	3,06	0,76	1,00	2,60	3,20	3,60	5,00
Entrepreneurial Intention	3,54	0,72	1,00	3,20	3,60	4,00	5,00
Human Capital - Skilled Labour	2,86	0,58	1,00	2,57	2,86	3,14	4,43
Human Capital - Employment Equity	3,19	0,92	1,00	2,50	3,00	4,00	5,00

Section 8.6.1 categorised the scores into Negative (1.00 to 2.59), Neutral (2.60 to 3.40) and Positive (3.41 to 5.00). This categorisation is applied to the measures of central tendency (mean and median values) as indicated in Table 8.58. The values provided in Table 8.58 are interpreted as follows:

i. The responses from the sample (n=300) indicate that two factors obtained a Negative mean score. These factors include: *Business Environment* (μ = 2.08, σ = 0.85, me = 2.00) and *Finance* (μ = 2.56, σ = 0.69, me = 2.60);

ii. The responses from the sample (n=300) indicate that seven factors obtained a Neutral mean score. These factors include: *Entrepreneurial Ecosystem* (μ = 2.92, σ = 0.84, me = 3.00), *Entrepreneurial Culture* (μ = 3.29, σ = 0.71, me = 3.43), *Regulatory Framework* (μ = 2.72, σ = 0.77, me = 2.71), *City Planning* (μ = 2.74, σ = 0.91, me =

2.80), *Business Support Services* (μ = 3.06, σ = 0.76, me = 3.20), *Human Capital to Skilled Labour* (μ = 2.86, σ = 0.58, me = 2.86) and *Human Capital to Employment Equity* (μ = 3.19, σ = 0.92, me = 3.00); and

iii.   The responses from the sample (n=300) indicate that one factor obtained a Positive mean score. This factor is *Entrepreneurial Intention* (μ = 3.54, σ = 0.72, me = 3.60).

The standard deviation for six factors: *Business Environment (σ = 0.85), Regulatory Framework* (σ = 0.77), *City Planning* (σ = 0.91) and *Human Capital to Employment Equity* (σ = 0.92) indicate that these factors are approximately two standard deviations from the mean value. This reveals that the data from the respondents (n=300) to the set of factors are spread out but align to the common distribution of data sets. The common distribution of a data set is that 95% of values of the observations from a data set are within two standard deviations of the mean value (Wegner, 2012; Collis & Hussey, 2014).

Four of the factors observed a relatively smaller distribution (one standard deviation from the mean value) as indicated by their standard deviation. These four factors include: *Entrepreneurial Culture (σ = 0.71), Finance (σ = 0.69), Entrepreneurial Intention (σ = 0.72)* and *Human Capital to Skilled Labour (σ = 0.58)*. These four factors are approximately (estimated at 68%) within one standard deviation of the mean.

8.7 INFERENTIAL STATISTICS FOR THE FACTORS

Inferential statistics were conducted to make (1) generalisations about the population, (2) for comparison, testing and prediction and (3) to make conclusions about the population.

8.7.1 One-Sample T-tests

A one-sample t-test was performed to determine whether the population mean score of the factors for the sample, n=300 is positive, negative or neutral. Therefore, the one-sample t-test measured whether the null hypothesis would be accepted or rejected (Kiebel, Kherif & Holmes, 2007). In order to provide both statistical and substantive results the *p*-value and effect size (Cohen's d) were determined.

The *p*-value measured the probability that an observed difference from the sample occurred by chance (Beers, 2020). Therefore, the *p*-value does not indicate the practical significance of the findings. P-values lie between a continuum of 0 and 1 and are used in research as a threshold to determine statistical significance. By establishing the *p*-value the researcher can make a claim to either accept or reject the null hypothesis.

Table 8.59 details the interpretation of the *p*-value where a low *p*-value of ≤ 0.05 indicates strong evidence in favour of the alternative hypothesis. A high *p*-value of ≥ 0.05 indicates weak evidence to reject the null hypothesis, which indicates that the difference from the sample did occur by chance and no statistical significance exists. It is important to note that the *p*-value does not reveal the size of the effect. Therefore, reporting and interpreting both the practical significance (effect size) and statistical significance (*p*-value) are important.

Table 8.59 - Interpretation of the p-value

Interpretation for the p-value		
≤ 0.05	Low p-value	Reject the null hypothesis, in favour of the alternate hypothesis
≥ 0.05	Large p-value	Accept the null hypothesis and reject the alternative hypothesis.

The *p*-values evaluated whether statistically significant relationships existed between the independent factors and the dependent factor, *Entrepreneurial Ecosystem*. The *p*-values established whether the null hypothesis may be accepted or rejected and are illustrated in Table 8.60.

Table 8.60 - Results from the hypothesis test

Hypothesis	**p-value**	**Accept/Reject**
H₁: There is a relationship between *Entrepreneurial Culture* and the *Entrepreneurial Ecosystem*	≥ 0.005	Accept the null hypothesis and reject the alternative hypothesis.
H₂: There is a relationship between *Business Environment Obstacle*s and the *Entrepreneurial Ecosystem*	<.0005	Reject the null hypothesis and accept the alternative hypothesis
H₃: There is a relationship between *Regulatory Framework Obstacles* and the *Entrepreneurial Ecosystem*	≥ 0.005	Accept the null hypothesis and reject the alternative hypothesis.
H₄: There is a relationship between *Finance* and the *Entrepreneurial Ecosystem*	≥ 0.005	Accept the null hypothesis and reject the alternative hypothesis.
H₅: There is a relationship between *City Planning* and the *Entrepreneurial Ecosystem*	≥ 0.005	Accept the null hypothesis and reject the alternative hypothesis.
H₆: There is a relationship between *Business Support Services* and the *Entrepreneurial Ecosystem*	<.0005	Reject the null hypothesis and accept the alternative hypothesis
H₇: There is a relationship between *Entrepreneurial Intention* and the *Entrepreneurial Ecosystem*	≥ 0.005	Accept the null hypothesis and reject the alternative hypothesis.
H₈: There is a relationship between *Human Capital - Skilled Labour* and the *Entrepreneurial Ecosystem*	<.0005	Reject the null hypothesis and accept the alternative hypothesis
H₉: There is a relationship between *Human Capital - Employment Equity* and the *Entrepreneurial Ecosystem*	<.0005	Reject the null hypothesis and accept the alternative hypothesis

Thereafter, the effect size from the sample (n=300) was performed through the Cohen's d. The Cohen's d explains practical significance (effect size) for a one-sample t-test and denotes the magnitude of the differences between two or more groups for each factor (Gravetter & Wallnau, 2009). The interpretation intervals for Cohen's d are illustrated in Table 8.61.

Table 8.61 - Interpretation intervals for Cohen's d (Gravetter & Wallnau, 2009, p. 253)

Cohen's d	Interpretation
<0.20	Not significant
0.20 – 0.49	Small
0.50 - 0.79	Medium
0.80+	Large

Table 8.62 includes the results of the One-sample t-tests. The table shows the mean values, degrees of freedom (d.f.) where d.f = 299, the t-value and *p*-value, the effect size using the Cohen's d threshold. Thereafter, a brief interpretation of the factors is provided.

Table 8.62 - One-sample t-tests: Factors

Factors	Descriptive Statistics		One-Sample t-Test Classification			
	n	Mean	d.f.	t-value	Cohen's d	Category
	S.D.		H₁	p-value		
Entrepreneurial Intention	300	3,54	299	3,43	**0,20** **Small**	Positive
	0,72		m≠ 3.40	,001		
Entrepreneurial Culture	300	3,29	299	-2,80	0,16 Not significant	Inconclusive##
	0,71		m≠ 3.40	,005		
Human Capital - Employment Equity	300	3,19	299	-3,98	**0,23** **Small**	Neutral
	0,92		m≠ 3.40	**<.0005**		
Business Support Services	300	3,06	299	-7,79	**0,45** **Small**	Neutral
	0,76		m≠ 3.40	**<.0005**		
Entrepreneurial Ecosystem	300	2,92	299	6,56	**0,38** **Small**	Neutral
	0,84		m≠ 2.60	**<.0005**		
Human Capital - Skilled Labour	300	2,86	299	7,79	**0,45** **Small**	Neutral
	0,58		m≠ 2.60	**<.0005**		
City Planning	300	2,74	299	2,69	0,16 Not significant	Inconclusive#
	0,91		m≠ 2.60	,008		
Regulatory Framework Obstacles	300	2,72	299	2,58	0,15 Not significant	Inconclusive#
	0,77		m≠ 2.60	,010		
Finance	300	2,56	299	-0,91	n/a	Inconclusive#
	0,69		m≠ 2.60	,366		
Business Environment Obstacles	300	2,08	299	-10,67	**0,62** **Medium**	Negative
	0,85		m≠ 2.60	**<.0005**		

Inconclusive##, either Positive or Neutral

Inconclusive#, either Neutral or Negative

The practical significance (effect size), statistical significance (*p*-value) and Cohen's d from the one-sample t-test are as follows:

   i. **Factors with a positive mean score and small practical significance** - *Human Capital-Employment Equity* (μ = 3,19; p < 0.0005; d = 0.23), *Business Support Services*

(μ = 3,06; d = 0.45; p < 0.0005), *Entrepreneurial Ecosystem* (μ = 2.92; d = 0.38; p < 0.0005), *Human Capital - Skilled Labour* (μ = 2,86; p < 0.0005; d = 0.45);

ii. **Factors with a positive mean score and medium practical significance** – *Business Environment Obstacles* (μ = 2,08; p < 0.0005; d = 0.62);

iii. **Factors with a positive mean score, no statistical significance (p>0.0005) and small practical significance** – *Entrepreneurial Intention* (μ = 3.54; p > 0.0005; d = 0.20); and

iv. **Factors with inconclusive results, denoted as Inconclusive[##] and Inconclusive[#] -** *Entrepreneurial Culture* (μ = 3,29; p > 0.0005; d = 0.16) was reported as inconclusive with either a positive or neutral mean score. *City Planning* (μ = 2,74; p > 0.0005; d = 0.15) and *Regulatory Framework Obstacles* (μ = 2,72; p > 0.0005; d = 0.15) was reported as inconclusive with either a neutral or negative mean score.

The results from the one-sample t-test indicate that for this sample (n=300), the factors influencing the Entrepreneurial Ecosystem are *Human Capital-Employment Equity, Business Support Services, Human Capital - Skilled Labour, Business Environment and Entrepreneurial Intention*. The researcher includes *Entrepreneurial Intention* as the *p*-value serves to highlight probability or chance, whereas effect sizes indicate the magnitude of differences. The results for the one sample t-tests indicated which factors are statistically (*p*-value) and practically significant (Cohen's d).

8.7.2   Correlations between the factors

In order determine the relationship between the set of factors, a Pearson's Product Moment Correlation analysis was performed. The Pearson's Product Moment Correlation (denoted by *r*) measures the strength of a linear association between two variables (Laerd Statistics, 2020). This correlation reveals how close or far away two variables in a line best fit between the data points. For this analysis, a correlation coefficient *r* is statistically significant at the 0.05 level for n = 300 if |r| >= .113 and practically significant, regardless of the sample size, if |r| >= .300. Thus significant (both statistically and practically) if |r| >= .300 (Gravetter & Wallnau, 2009, p. 534). The interpretation intervals for the correlation coefficient are illustrated in Table 8.63.

Table 8.63 - Interpretation intervals for the correlation coefficient

Correlation coefficient	Interpretation
+1.00	Perfect positive linear association
+0.90 to +0.99	Very high positive correlation
+0.70 to +0.89	High positive correlation
+0.40 to +0.69	Medium positive correlation
+0.01 to +0.39	Low positive correlation
0	No linear association
-0.01 to -0.39	Low negative correlation
-0.40 to -0.69	Medium negative correlation
-0.70 to -0.89	High negative correlation
-0.90 to -0.99	Very high negative correlation
-1.00	Perfect negative linear association

In Table 8.64, the correlations between the factors that indicate statistical and practical significance, where $|r| >= .300$ are represented in **bold red** and correlations between factors that are statistically, but not practically significant where $|r| >= .113$ are represented in **bold black**. Therefore, the Pearson coefficients assist to identify whether statistical and or practical significance exists between the identified factors. For example, as the *Entrepreneurial Culture* improves it may be expected that the *Entrepreneurial Ecosystem* improves.

The correlation coefficients in Table 8.64 indicate that all the predictor variables (*EE* to *HCEE*) have positive correlations with the outcome variables (*EE* to *HCEE*). The majority of the factors indicated a **low positive correlation** (+0.01 to +0.39) with each other, followed by **medium positive correlations** (+0.40 to +0.69).

The broad definition of entrepreneurial ecosystems is that of an organised set of interdependent factors that enable productive entrepreneurship within a specific spatial location (Isenberg, 2011; Mason & Brown, 2014; Stam, 2015; Acs et al., 2017; Brown & Mason, 2017; Shwetzer et al., 2019; Stam & van de Ven, 2019). These correlations provide an empirical test of the proposition that the entrepreneurial ecosystem factors are interdependent (Stam & van de Ven, 2019).

Table 8.64 - Pearson Product Moment Correlations - Entrepreneurial Ecosystem to Human Capital - Employment Equity (n = 300)

	EE	CUL	BEO	RFO	FIN	CP	BSS	EI	HCSL	HCEE
Entrepreneurial Ecosystem (EE)	-	,663	,538	,552	,487	,642	,446	,382	,231	,360
Entrepreneurial Culture (CUL)	,663	-	,370	,478	,471	,533	,364	,513	,245	,239
Business Environment Obstacles (BEO)	,538	,370	-	,536	,400	,564	,256	,222	,116	,360
Regulatory Framework Obstacles (RFO)	,552	,478	,536	-	,467	,548	,409	,215	,205	,397
Finance (FIN)	,487	,471	,400	,467	-	,568	,388	,267	,226	,274
City Planning (CP)	,642	,533	,564	,548	,568	-	,462	,315	,279	,461
Business Support Services (BSS)	,446	,364	,256	,409	,388	,462	-	,211	,147	,227
Entrepreneurial Intention (EI)	,382	,513	,222	,215	,267	,315	,211	-	,233	,171
Human Capital - Skilled Labour (HCSL)	,231	,245	,116	,205	,226	,279	,147	,233	-	,290
Human Capital - Employment Equity (HCEE)	,360	,239	,360	,397	,274	,461	,227	,171	,290	-

Table 8.64 illustrates the correlations and significance among the factors. Four of the predictor variables: *Entrepreneurial Culture (CUL)*; *Regulatory Framework Obstacles (RFO)*; *Finance (FIN)*; and *City Planning* (*CP*) show mostly medium positive correlations (+0.40 to +0.69) with the outcome variables, which are statistically and practically significant where $|r| >= .300$. The balance of the correlations with the outcome variables are positive but lack practical significance ($0.113 < |r| < 0.300$).

The predictor variable, *Business Support Services* (*BSS*) shows mostly positive correlations, which include both statistical and practical significance with most of the outcome variables (*EE, CUL, RFO, FIN, CP*), where $|r| >= .300$. However, the predictor variable *BSS* lacks practical significance ($0.113 < |r| < 0.300$) with the outcome variables: *BEO, EI, HCSL* and *HCEE*.

Entrepreneurial Intention (EI), *Human Capital - Skilled Labour (HCSL)* and *Human Capital - Employment Equity (HCEE)* has predominantly low positive correlations (+0.01 to +0.39) with the outcome variables.

EI has a medium positive correlation (r=0,513) with *CUL*, which is statistically and practically significant ($|r| >= .300$). *EI* has a low positive correlation with *EE* and *CP*, which is statistically and practically significant ($|r| >= .300$). However, most of the correlations between the

predictor variable *EI* and the outcome variables (*BEO*, *RFO*, *FIN*, *BSS*, *HCSL*, *HCEE*) lack practical significance ($0.113 < |r| < 0.300$).

HCSL reflect positive correlations with the outcome variables. However, the correlations with the outcome variables lack practical significance ($0.113 < |r| < 0.300$).

HCEE reflect positive correlations with the outcome variables and shows: a medium positive correlation (r=0,461) with *CP*, which is statistically and practically significant; low positive correlation, which are statistically and practically significant with the outcome variables *EE* (r=0,360), *BEO* (r=0,360) and *RFO* (r=0,397). The correlations with *CUL* (r=0,239), *FIN* (0,274), *BSS* (0,227), *EI* (0,171) and *HCSL* (0,290) lack practical significance ($0.113 < |r| < 0.300$).

The correlations will serve to aid the methodological triangulation in Chapter Ten.

8.7.3 Correlation between the Demographic Variables and the Factors

The purpose of this section is to investigate the effects of the important demographic variables on the set of factors influencing an entrepreneurial ecosystem. A univariate ANOVA was performed to determine whether any statistical significance emerged from the demographic variables. Thereafter, the Scheffé test, which is a post-hoc test used in ANOVA was performed to determine which pairs of means revealed significance.

The Scheffé test is designed for the situation in which post hoc comparisons involve more than pairwise differences (Salkind, 2010). For example, it could be used to compare the mean of two groups to the mean of two other groups based on interesting differences that appeared after the data had been collected. Therefore, the post-hoc test involved making unplanned mean comparisons between group means based on the identified statistically significant (p-value) demographic variables from the ANOVA test. This followed with a series of independent samples t-tests. The post-hoc test determined the mean differences between the evaluated groups, the statistical significance (p-value) and the practical significance (Cohen's d) for the identified demographic variables.

The following subsections discuss the results from the ANOVA and subsequent post-hoc tests for the factors and identified demographic variables. The results from the post-hoc tests may inform policies through relevant supportive practices.

8.7.3.1   ANOVA results for dependent factor: Entrepreneurial Ecosystem

Table 8.65 summarises the results from the univariate ANOVA, which was performed on the dependent factor, *Entrepreneurial Ecosystem*. The main demographic variables showing a statistically significant effect on this factor were age (p=0,002), race (p=0,008) and level of education (p=0,012). This indicated that a difference existed between the mean values of age, race and education. To determine the level of the impact of these demographic variables on the factor: *Entrepreneurial Ecosystem*, a post-hoc test was performed.

Table 8.65 - Univariate ANOVA results: Entrepreneurial Ecosystem

Effect	F-value	D.F.	p	Cohen's d
Category	2,14	3; 285	,095	n/a
Gender	0,04	1; 285	,844	n/a
Age	4,96	3; 285	,002	n/a
Race	4,94	2; 285	,008	n/a
Country of Birth	1,55	1; 285	,215	n/a
Level of Education	3,29	4; 285	,012	n/a

The post-hoc results in Table 8.66 confirmed that differences in the mean values existed between respondents' race and level of education. No statistically significant differences were identified for the demographic variable, age, which indicates that it has no effect on this factor. The mean differences are explained as follows:

i.   **Race** – Respondents who were *Black* had a more negative (M_1:2.80) view of the entrepreneurial ecosystem compared to respondents who were *White* (M_2: 3.13); and

ii. **Level of education** – Respondents with a Matric (M_1:3.01), Diploma (M_1:3.03) and Degree (M_1:3.10) qualification held a more positive view of the entrepreneurial ecosystem compared to respondents with a Post Graduate Degree (M_2:2.53) qualification.

The post-hoc results provided the statistical (p-value) and practical (Cohen's d) significance of the identified demographic variables, race and level of education, and are described as follows:

iii. **Race** – Black and White (p=0,016; d=0.39); Coloured and White (p=0,003; 0.43); and

iv. **Level of education** – Matric and Post Graduate Degree (p=0.012; d=0.66); Diploma and Post Graduate Degree (0,009; d=0.60); Degree and Post Graduate Degree (p=0,001; d=0.66).

Table 8.66 - post-hoc results: Entrepreneurial Ecosystem

Effect	Level 1	Level 2	M_1	M_2	Scheffé p	Cohen's d
Age	18-25	26-35	3,02	2,91	,885	0,14
	18-25	36-45	3,02	3,04	,998	0,03
	18-25	46+	3,02	2,74	,276	0,33
	26-35	36-45	2,91	3,04	,737	0,16
	26-35	46+	2,91	2,74	,578	0,20
	36-45	46+	3,04	2,74	,122	0,35
Race	Black	Coloured	2,80	2,77	,980	0,03
	Black	White	2,80	3,13	,016	0,39
	Coloured	White	2,77	3,13	,003	0,43
Level of Education	Less than matric	Matric	2,81	3,01	,897	0,29
	Less than matric	Diploma	2,81	3,03	,871	0,26
	Less than matric	Degree	2,81	3,10	,687	0,33
	Less than matric	Post Graduate Degree	2,81	2,53	,719	0,34
	Matric	Diploma	3,01	3,03	1,000	0,02
	Matric	Degree	3,01	3,10	,975	0,11
	Matric	Post Graduate Degree	3,01	2,53	,012	0,66
	Diploma	Degree	3,03	3,10	,987	0,09
	Diploma	Post Graduate Degree	3,03	2,53	,009	0,60
	Degree	Post Graduate Degree	3,10	2,53	,001	0,66

There are mean differences between the race groups: (1) Black and White; and (2) Coloured and White. However, the mean values are associated with a Neutral attitude to the *Entrepreneurial Ecosystem* and the differences reflect a small practical significance as reflected by the Cohen's d value. The ambivalent responses followed by the small practical significance warrant additional investigation. More insights may be gained in the subsequent subsections on the independent factors.

For the demographic variable, level of education, mean differences were illustrated between those respondents with (1) postgraduate degree and matric; (2) postgraduate degree and diploma; and (3) postgraduate degree and degree. Respondents with postgraduate education had a Negative attitude of Nelson Mandela Bay's entrepreneurial ecosystem. Respondents with a matric, diploma and degree had a Neutral attitude. The differences between the mean values indicated a medium practical significance. The differences in the attitude of those with a postgraduate degree may be explained by their raised awareness of entrepreneurship, through

higher order learning. Their exposure in postgraduate studies may foster a greater understanding of entrepreneurs as innovators who are able to exploit resources and opportunities within a specific sociocultural and institutional environment (Pita, Costa & Moreira, 2021).

8.7.3.2 ANOVA results for independent factor: Entrepreneurial Culture

Table 8.67 summarises the results from the univariate ANOVA, which was performed on the independent factor, *Entrepreneurial Culture*. The main demographic variables showing a statistically significant effect on this factor were age (p=0,036) and race (p=0,007). This indicated that a difference existed between the mean values for age and race. To determine the level of the impact of these demographic variables on the factor: *Entrepreneurial Culture*, a post-hoc test was performed. The post-hoc test confirmed whether both statistical and practical significance existed after comparing the group means and performing the independent samples t-test.

Table 8.67 - Univariate ANOVA results: Entrepreneurial Culture

Effect	F-value	D.F.	p	Cohen's d
Category	0,61	3; 285	,608	n/a
Gender	0,02	1; 285	,896	n/a
Age	2,88	3; 285	,036	n/a
Race	5,07	2; 285	,007	n/a
Country of Birth	2,47	1; 285	,117	n/a
Level of Education	1,19	4; 285	,314	n/a

The post-hoc results in Table 8.68 confirmed that differences in the mean values existed between respondents' races. No statistically significant differences were identified for the demographic variable, age, which indicates that it has no effect on this factor. The mean differences for race are explained as follows:

i. **Race** – Respondents who were Black had a more negative (M_1:3.16) view of the *Entrepreneurial Culture* compared to respondents who were White (M_2: 3.44). Respondents who were Coloured had a more negative (M_1:3.21) view of the *Entrepreneurial Culture* compared to respondents who were White (M_2: 3.44).

The post-hoc results provided the statistical (p-value) and practical (Cohen's d) significance of the identified demographic variable, race and are described as follows:

ii. **Race** – Black and White (p=0,026; d=0.40); Coloured and White (p=0,050; 0.33).

Table 8.68 - post-hoc results: Entrepreneurial Culture

Effect	Level 1	Level 2	M₁	M₂	Scheffé p	Cohen's d
Age	18-25	26-35	3,32	3,32	1,000	0,01
	18-25	36-45	3,32	3,31	1,000	0,02
	18-25	46+	3,32	3,19	,776	0,18
	26-35	36-45	3,32	3,31	1,000	0,01
	26-35	46+	3,32	3,19	,715	0,17
	36-45	46+	3,31	3,19	,764	0,16
Race	Black	Coloured	3,16	3,21	,894	0,07
	Black	White	3,16	3,44	,026	0,40
	Coloured	White	3,21	3,44	,050	0,33

The differences in the mean values between Black and White, and Coloured and White indicate that the White population have a Positive attitude to *Entrepreneurial Culture* compared with Blacks and Coloureds who have a Neutral attitude. The differences in the attitudes may potentially be explained through the historical exclusion of the Black and Coloured population. The Black and Coloured population were excluded from participating in the mainstream economy through formal business ventures (Bushe, 2019). In fact, most businesses that are owned by the Black and Coloured population are necessity based (Mtshali, Mtapuri & Shamase, 2017). It may be inferred that a lower legacy of entrepreneurial traditions exists within these ethnic communities, which have caused a lower risk appetite to undertake entrepreneurial ventures. Potentially a fear of failure may be more predominant in these ethnic groups because of a lack of role models and mentors.

8.7.3.3   ANOVA results for independent factor: Business Environment

Table 8.69 summarises the results from the univariate ANOVA, which was performed on the independent factor, *Business Environment Obstacles*. The main demographic variables showing a statistically significant effect on this factor was category ($p<.0005$), age ($p<.0005$) and race ($p=0,009$). This indicated that a difference existed between the mean values of category, age and race. To determine the level of the impact of these demographic variables on the factor: *Business Environment Obstacles*, a post-hoc test was performed.

Table 8.69 - Univariate ANOVA results: Business Environment

Effect	F-value	D.F.	p	Cohen's d
Category	6,27	3; 285	<.0005	n/a
Gender	1,08	1; 285	,299	n/a
Age	11,19	3; 285	<.0005	n/a
Race	4,85	2; 285	,009	n/a
Country of Birth	0,28	1; 285	,600	n/a
Level of Education	2,28	4; 285	,061	n/a

The post-hoc results in Table 8.70 confirmed that differences in the mean values existed between respondents' category, age and race. The mean differences are explained as follows:

i. **Category** – Respondents falling into the category start-up had a more negative (M_1:1.96) view of the business environment compared to respondents falling into the category SME (M_2:2.46). Respondents falling into the category micro-enterprise had a more negative (M_1:1.92) view of the business environment compared to respondents falling into the category SME (M_2:2.46). Respondents falling into the category SME had a more positive (M_1:2.46) view of the *Business Environment* compared to respondents falling into the category big business, corporate or MNE (M_2:1.76);

ii. **Age** - Respondents falling into the age category 26-35 had a more positive (M_1:2.18) view of the *Business Environment* compared to respondents falling into the age category 46+ (M_2:1.78). Respondents falling into the age category 36-45 had a more positive (M_1:2.20) view of the *Business Environment* compared to respondents falling into the age category 46+ (M_2:1.78); and

iii. **Race** – Respondents who were Black had a more negative (M_1:1.93) view of the *Business Environment* compared to respondents who were White (M_2: 2.29). Respondents who were Coloured had a more negative (M_1:1.95) view of the *Business Environment* compared to respondents who were *White* (M_2: 2.29).

The post-hoc results provided the statistical (p-value) and practical (Cohen's d) significance of the identified demographic variables; category, age and race and are described as follows:

iv. **Category** – Start-up and SME (p=0,000; d=0.58); micro-enterprise and SME (p=0,001; 0.57); SME and big business, corporate or MNE (p=0,000; d=0.80);

v. **Age** – 26 to 35 and 46+ (p=0,009; d=0.47); 36-45 and 46+ (p=0.009; d=0.49); and

vi. **Race** – Black and White (p=0,005; d=0.42); Coloured and White (p=0,004; d=0.39).

Table 8.70 - post-hoc results: Business Environment

Effect	Level 1	Level 2	M_1	M_2	Scheffé p	Cohen's d
Category	Start-up	Micro-enterprise e.g., hawker	1,96	1,92	,991	0,06
	Start-up	SME	1,96	2,46	,000	0,58
	Start-up	Big Business, Corporate or MNE	1,96	1,76	,485	0,31
	Micro-enterprise e.g., hawker	SME	1,92	2,46	,001	0,57
	Micro-enterprise e.g., hawker	Big Business, Corporate or MNE	1,92	1,76	,778	0,23
	SME	Big Business, Corporate or MNE	2,46	1,76	,000	0,80
Age	18-25	26-35	2,15	2,18	,995	0,04

	18-25	36-45	2,15	2,20	,986	0,07
	18-25	46+	2,15	1,78	,069	0,47
	26-35	36-45	2,18	2,20	,999	0,02
	26-35	46+	2,18	1,78	,009	0,47
	36-45	46+	2,20	1,78	,009	0,49
Race	Black	Coloured	1,93	1,95	,973	0,04
	Black	White	1,93	2,29	,005	0,42
	Coloured	White	1,95	2,29	,004	0,39

The means of the demographic variables: category, age and race all reflect a Negative (1.00-2.59) attitude towards the *Business Environment*. It was reported that corruption, maladministration and political instability in Nelson Mandela Bay had reduced the social contract with citizens (Nkosi, 2019; Shumetie & Watabaji, 2019).

The SMEs from the surveyed population all have a less Negative attitude compared to the start-ups and micro-enterprises. It may be argued that the costs of a poor business environment, in terms of corruption, bribery, political instability, among others have a larger disproportionate effect on nascent businesses. According to Tian, Yu Yang and Li (2021), pervasive corruption, unethical behaviour and political instability affect the resource acquisition abilities of nascent businesses in developing economies.

The mean differences for individuals in big business, corporate and MNEs (M_2=1,76) show a greater Negative attitude compared to SMEs (M_1=2,46). The greater Negative attitude of individuals falling into the category: big business, corporate or MNE may be explained through their experience and expertise. These knowledge workers deem the business environment to be an obstacle for entrepreneurial ventures, which causes implications for Nelson Mandela Bay. Essentially, knowledge workers are essential in a place because of their knowledge and skills based on their knowledge spillover effect. This Negative attitude displayed by these knowledge workers may explain why the labour market in the Nelson Mandela Bay metropolitan is the slowest growing in the country (Nelson Mandela Bay Municipality, 2021).

In the demographic results, in Section 8.3, most of the SMEs sampled showed business growth. Most of the start-ups showed no business growth, albeit the micro-enterprises showed indicators of growth but the small sample size for the micro-enterprises creates a potential bias in interpretation. It may be inferred, through the economy of experience lens, that the SMEs surveyed have obtained more grit to operate within an unsatisfactory environment.

The mean differences based on age show that older individuals (46+) have a more Negative attitude compared to those in the age categories of 26-35 and 36-45. A potential reason for this

may be based on the generational difference in attitudes towards corruption, bribery and ethics. The older individuals may have a greater financial stake and corruption hinders their economic interests (Lavena, 2013; Zakaria, 2018).

Mean differences are acknowledged between the ethnic groups: (1) Black and White; and (2) Coloured and White. This may potentially be aligned with the cultural legacy differences. As interpreted in Section 8.7.3.2, the Black and Coloured ethnic groups may not have acquired the experience or skills, based on historical exclusion, to operate as effectively in volatile business environments. In the previous subsection, it was stated that the Black and Coloured population mostly operate survivalist businesses, which are usually not legally registered. Assenova and Sorenson (2017) indicate that these businesses compete with formal businesses in the same sector. Their legal status allows them the sociopolitical legitimacy to access resources, such as finance, human capital, raw materials and customers. This may infer that the Black and Coloured population have not acquired the experience, human capital and networks to optimally deal with the business environment. However, it must be noted that all ethnic groups reported a Negative attitude to Nelson Mandela Bay's business environment. The institutional quality in the next subsection may shed more light on the attitudes demonstrated for the factor: *Business Environment*.

8.7.3.4 ANOVA results for independent factor: Regulatory Framework

Table 8.71 summarises the results from the univariate ANOVA, which was performed on the independent factor, *Regulatory Framework Obstacles*. The only demographic variable showing a statistically significant effect on this factor was age (p=0,018). This indicated that differences existed in the mean values of age. To determine the level of the impact of this demographic variable on the factor: *Regulatory Framework Obstacles*, a post-hoc test was performed.

Table 8.71 - Univariate ANOVA results: Regulatory Framework

Effect	F-value	D.F.	p	Cohen's d
Category	2,61	3; 285	,052	n/a
Gender	0,34	1; 285	,558	n/a
Age	3,42	3; 285	,018	n/a
Race	2,11	2; 285	,123	n/a
Country of Birth	0,62	1; 285	,433	n/a
Level of Education	0,68	4; 285	,604	n/a

The post-hoc results in Table 8.72 confirmed that differences in the mean values existed between respondents' age. The mean differences are explained as follows:

i. **Age** - Respondents falling into the age category 36-45 had a more positive (M$_1$:2.84) view of the *Regulatory Framework* compared to respondents falling into the age category 46+ (M$_2$:2.49)**.**

The post-hoc results provided the statistical (p-value) and practical (Cohen's d) significance of the identified demographic variable, age. The results are described as follows:

ii. **Age** – The age category 36-45 and age category 46+ revealed statistical significance of p=0,045 and a small practical significance of d=0.43.

Table 8.72 - post-hoc results: Regulatory Framework

Effect	Level 1	Level 2	M$_1$	M$_2$	Scheffé p	Cohen's d
Age	18-25	26-35	2,76	2,77	1,000	0,02
	18-25	36-45	2,76	2,84	,955	0,11
	18-25	46+	2,76	2,49	,277	0,34
	26-35	36-45	2,77	2,84	,959	0,09
	26-35	46+	2,77	2,49	,118	0,35
	36-45	46+	2,84	2,49	,045	0,43

The mean value for the age category 46+ shows a Negative attitude to the factor: *Regulatory Environment*. The age category 36-45 shows a Neutral attitude. However, there is a small practical significance as indicated by Cohen's d. The differences in the mean values may be explained by older individuals having acquired more experience to understand that the institutional quality of a place can either constrain or support entrepreneurship. Older individuals may also have a higher opportunity cost and larger economic interests that amplify their Negative attitude to the regulatory environment. The qualitative inquiry in Phase Two may provide rich insights, which may either support or dispute this proposition.

8.7.3.5 ANOVA results for independent factor: Finance

Table 8.73 summarises the results from the univariate ANOVA, which was performed on the independent factor, *Finance*. The main demographic variables showing a statistically significant effect on this factor were gender (p=0,009), age (p=0,004) and race (p=0,005). This indicated that a difference existed between the mean values of gender, age and race. To determine the level of the impact of these demographic variables on the factor: *Finance*, a post-hoc test was performed.

Table 8.73 - Univariate ANOVA results: Finance

Effect	F-value	D.F.	p	Cohen's d
Category	2,32	3; 285	,076	n/a
Gender	6,82	1; 285	,009	0,38
Age	4,57	3; 285	,004	n/a

Race	5,33	2; 285	,005	n/a
Country of Birth	1,97	1; 285	,161	n/a
Level of Education	0,90	4; 285	,464	n/a

The post-hoc results in Table 8.74 confirmed that differences in the mean values existed between respondents' gender and race. No statistically significant differences were identified for the demographic variable, age, which indicates that it has no effect on this factor. The mean differences are explained as follows:

   i.   **Gender** - Respondents who were male had a more positive (M_1:2.67) view of *Finance* compared to female respondents (M_2:2.41); and

  ii.   **Race** – Respondents who were Black had a more negative (M_1:2.42) view of *Finance* compared to respondents who were White (M_2: 2.74). Respondents who were Coloured had a more negative (M_1:2.48) view of *Finance* compared to respondents who were White (M_2: 2.74).

The post-hoc results provided the statistical (p-value) and practical (Cohen's d) significance of the identified demographic variables; gender and race, and are described as follows:

  iii.   **Gender** – Males and Females (p=0,009; d=0.38); and

  iv.   **Race** – Black and White (p=0,005; d=0.44); Coloured and White (p=0,013; d=0.38).

Table 8.74 - post-hoc results: Finance

Effect	Level 1	Level 2	M_1	M_2	p*	Cohen's d
Gender	Male	Female	2,67	2,41	,009	0.38
Age	18-25	26-35	2,64	2,57	,945	0,11
	18-25	36-45	2,64	2,66	,996	0,04
	18-25	46+	2,64	2,41	,310	0,31
	26-35	36-45	2,57	2,66	,807	0,15
	26-35	46+	2,57	2,41	,504	0,23
	36-45	46+	2,66	2,41	,124	0,34
Race	Black	Coloured	2,42	2,48	,845	0,09
	Black	White	2,42	2,74	,005	0,44
	Coloured	White	2,48	2,74	,013	0,38

The gender gap within entrepreneurship is widely reported, insofar that more males start or operate their own business compared to females (Bosma et al., 2019; International Labour Organisation, 2019; Bowmaker-Falconer & Herrington, 2020). Furthermore, there is a financing gap for women in sub-Saharan Africa and the capital made available to men is more than double that of women entrepreneurs (SME South Africa, 2020). SME South Africa (2020) reported that "*they [females] find it difficult to secure financing from banks and other financial institutions due to inherent biases in the system, such as the lack of appropriately designed*

financial products, weak institutional capacity and lack of incentives within banks to target and lend to women". In 2019, it was reported that potential reasons for females struggling to acquire finance may be based on: less exposure to business education and experience; capital and assets; mentors; networks and the prevailing sociocultural forces leading to the expectation of a women's role (Bowmaker-Falconer & Herrington, 2020, p.16).

White respondents had a Neutral attitude (M_2=2,74) compared to Black and Coloured respondents who had a Negative attitude (M_1=2,42; M_1=2,48 respectively). In 2019, it was reported that the White population had the largest increase (2,6%) in TEA between 2017 and 2019. The potential reasons for Whites having a more positive attitude could be posited because of better professional and social networks, legacy, experience, better average net worth and better risk profiles.

The Negative attitudes of Black and Coloured individuals may be explained by a lack of business knowledge, which create poor credit profiles and unacceptable business plans. Poor balance sheets and insufficient collateral create a challenge to access finance from formal institutions (Mtshali et al., 2017; Bushe, 2019; The Small Enterprise Development Agency, 2020). For instance, in 2020, due to the COVID-19 pandemic the government expressed concerns about black-owned companies insofar that they would close down because of poor balance sheets and a lack of sufficient collateral (Department of Trade Industry and Competition, 2020).

8.7.3.6 ANOVA results for independent factor: City Planning

Table 8.75 summarises the results from the univariate ANOVA, which was performed on the independent factor, *City Planning*. The main demographic variables showing a statistically significant effect on this factor was category (p<.0005) and age (p<.0005). This indicated that a difference existed between the mean values of category and age. To determine the level of the impact of these demographic variables on the factor: *City Planning*, a post-hoc test was performed.

Table 8.75 - Univariate ANOVA results: City Planning

Effect	F-value	D.F.	p	Cohen's d
Category	7,19	3; 285	<.0005	n/a
Gender	2,59	1; 285	,109	n/a
Age	9,35	3; 285	<.0005	n/a
Race	2,85	2; 285	,059	n/a
Country of Birth	0,62	1; 285	,431	n/a
Level of Education	1,89	4; 285	,112	n/a

The post-hoc results in Table 8.76 confirmed that differences existed in the mean values between respondents' category and age. The mean differences are explained as follows:

i.   **Category** – Respondents falling into the category start-up had a more negative (M_1:2.57) view of the *City Planning* compared to respondents falling into the category SME (M_2:3.15). Respondents falling into the category micro-enterprise had a more negative (M_1:2.62) view of the *City Planning* compared to respondents falling into the category SME (M_2:3.15). Respondents falling into the category SME had a more positive (M_1:3.15) view of *City Planning* compared to respondents falling into the category big business, corporate or MNE (M_2:2.44); and

ii. **Age** - Respondents falling into the age category 18-25 had a more positive (M_1:2.91) view of the city planning compared to respondents falling into the age category 46+ (M_2:2.42). Respondents falling into the age category 26-35 had a more positive (M_1:2.78) view of the *City Planning* compared to respondents falling into the age category 46+ (M_2:2.42). Respondents falling into the age category 36-45 had a more positive (M_1:2.90) view of the *City Planning* compared to respondents falling into the age category 46+ (M_2:2.42).

The post-hoc results provided the statistical (p-value) and practical (Cohen's d) significance of the identified demographic variables; category and age and are described as follows:

iii. **Category** – Start-up and SME (p=0,000; d=0.66); micro-enterprise and SME (p=0,004; 0.58); SME and big business, corporate or MNE (p=0,000; d=0.81); and

iv. **Age** – 18 to 25 and 46+ (p=0.014; d=0.55); 26 to 35 and 46+ (p=0,043; d=0.40); 36-45 and 46+ (p=0.004; d=0.53).

Table 8.76 - post-hoc results: City Planning

Effect	Level 1	Level 2	M_1	M_2	Scheffé p	Cohen's d
Category	Start-up	Micro-enterprise e.g., hawker	2,57	2,62	,988	0,06
	Start-up	SME	2,57	3,15	,000	0,66
	Start-up	Big Business, Corporate or MNE	2,57	2,44	,827	0,16
	Micro-enterprise	SME	2,62	3,15	,004	0,58
	Micro-enterprise e.g., hawker	Big Business, Corporate or MNE	2,62	2,44	,739	0,21
	SME	Big Business, Corporate or MNE	3,15	2,44	,000	0,81
Age	18-25	26-35	2,91	2,78	,855	0,14
	18-25	36-45	2,91	2,90	1,000	0,00

18-25	46+	2,91	2,42	,014	0,55
26-35	36-45	2,78	2,90	,813	0,13
26-35	46+	2,78	2,42	,043	0,40
36-45	46+	2,90	2,42	,004	0,53

The Cohen's d value shows that medium practical significant differences exist between: (1) start-ups and SMEs (d=0,66); and (2) micro-enterprises and SMEs (d=0,58). This may indicate that nascent businesses and informal businesses struggle to benefit from agglomeration economies. Nelson Mandela Bay suffers from a spatial design that has remained segregated based on historical segregation. The contention is that physical connections are essential for social inclusion and urban policies should be designed to develop spaces of production and consumption (Glaeser & Gottlieb, 2006; Rousseau, 2009; Miles, 2012; OECD, 2019b).

Most of the respondents falling into the start-up category were from the previously disadvantaged community: Black (42%, n=44) and Coloured (37%, n=38). Businesses competing in a location are influenced by the quality of their surrounding space, land and infrastructure (Neck et al., 2004; Audretsch et al., 2015; OECD, 2019b). Therefore, businesses located in a specific geography make choices on how much to innovate and can trade based on a city's design and structure.

Micro-enterprises struggle to reduce logistic costs as there are no alternative transport substitutes and undergo trade-offs between activities in the supply chain. Similarly, entrepreneurs reduce their frequency and volume of purchases which impedes their ability to negotiate reduced unit costs which in other words affects the affordability of their goods (Goedhuys & Sleuwaegen, 2010).

Furthermore, the Cohen's d value shows that a large practical significance (d=0,81) exists between SMEs and big business, corporate or MNEs. The mean differences for respondents in big business, corporate and MNEs (M_2=2,44) show a Negative attitude compared to SMEs who have a Neutral (M_1=3,15) attitude. The Negative attitude of individuals falling into the category: big business, corporate or MNE may be explained through their experience and expertise. Literature has also explicated that knowledge workers migrate to areas which are attractive in terms of livability and quality.

The mean differences based on age show that older respondents (46+) have a Negative attitude compared to those in the age categories of 18-25, 26-35 and 36-45. The respondents in the age categories: 18-25, 26-35 and 36-45 have a Neutral view on average. A potential reason for the Negative attitude of the respondents in the 46+ age range may be based on generational

differences, experience and economic interests. Poor city planning may hinder the older generations economic interests and may not want to trade-off the benefits from localisation and urbanisation economies.

8.7.3.7 ANOVA results for independent factor: Business Support Services

Table 8.77 summarises the results from the univariate ANOVA, which was performed on the independent factor, *Business Support Services*. The main demographic variables showing a statistically significant effect on this factor were age (p=0,031) and race (p=0,010). This indicated that a difference existed between the mean values of age and race. To determine the level of the impact of these demographic variables on the factor: *Business Support Services*, a post-hoc test was performed.

Table 8.77 - Univariate ANOVA results: Business Support Services

Effect	F-value	D.F.	p	Cohen's d
Category	2,20	3; 285	,088	n/a
Gender	0,64	1; 285	,423	n/a
Age	2,99	3; 285	,031	n/a
Race	4,72	2; 285	,010	n/a
Country of Birth	0,72	1; 285	,397	n/a
Level of Education	2,11	4; 285	,079	n/a

The post-hoc results in Table 8.78 confirmed that differences in the mean values existed between respondents' races. No statistically significant differences were identified for the demographic variable, age, which indicates that it has no effect on this factor. The mean differences for race are explained as follows:

i. **Race** – Respondents who were Black had a more negative (M_1:2.94) view of the *Business Support Services* compared to respondents who were White (M_2: 3.31). Respondents who were Coloured had a more negative (M_1:2.88) view of the *Business Support Services* compared to respondents who were White (M_2: 3.31).

The post-hoc results provided the statistical (p-value) and practical (Cohen's d) significance of the identified demographic variable, race and are described as follows:

ii. **Race** – Black and White (p=0,003; d=0.56); Coloured and White (p=0,000; d=0.59).

Table 8.78 - post-hoc results: Business Support Services

Effect	Level 1	Level 2	M_1	M_2	Scheffé p	Cohen's d
Age	18-25	26-35	3,23	2,96	,194	0,36
	18-25	36-45	3,23	3,09	,774	0,19
	18-25	46+	3,23	3,03	,474	0,29

	26-35	36-45	2,96	3,09	,679	0,17
	26-35	46+	2,96	3,03	,948	0,08
	36-45	46+	3,09	3,03	,949	0,09
Race	Black	Coloured	2,94	2,88	,835	0,08
	Black	White	2,94	3,31	,003	0,56
	Coloured	White	2,88	3,31	,000	0,59

The mean differences between the race groups (1) Black and White; and (2) Coloured and White show that a medium practical significance exists, which is reflected by the Cohen's d value of 0,56 and 0,59 respectively. The differences may be explained using Structural Holes Theory, insofar that it focuses on their centrality in the ecosystem. However, the mean values are indicative of ambivalent responses, that is Neutral attitudes.

Firstly, by using the theory, a proposition may be made that the individuals in Nelson Mandela Bay may struggle with poor structural holes or centrality. This means that the individuals lack a density of ties between direct and indirect actors of the entrepreneurial ecosystem to benefit from co-operation and co-creation (Granovetter, 1992). The poor centrality of all the race groups, based on the mean values indicating a Neutral response, may indicate that there is poor knowledge flow and exchange to add value for them in their business. Furthermore, demand and supply information asymmetry may exist among the Nelson Mandela Bay support institutions. Information asymmetry creates a disproportionate effect on nascent businesses (OECD et al., 2015). Phase Two may provide rich insights to understand the ambivalent responses of the surveyed participants.

8.7.3.8   ANOVA results for independent factor: Entrepreneurial Intention

Table 8.79 summarises the results from the univariate ANOVA, which was performed on the independent factor, *Entrepreneurial Intention*. The main demographic variable showing a statistically significant effect on this factor was level of education (p=0,040). This indicated that a difference existed between the mean values of level of education. To determine the level of the impact of this demographic variable has on the factor: *Entrepreneurial Intention*, a post-hoc test was performed.

Table 8.79 - Univariate ANOVA results: Entrepreneurial Intention

Effect	F-value	D.F.	p	Cohen's d
Category	1,14	3; 285	,331	n/a
Gender	0,33	1; 285	,569	n/a
Age	1,49	3; 285	,218	n/a
Race	0,12	2; 285	,890	n/a
Country of Birth	2,74	1; 285	,099	n/a
Level of Education	2,54	4; 285	,040	n/a

The post-hoc results in Table 8.80 confirmed that no significant differences in the mean values existed between respondents' level of education. Thus, no statistically significant differences were identified for the demographic variable, level of education, which indicates that it has no effect on this factor.

Table 8.80 - post-hoc results: Entrepreneurial Intention

Effect	Level 1	Level 2	M_1	M_2	Scheffé p	Cohen's d
Level of Education	Less than matric	Matric	3,59	3,62	1,000	0,04
	Less than matric	Diploma	3,59	3,62	1,000	0,05
	Less than matric	Degree	3,59	3,61	1,000	0,03
	Less than matric	Post Graduate Degree	3,59	3,29	,571	0,39
	Matric	Diploma	3,62	3,62	1,000	0,01
	Matric	Degree	3,62	3,61	1,000	0,01
	Matric	Post Graduate Degree	3,62	3,29	,118	0,45
	Diploma	Degree	3,62	3,61	1,000	0,02
	Diploma	Post Graduate Degree	3,62	3,29	,109	0,46
	Degree	Post Graduate Degree	3,61	3,29	,138	0,45

8.7.3.9　　　　ANOVA results for independent factor: Human Capital - Skilled Labour

Table 8.81 summarises the results from the univariate ANOVA, which was performed on the independent factor, *Human Capital - Skilled Labour*. The main demographic variable showing a statistically significant effect on this factor was age (p=0,002). This indicated that a difference existed between the mean values of age. To determine the level of the impact of this demographic variable on the factor: *Human Capital - Skilled Labour*, a post-hoc test was performed.

Table 8.81 - Univariate ANOVA results: Human Capital - Skilled Labour

Effect	F-value	D.F.	p	Cohen's d
Category	1,89	3; 285	,131	n/a
Gender	0,38	1; 285	,538	n/a
Age	4,96	3; 285	,002	n/a
Race	2,51	2; 285	,083	n/a
Country of Birth	2,17	1; 285	,142	n/a
Level of Education	0,99	4; 285	,411	n/a

The post-hoc results in Table 8.82 confirmed that differences in the mean values existed between respondents' age. The mean differences are explained as follows:

i.　**Age** - Respondents falling into the age category 18-25 had a more positive (M_1:3.06) view of *Human Capital-Skilled Labour* compared to respondents falling into the age

category 46+ (M$_2$:2.64). Respondents falling into the age category 26-35 had a more positive (M$_1$:2.96) view of *Human Capital-Skilled Labour* compared to respondents falling into the age category 46+ (M$_2$:2.64).

The post-hoc results provided the statistical (p-value) and practical (Cohen's d) significance of the identified demographic variable, age, which is described as follows:

ii.   **Age** – 18 to 25 and 46+ (p=0.001; d=0.68); 26 to 35 and 46+ (p=0,004; d=0.54).

Table 8.82 - post-hoc results: Human Capital - Skilled Labour

Effect	Level 1	Level 2	M$_1$	M$_2$	Scheffé p	Cohen's d
Age	18-25	26-35	3,06	2,96	,777	0,18
	18-25	36-45	3,06	2,82	,118	0,47
	18-25	46+	3,06	2,64	,001	0,68
	26-35	36-45	2,96	2,82	,425	0,28
	26-35	46+	2,96	2,64	,004	0,54
	36-45	46+	2,82	2,64	,276	0,31

All respondents have a Neutral mean attitude to the factor: *Human Capital-Skilled Labour*. The mean difference for the demographic variable, age, shows that older individuals (46+) have a lower Neutral attitude (M$_2$=2,64) about the availability of skilled labour, skills and the employment of skilled workers compared to those between the age range of 18-25 (M$_1$=3,06) and 26-35 (M$_1$=2,96).

The ambivalent responses between the age categories invoke the current state of the labour force. The Nelson Mandela Bay's labour force is the slowest growing labour market compared to the other metropolitans in South Africa (Nelson Mandela Bay Municipality, 2021). The Nelson Mandela Bay IDP states that the city is not attractive as a place to work and to establish new ventures. In terms of the difference in the mean attitudes of the respondents, it may be argued that older individuals in the age category 46+, have more experience and understanding regarding the returns from human capital. The older age category may have a higher acknowledgment that adequate knowledge and skills reduce searching and recruiting costs which are an advantage to a place and their business.

8.7.3.10   ANOVA results for independent factor: Human Capital - Employment Equity

Table 8.83 summarises the results from the univariate ANOVA, which was performed on the independent factor, *Human Capital - Employment Equity*. The main demographic variables showing a statistically significant effect on this factor was category (p=0,025), age (p=0,004), race (p=0,018) and level of education (p=0,029). This indicated that a difference existed

between the mean values of category, age, race and level of education. To determine the level of the impact of these demographic variables on the factor: *Human Capital - Employment Equity*, a post-hoc test was performed.

Table 8.83 - Univariate ANOVA results: Human Capital - Employment Equity

Effect	F-value	D.F.	p	Cohen's d
Category	3,17	3; 285	,025	n/a
Gender	0,09	1; 285	,759	n/a
Age	4,47	3; 285	,004	n/a
Race	4,10	2; 285	,018	n/a
Country of Birth	2,91	1; 285	,089	n/a
Level of Education	2,73	4; 285	,029	n/a

The post-hoc results in Table 8.84 confirmed that differences in the mean values existed between respondents' category, age, race and level of education. The mean differences are explained as follows:

i.   **Category** – Respondents falling into the category start-up had a more negative (M_1:3.14) view of the *Human Capital - Employment Equity* compared to respondents falling into the category SME who had a more positive (M_2:3.51) view. Respondents falling into the category micro-enterprise had a more negative (M_1:2.98) view of *Human Capital - Employment Equity* compared to respondents falling into the category SME who had a more positive (M_2:3.51) view. Respondents falling into the category SME had a more positive (M_1:3.51) view of the *Human Capital - Employment Equity* compared to respondents falling into the category big business, corporate or MNE who had a more negative (M_2:2.89) view;

ii.   **Age** - Respondents falling into the age category 36-45 had a more positive (M_1:3.47) view of *Human Capital - Employment Equity* compared to respondents falling into the age category 46+ who had a more negative (M_2:2.95) view;

iii.   **Race** – Respondents who were Black had a more positive (M_1:3.36) view of *Human Capital - Employment Equity* compared to respondents who were Coloured (M_2: 2.94). Respondents who were Coloured had a more negative (M_1:2.94) view of *Human Capital - Employment Equity* compared to respondents who were White (M_2: 3.31); and

iv.   **Level of education** – Respondents with a Diploma had a more positive (M_1:3.44) view of *Human Capital – Employment Equity* compared to respondents with a Post Graduate Degree (M_2:2.87). Respondents with a Degree had a more positive (M_1:3.39) view of *Human Capital - Employment Equity* compared to respondents with a Post Graduate Degree (M_2:2.87).

Table 8.84 - post-hoc results: Human Capital - Employment Equity

Effect	Level 1	Level 2	M_1	M_2	Scheffé p	Cohen's d
Category	Start-up	Micro-enterprise e.g., hawker	3,14	2,98	,762	0,20
	Start-up	SME	3,14	3,51	,027	0,42
	Start-up	Big Business, Corporate or MNE	3,14	2,89	,417	0,28
	Micro-enterprise	SME	2,98	3,51	,007	0,57
	Micro-enterprise	Big Business, Corporate or MNE	2,98	2,89	,969	0,10
	SME	Big Business, Corporate or MNE	3,51	2,89	,001	0,63
Age	18-25	26-35	3,08	3,20	,875	0,15
	18-25	36-45	3,08	3,47	,088	0,43
	18-25	46+	3,08	2,95	,886	0,14
	26-35	36-45	3,20	3,47	,232	0,30
	26-35	46+	3,20	2,95	,317	0,28
	36-45	46+	3,47	2,95	,003	0,53
Race	Black	Coloured	3,36	2,94	,005	0,53
	Black	White	3,36	3,31	,929	0,05
	Coloured	White	2,94	3,31	,006	0,40
Level of Education	Less than matric	Matric	3,00	3,08	,997	0,10
	Less than matric	Diploma	3,00	3,44	,362	0,49
	Less than matric	Degree	3,00	3,39	,507	0,45
	Less than matric	Post Graduate Degree	3,00	2,87	,985	0,14
	Matric	Diploma	3,08	3,44	,178	0,40
	Matric	Degree	3,08	3,39	,343	0,35
	Matric	Post Graduate Degree	3,08	2,87	,710	0,24
	Diploma	Degree	3,44	3,39	,997	0,06
	Diploma	Post Graduate Degree	3,44	2,87	,005	0,61
	Degree	Post Graduate Degree	3,39	2,87	,016	0,57

The statements measured for the factor: *Human Capital – Employment Equity* related to B-BBEE and employment equity. The SMEs had a Positive attitude compared to the start-ups, micro-enterprises and big business, corporate or MNEs who had Neutral attitudes. Cohen's d reflected that a small practical significance (d= 0,42) between start-ups and SMEs, while a medium practical significance (d=0,57) was noted between micro-enterprises and SMEs. A medium practical significance (d=0,63) was reflected between the mean values of SMEs and big business, corporates or MNEs.

B-BBEE and employment equity aim to redress the inequality of social exclusion of the Black majority, which allows the previously disadvantaged group to access the mainstream economy. However, the Neutral attitudes of those operating in the start-up sector and micro-enterprise sector may be attributed to a lack of competitive and scalable capabilities to benefit from B-BBEE and employment equity. As indicated in Section 8.7.3.3, nascent entrepreneurs may not

be legally registered, which means that they would not be able to access the supply chains of bigger businesses. In Nelson Mandela Bay, most businesses are informal, thus unregistered.

Furthermore, the big businesses, corporate and MNEs have a Neutral attitude compared to SMEs who have a Positive attitude. Insights to these mean differences may be invoked in Phase Two of the analysis process. Similarly, mean differences are illustrated between individuals in the age category 46+ and 36-45 years. This indicates ambivalent responses and rich insights regarding B-BBEE and employment equity may be gathered in Phase Two.

Mean differences are illustrated between Blacks and Coloureds. However, both ethnic groups have a Neutral attitude. The view of the ethnic groups shows ambivalent responses to the statements of B-BBEE and employment equity, which may be explained in twofold. First, the intention of the Act and affirmative action is positive because it aims to support the ethnic groups. Second, it has been reported that B-BBEE benefits an elite group of black-owned businesses (Businesstech, 2015b). In 2021, the Business Maverick reported that the South African government was undermining the policy, insofar that companies that government were doing business with did not comply with the B-BBEE codes (Nicol, 2021).

Those who have a Postgraduate degree showed a Neutral mean value compared to respondents with a Diploma who showed a Positive attitude. Potentially, individuals with a Diploma have benefited from B-BBEE in terms of business growth.

Both the respondents with a Degree and Postgraduate degree showed ambivalent responses. However, respondents with a Degree had a higher Neutral attitude, which may potentially be explained by those respondents being able to benefit from B-BBEE and employment equity. Respondents with a Postgraduate degree showed Neutral attitude, which may be explained by the distribution of the respondents surveyed. The descriptive statistics showed that 65 respondents had a postgraduate degree and interrogation of the data found that 34 out of 65 respondents fell into the category: big business, corporate or MNE. This means that 52% of the respondents who had a postgraduate degree were not current business owners. This may potentially explain the Neutral attitude.

8.7.4 Inferential ranking of Factors

Inferential rankings of factors were performed to establish the level of importance of the factors. To determine the ranking of the factors, the matched-pair t-tests for statistical significance and Cohen's d for practical significance were performed, such that: (1) the mean of the first variable in Significance Group i (Signif.Group) differs statistically and practically

from the mean of the first variable in Signif.Group (i + 1); and (2) none of the means of the variables in Signif.Group i differ significantly from the mean of the first variable in that group.

Table 8.85 illustrates the rank and significance group for the factors for the sample (n=300).

Table 8.85 - Inferential Ranking of Mean Factors

Factors	Rank	Signif. Group	n	Mean μ	SD
Entrepreneurial Intention	1	1	300	3,54	0,72
Entrepreneurial Culture	2	2	300	3,29	0,71
Human Capital - Employment Equity	2	2	300	3,19	0,92
Business Support Services	4	3	300	3,06	0,76
Entrepreneurial Ecosystem	4	3	300	2,92	0,84
Human Capital - Skilled Labour	6	4	300	2,86	0,58
City Planning	6	4	300	2,74	0,91
Regulatory Framework Obstacles	6	4	300	2,72	0,77
Finance	9	5	300	2,56	0,69
Business Environment Obstacles	10	6	300	2,08	0,85

Before commencing the inferential ranking procedure, the factor with the highest mean was *Entrepreneurial Intention* (μ=3.54). The factor, *Entrepreneurial Intention* was used as the base factor to commence the comparison between the subsequent factors.

The mean for the factor, *Entrepreneurial Intention* (μ=3.54) was compared to the mean of the factor, *Entrepreneurial Culture* (μ=3.29). A statistical and practical significance were identified by comparing these two factors. Based on the comparison between the significance groups, the first significant group among the set of factors was established. The first significance group included one factor, namely, *Entrepreneurial Intention*. This factor is ranked first in terms of its influence on the *Entrepreneurial Ecosystem* from the sample of 300.

After identifying the first significant factor, the second comparison was performed between *Entrepreneurial Culture* (μ=3.29) to the mean of the factor, *Human Capital - Employment Equity* (μ=3.19). No statistical and practical significance were identified by comparing these two factors. Based on the comparison between the significance groups, none of the means of the factor in Signif.Group One (*Entrepreneurial Culture*) differ significantly from the mean of the first factor in that group, *Human Capital - Employment Equity*. However, a statistical and practical significance were observed by comparing *Entrepreneurial Culture* to the mean of the factor, *Business Support Services,* which is the third significance group. Therefore, the second significance group consists of the factors, *Entrepreneurial Culture* (μ=3.29) and *Human Capital - Employment Equity* (μ=3.19) and indicates that two factors are ranked second in terms of its influence on the *Entrepreneurial Ecosystem*.

After identifying the second significant group of factors, the third comparison was performed between *Business Support Services* (μ=3.06) to the mean of the factor, *Entrepreneurial Ecosystem* (μ=2.92). No statistical and practical significance was identified by comparing these two factors. However, a statistical and practical significance was identified by comparing *Business Support Services* and *Human Capital - Skilled Labour*. Based on the difference, the third significance group consists of *Business Support Services* and *Entrepreneurial Ecosystem*.

After identifying the third significant group of factors, the fourth comparison was performed between *Human Capital - Skilled Labour* (μ=2.86) to the mean of the factors: *City Planning* (μ=2.74) and *Regulatory Framework Obstacles* (μ=2.72). No statistical and practical significance was identified by comparing *Human Capital - Skilled Labour* with the factors: *City Planning* and *Regulatory Framework Obstacles*. However, a statistical and practical significance was identified by comparing *Human Capital - Skilled Labour* with the factor *Finance*. Based on the differences, the fourth significance group consists of *Human Capital - Skilled Labour* (μ=2.86), *City Planning* (μ=2.74) and *Regulatory Framework Obstacles* (μ=2.72).

The fifth and sixth significant group consists of one factor each. The fifth group includes the factor, *Finance*, with a mean value of μ=2.56. The sixth group includes the factor, *Business Environment Obstacles*, with a mean value of μ=2.08.

8.7.5 Confirmatory Factor Analysis

Construct validity of the questionnaire was evaluated by conducting a CFA (DiStefano & Hess, 2005). CFAs are a statistical technique used to measure the correlation between the questionnaire items through a theoretical model to confirm the hypothesis (Hair et al., 2006; Schreiber, Stage, King, Nora & Barlow, 2006). Furthermore, it is argued that using CFAs for hypothesis-based instruments adds statistical precision and allows for shortened forms of an instrument (Atkinson et al., 2011).

CFA statistical tests were performed to investigate the measurement instruments used to measure the Dependent Factor (DF) of *Entrepreneurial Ecosystem* and the eight Independent Factors (IFs) of *Business Environment*, *Business Support Services*, *City Planning*, *Entrepreneurial Culture*, *Entrepreneurial Intention*, *Finance*, *Human Capital* and *Regulatory Framework*.

In order to evaluate the CFA, the goodness-of-fit target criteria were applied as presented in Table 8.86. This table outlines the criteria used to (1) determine the absolute or predictive fit

of the variables through a Chi-square (χ^2), χ^2 per degrees of freedom (df) (or χ^2/df), (2) determine the comparative fit of variables using Bentler-Bonnet normed fit index (NFI) and Bentler Comparative Fit Index (CFI) (3) and the Joreskog adjusted goodness-of-fit index (AGFI), and Root Mean Square Error of Approximation (RMSEA).

Table 8.86 - Goodness-of-fit for CFA

Goodness-of-Fit Criteria depending on samples size (n) and no. of items (m)						
n.m.Cat.	1	2	3	4	5	6
	n < 250			250 < n < 1000		
	m ≤ 12	12 < m < 30	m ≥ 30	m ≤ 12	12 < m < 30	m ≥ 30
χ^2 p	p > .05					
χ^2/df	≤ 2			≤ 3		
NFI	n.a.	≥ .95	≥ .92	≥ .95	≥ .92	≥ .90
CFI	≥ .97	≥ .95	≥ .92	≥ .95	≥ .92	≥ .90
AGFI	≥ .95					
RMSEA	≤ .08					

As per the criteria outlined in Table 8.86, the eight IFs applied column 6, where n > 250 and m ≥ 30. The DF applied column 4, where n > 250 (n=300) and m ≤ 12 (Hair et al., 2006; Schreiber et al., 2006). The targeted Chi-square (χ^2) is p > 0.05 and the target χ^2 per degrees of freedom (df) or χ^2/df is ≤ 3. The target Bentler-Bonnet Normed Fit Index (NFI) is ≥ 0.90 while the target Bentler Comparative Fit Index (CFI) is ≥ 0.90.

The target Joreskog Adjusted Goodness-of-Fit Index (AGFI) is ≥ 0.95 and the target Root Mean Square Error of Approximation (RMSEA) is ≤ 0.08 (Hair et al., 2006:128; Schreiber et al., 2006). Table 8.87 presents the CFA results for both the DF and the IFs for this study.

Table 8.87 - CFA Fit Statistics (figures in red indicate an acceptable fit)

		CFA Independent Factors		CFA Dependent Factors	
Sample size (n); No. of items (m)		300; 49		300; 5	
Absolute/predictive fit		**Target**	**Observed**	**Target**	**Observed**
Chi-square (Maximum likelihood)	χ^2	-	1141,00	-	4,88
	df	-	987	-	4
	χ^2 p	≥ .05	**< .0005**	≥ .05	**,300**
	χ^2/df	≤ 3	**1,16**	≤ 3	**1,22**
Comparative Fit Indices					
Bentler-Bonnet normed fit index	**NFI**	≥ .90	**,85**	≥ .95	**1,00**
Bentler comparative fit index	**CFI**	≥ .90	**,98**	≥ .95	**1,00**
Other					
Joreskog adjusted GFI	**AGFI**	≥ .95	**,84**	≥ .95	**,98**
Root mean square error of approximation	95%Lo	≤ .08	**,016**	≤ .08	**< .0005**
	RMSEA	≤ .08	**,023**	≤ .08	**,027**
	95%Hi	≤ .08	**,029**	≤ .08	,095

The CFA results for the IFs which fell within the target range were as follows: χ^2/df (1,16), CFI (0,98) and RMSEA (0,023). However, the p-value (< 0,005), NFI (0,85) and AGFI (0.84) were all outside the required ranges. The CFA results for the DF, which fell within the target range were as follows: p-value (0,300), χ^2/df (1,22), CFI (1,00) and RMSEA (0,027). The NFI (1,00) and AGFI (0.98) were all outside the required ranges.

The CFA results for both the IFs and the DF (albeit that some fell short of the target range) are relatively sufficient for the measurement instrument to be used in this study, however, additional research is required to improve the instrument's fit.

8.8   CONCLUSIONS

Chapter Eight addressed RQ$_6$, which questions "*What factors influence the entrepreneurial ecosystem in Nelson Mandela Bay?*". Thereby achieving RO$_6$ which was: *To empirically evaluate and discuss the factors that influence Nelson Mandela Bay's entrepreneurial ecosystem.* The objective was achieved by discussing the results of the empirical study.

The sample consisted of three hundred individuals (n=300) who fell into the category: start-ups, micro-enterprises, SMEs, big business, corporates or MNEs. Furthermore, the unique characteristics of the sample were that: (1) they owned a business, (2) they managed a business, (3) they worked for a business, or (4) they conducted business in Nelson Mandela Bay, South Africa. Based on the descriptive statistics, the distribution of the respondents was as follows: start-ups (35%, n=104), micro-enterprises (16%, n=49), SMEs (32%, n=95) and big business, corporate or MNE (17%, n=52).

The sample of micro-enterprises was small (16%, n=49) which potentially showed bias in the reporting. Bias is explained as the majority of enterprises in Nelson Mandela Bay operate within the micro-enterprise category (Dobbin, 2019). In developing economies, such as South Africa, a disproportionate concentration of employment exists in micro-enterprises, which are often informal (OECD, 2018a; International Labour Organisation, 2019).

The distribution of start-ups (35%, n=104) formed the highest proportion in the study's sample. By exploring the data, it was revealed that of the 104 start-ups, most of the respondents were of Black (42%, n=44) and Coloured (42%, n=44) ethnicity. The data did not suggest that the reason for this concentration was due to the individuals being unemployed or retrenched, thereby inferring that it was not necessity or survivalist based. Exploration into the data revealed that the concentration of Black respondents (n=44) operated in the ICT sector (27%; n=12) and this may be associated with South Africa's focus on digitalisation (Bowmaker-

Falconer & Herrington, 2020). Equally, a unique characteristic of start-ups is that they are innovation driven, which may explain the concentration within the ICT sector. Furthermore, twenty six percent (26%; n=23) of the group of Black and Coloured respondents were operating in the Other Service Activities sector. Statistics South Africa (2019) reported that the Services sector generated more than a quarter of total turnover in Quarter 1 of 2019. This may explain the concentration in the Other Service Activities sector. In this report, small enterprises were characterised as a high proportion of small players operating businesses such as barber shops, cafes and dry-cleaning services. Therefore, a fair representation of this sector, Other Service Activities can be assumed.

Dobbin (2019) asserted that the number of enterprises within the micro-enterprise category account for approximately 87,4% of businesses operating in Nelson Mandela Bay. In South Africa, enterprises falling into the category of small and medium businesses account for approximately 26% and 6% respectively. Thereby inferring that the sample for the SMEs is representative. A bias may exist due to the large proportion of respondents falling into the category of start-ups and SMEs. Therefore, the results from the quantitative component may be more applicable for those operating in the category of start-up and SME. The results from the methodological triangulation may assist to reduce the biases associated with the use of a single methodology (Williamson, 2005). The methodological triangulation is discussed in Chapter 10.

Most of the respondents were male (60%, n=181), while 40% (n=119) were female. The sample of n=248 respondents falling into the category of start-up, micro-enterprise and SME had a distribution of 65% (65%, n=162) males and 35% (35%, n=86) females. A gender gap is noticeable. The gender gap within entrepreneurship is widely reported, insofar that more males start or operate their own business compared to females (Bosma et al., 2019; International Labour Organisation, 2019; Bowmaker-Falconer & Herrington, 2020). In fact, the Covid-19 pandemic has widened the gender gap (World Economic Forum, 2021).

The age distribution in the total sample (n=300) was concentrated between the age range of 26-35 (31%, n=94) and 36-45 (26%, n=78). Similarly, the age distribution of the sample of n=248 respondents falling into the category of start-up, micro-enterprise and SME was concentrated between the age range of 26-35 (29%, n=72) and 36-45 (25%, n=63). The 2019/2020 GEM South Africa report indicated that entrepreneurial activity is dominant among individuals between the age range of 25-34 and 35-44 (Bowmaker-Falconer & Herrington, 2020). The reasons attributed to the density within these age ranges were based on lower opportunity costs

among those between the ages of 25-34. Individuals between the age range of 36-45 were claimed to have acquired experience, knowledge and skills, wealth in the forms of assets and networks to undertake entrepreneurship.

The race distribution was as follows: 26% (n=77) Black, 36% (n=108) Coloured and 38% (n=115) White. In South Africa, the White population has had the largest increase (2.6%) in total entrepreneurial activity between 2017 and 2019 (Bowmaker-Falconer & Herrington, 2020). Against this backdrop, it must be underlined that South Africa is multicultural and therefore potential biases must be considered. A potential increase in entrepreneurial activity among the White population may be as a result of Affirmative Action (Cuddihy, 2016).

The frequency distribution for the level of education revealed that 70% (n=207) of the survey respondents continued their studies after having completed their Matric. In contrast, 31% (31%, n = 93) of the respondents had either a Matric qualification or less than Matric. As explained in Section 8.3.6, the results may indicate bias due to the small proportion of micro-enterprises (16%, n=49. In Nelson Mandela Bay, the majority of enterprises in Nelson Mandela Bay operate within the micro-enterprise category (Dobbin, 2019). Micro-enterprises are characterised as informal with low levels of education (Steenkamp & Bhorat, 2016; International Labour Organisation, 2019; OECD, 2019a).

Respondents falling into the category: start-ups, micro-enterprises and SMEs were asked about their years in operation. The years in operation of a business are associated with market experience and affects the ability to grow (OECD, 2018a; Bowmaker-Falconer & Herrington, 2020). Scalability allows businesses to move into the next size category, which allows businesses to access finance more easily. Most (30%, n=75) of the respondents started their business within the last year, while those whose business were underway constituted 50 (20%, n=50) of the respondents. The margin of difference between respondents who started their business within the last five years (26%, n=64) and respondents who started their business more than five ago (24%, n=59) did not vary significantly. This distribution is important for policy considerations to identify gaps in the various business stages with the intention to support the scaling of businesses. Scaling of businesses may effect innovation, competition, employment and the average wage rate (Acs, Szerb & Lloyd, 2018; OECD, 2018). This may address issues such as the low productivity rates and income inequality (OECD, 2018a).

Respondents falling into the category: start-ups, micro-enterprises and SMEs were asked to indicate their number of employees. Firm size classes are measured according to their number

of employees, total assets and total sales (International Labour Organisation, 2019). According to International Labour Organisation (2019) micro-enterprises employ less than 10 employees, small enterprises employ between 10-50 employees and medium enterprise employ between 50-300 employees. The Department of Small Business Development (2019) applies two criteria for firm size class. The criteria are the (1) total full-time equivalent of paid employees and (2) total annual turnover. The results from the sample of respondents indicate that the micro-enterprises satisfy the definition in terms of the number of employees. The respondents falling into the category, SME indicate that some respondents fell outside the 'number of employees' classification (classification range for SMEs are 10-49, 11-50, 10-50). It was found that 34 survey respondents who fell outside the classification of a SME reported growth predominantly in terms of revenue. Therefore, these SMEs satisfied the 'total annual turnover' indicator (OECD, 2018a; International Labour Organisation, 2019).

Respondents falling into the category: start-ups, micro-enterprises and SMEs were asked to indicate which sector they operated in. The dominant sectors include: Other Service Activities, Manufacturing and Information Communication and Technology. The prominence of these sectors from the distribution of start-ups, micro-enterprises and SMEs is expected. For instance, Statistics South Africa (2019) indicated that the Services sector contributed to more than a quarter of total turnover in 2019. The 2019/2020 GEM South Africa reported that entrepreneurial activity within the manufacturing sector increased significantly from 3.6% (2015) to 13.1% (2019) (Bowmaker-Falconer & Herrington, 2020). The density within the manufacturing sector is encouraging based on this sector's ability to promote job creation. The prominence of those within the ICT sector may be attributed to the focus on the digital economy. Notably, many of the start-ups operated within this sector and this is encouraging as start-up's are characterised as being innovation driven.

Respondents were asked to indicate whether they experienced growth in terms of employees, profitability and expansion. The results indicate that most start-ups (80%, n=83) experienced no growth. The results align to international reports, which indicate that businesses that operate for less than one year experience low growth rates (OECD, 2018a). Eighty-five (85) out of the ninety-five (95) SMEs indicated that they experienced growth. However, the number of micro-enterprises who responded to the survey was small and explained as potentially biased.

The frequency distributions from the measuring instruments detailed the frequency of agreement to disagreement of the respondents to the items for each factor. For the factor, *Business Environment*, the items revealing a strong negative influence were (1) *corruption*

(80%, n=240) (2) *crime* (79%, n=238) and (3) *bribery* (76%, n=227). In 2019, the Global Competitiveness Index reported a decline in South Africa's ranking on conditions, such as: trust in politicians, corruption and bribery, crime and violence, among others (Schwab, 2019). This may lead to negative effects on the GDP, foreign direct investment and an increase in the cost of doing business.

Finance revealed that respondents strongly agreed with the item: *access to finance can stimulate entrepreneurial activity* (87%, n=262) and showed disagreement with the item: *it is easy to acquire finance from government agencies* (71%, n=213). Notably, it is asserted that the availability and accessibility of entrepreneurial finance for businesses are vital for their scalability, ability to access new markets and survival (Hirsch & Walz, 2016; Spigel & Harrison, 2018; Stam & van de Ven, 2019). The perception regarding access to finance from government agencies is supported by the 2019/2020 GEM South Africa report. Herein it was stated that government subsidies declined in 2019 compared to 2017 (Bowmaker-Falconer & Herrington, 2020). Potential reasons may be due to outstanding direct government loans (ZAR 11,48 billion) and credit guarantees (ZAR 297 million) by IDC and SEFA that was provided to SMEs for the financial year ending 2017 (OECD, 2020b).

Respondents felt strong agreement with the item: *there is intention to start a business* (75%, n=224) and *a fear of failure restricts people from starting their own business* (79%, n=237). From both a sub-Saharan and South African perspective there is a positive perception regarding entrepreneurial opportunities (Acs et al., 2018; Bosma et al., 2019; Bowmaker-Falconer & Herrington, 2020). However, the fear of failure has been reported as an obstacle to start a business.

Respondents showed agreement with the item: *skilled labour is expensive* (72%, n=217) and *skilled labour makes the business environment more competitive* (70%, n=211). Competitive locations need to strategically prioritise their human capital as a way to promote innovation, start-ups and cluster's towards value added products and services (Porter, 1990). In Porter's (1990) seminal work he argues that having access to an experience pool of individuals reduces the costs of searching and recruiting which is an advantage for a place. Labour mobility is described as the flow of human capital. Essentially, human capital has the knowledge and skills and this flow to develop new venture creation and innovation (Mason & Brown, 2014; Stam, 2015; Mack & Mayer, 2016; Braunerhjelm et al., 2018; Malecki, 2018; Nicotra et al., 2018). Skilled workers are an important resource for their expertise that may be transferred for new ventures and development of innovative products (Nicotra et al., 2018).

Following the frequency distributions for the measurement items an Exploratory Factor Analysis (EFA) was performed. The EFA explored the relationships between the factors to determine whether the items in each factor would be reduced. Reducing the data aids in identifying the structure of the relationships to easily interpret relationships and patterns from the factors. Two factors namely *Finance*, and *Human Capital* items was reduced into a one-factor model. The reduction of the items in these two factors aided the factors to satisfy the minimum loading criteria of 0.324 to be deemed significant. Table 8.88 provides a summary of results after the EFA was performed.

The pattern of data observed from the frequency distribution of some of the factors is reflective of a bimodal distribution (Wegner, 2012). Samples with a bimodal distribution may represent a normal distribution because of the Central Limit Theory. The Central Limit Theory states that the distribution of a sample is approximately normally distributed as the sample increases regardless of the distribution shape (Ganti, 2021). The predominant perceptions from this distribution revealed where the higher concentration of responses lied. Due to the Central Limit Theory, the bimodal distribution is assumed normal due to a large sample size (n=300). Therefore, parametric tests, such as the one-sample t-test and univariate ANOVA tests were performed.

The assumption of a normal distribution is supported by exploring the central tendency and dispersion of factors. Six factors were approximately two standard deviations from the mean value. The six factors were: *Business Environment (σ = 0.85)*, *Regulatory Framework* (σ = 0.77), *City Planning* (σ = 0.91), and *Human Capital to Employment Equity* (σ = 0.92). This revealed that the data from the respondents (n=300) followed a common distribution. The common distribution of a data set is that 95% of values of the observations from a data set is within two standard deviations of the mean value (Wegner, 2012; Collis & Hussey, 2014). Four of the factors observed a relatively smaller distribution (one standard deviation from the mean value). These four factors include: *Entrepreneurial Culture (σ = 0.71)*, *Finance (σ = 0.69)*, *Entrepreneurial Intention (σ = 0.72)* and *Human Capital to Skilled Labour (σ = 0.58)*. These four factors are approximately within one standard deviation of the mean.

A one-sample t-test was performed to evaluate the statistical and practical significance of the factors. The one-sample t-test assisted to determine which factors influenced the entrepreneurial ecosystem in Nelson Mandela Bay. The results from the one-sample t-tests indicate that for this sample (n=300), the factors influencing the Entrepreneurial Ecosystem are *Human Capital, Business Support Services, Business Environment Obstacles* and

Entrepreneurial Intention. The researcher includes *Entrepreneurial Intention* as the *p*-value serves to highlight probability or chance, whereas effect sizes indicate the magnitude of differences.

A Pearson's product moment correlation was conducted to test whether a linear association between the factors existed. All the predictor variables (*EE* to *HCEE*) have positive correlations with the outcome variables (*EE* to *HCEE*). The majority of the factors indicated a low positive correlation (+0.01 to +0.39) with each other, followed by medium positive correlations (+0.40 to +0.69). Four of the predictor variables: *Entrepreneurial Culture (CUL)*; *Regulatory Framework Obstacles (RFO)*; *Finance (FIN)*; and *City Planning* (*CP*) show mostly medium positive correlations (+0.40 to +0.69) with the outcome variables, which are statistically and practically significant where $|r| >= .300$. As explained in Section 8.7.2, the results from the correlation support the literature regarding the interdependence of the factors of an entrepreneurial ecosystem. The results from this Pearson's correlation were triangulated to the qualitative findings in Chapter 10.

A univariate ANOVA was performed to determine whether any statistical significance emerged between the demographic variables. The univariate ANOVA indicated statistically significant relationships between the demographic variables: age (5 factors), race (6 factors), level of education (3 factors), category (2 factors) and gender (1 factor). The frequency of two demographic variables, namely age and race were observed across most of the factors.

Mean differences were observed for age across five factors. The differences were observed by respondents who were forty-six years and older. These respondents had more negative perceptions of the factors: *Business Environment*, *Regulatory Framework*, *City Planning*, *Human Capital to Skilled Labour* and *Human Capital to Employment Equity*. Older individuals may have a higher opportunity cost and larger economic interests that amplified their Negative attitudes. Furthermore, in South Africa, entrepreneurial activity in the age group 45-54 years has nearly doubled from 7.5% (2017) to 14.3% (2019). Arguably, older entrepreneurs have more developed networks, experience, technical and managerial skills and are in a better financial position than their younger counterparts (Kautonen, 2013).

Mean differences were observed five out of six times, across factors, between the racial groups: (1) Black and White and (2) Coloured and White. GEM South Africa reported that the White population had the largest increase in entrepreneurial activity over the period 2017 to 2019 (Bowmaker-Falconer & Herrington, 2020). For instance, when comparing the mean

differences regarding *Finance*, the White respondents were more positive compared to those who were Black and Coloured. Potential reasons may be explicated through better professional and social networks, legacy, experience, better average net worth and better risk profiles.

Fourth, inferential ranking of the factors was evaluated to determine the level of importance of the factors. Based on the comparison between the significance groups, the first significance group among the set of factors was established. The first significance group included one factor, namely, *Entrepreneurial Intention*. This factor is ranked first in terms of its influence on the *Entrepreneurial Ecosystem* from the sample of 300.

From a sub-Saharan perspective, opportunity perception was ranked the highest (Acs, Szerb, et al., 2018). In South Africa, it has been reported that the perception of entrepreneurial opportunities increased between 2017 (43.2%) and 2019 (60.4%) (Bosma et al., 2019; Bowmaker-Falconer & Herrington, 2020). However, the fear of failure was notably high at 49.8%, showing an upward trend from 2017 (Bowmaker-Falconer & Herrington, 2020). The results from both the Global Entrepreneurship Index and the 2019/2020 GEM South Africa report validate the ranking of *Entrepreneurial Intention* in this study (Acs, Szerb, et al., 2018; Bowmaker-Falconer & Herrington, 2020). Similarly, respondents in this study indicated that a fear of failure was a barrier to start a business.

Finally, a CFA was performed to test the adequacy of the observed data against the developed hypothesis. The measurement instruments for the DF and IFs were reviewed and deemed relatively fit, albeit scope for improvement was identified.

This chapter successfully measured the perceptions of the respondents to the set of factors, thereby achieving the RO_6: *To empirically evaluate and discuss the factors that influence Nelson Mandela Bay's entrepreneurial ecosystem*. In addition, this analysis answered the RQ_6: "*What factors influence the entrepreneurial ecosystem in Nelson Mandela Bay?*" In Chapter Nine, Phase Two is performed. Phase Two includes the independent analysis of the qualitative data of this *sequential independent design* and addressed RO_7: *To discover and report on the themes emerging from the qualitative inquiry*.

Table 8.88 - Summary of results after EFA

Factors and Items		Cronbach alpha	Eigenvalue	Variance (%)
IF1: Entrepreneurial Culture		**0,79**	**3,049**	**50,8**
The community supports entrepreneurship.	0,807			
Businesses in the city support each other.	0,743			
The city encourages and supports innovation.	0,737			
Entrepreneurship is seen as a good career choice.	0,717			
Successful business owners act as mentors.	0,641			
The city supports female entrepreneurship.	0,615			
IF2: Business Environment (Obstacles)		**0,88**	**3,786**	**63,1**
Corruption	0,86			
Bribery	0,858			
Crime	0,797			
Professionals that act unethically	0,754			
Disorder e.g., strikes	0,748			
Political instability	0,741			
IF3: Regulatory Framework (Obstacles)		**0,81**	**3,286**	**46,9**
B-BBEE codes.	0,721			
Cost of doing business e.g., cost of complying with tax requirements, regulatory burdens, electricity, and fuel costs.	0,7			
Supply Chain requirements.	0,69			
Procedure to open a business.	0,673			
Government-generated red tape.	0,627			
Dealing with the local municipality.	0,627			
IF4: Finance		**0,72**	**2,384**	**47,7**
It is easy to access finance as a registered business.	0,797			
It is easy to access finance from venture capitalists, i.e., venture capital is a type of funding (start-up or growth equity from private investors, development finance from specialised financial institutions) for a new or growing business.	0,71			
It is easy to acquire finance from government agencies.	0,706			
The commercial banks are willing to finance Entrepreneurs.	0,662			
Entrepreneurs are aware of government agencies that assist with financing.	0,555			
IF5: City Planning		**0,9**	**3,538**	**70,8**
The current city spatial development has improved the socio-economic conditions of the residents.	0,866			
The physical infrastructure of the city is efficient. e.g., information and communication, utilities, roads, land, electricity, water and sewerage, transport, or space.	0,859			
The service infrastructure of the city is efficient.	0,855			
The city infrastructure makes it easy to conduct business.	0,849			
NMB is inclusive, resource efficient and a good place to live, work, shop and play in.	0,772			

IF6: Business Support Services		**0,8**	**2,812**	**56,2**
It is easy to access tax services in NMB.	0,775			
It is easy to access legal services in NMB.	0,765			
It is easy to access competent business consultants in NMB.	0,763			
It is easy to access Incubators in NMB.	0,738			
It is easy to access Education & Training programs in NMB.	0,707			
IF7: Entrepreneurial Intention		**0,84**	**3,074**	**61,5**
The intention to develop business ideas exists.	0,88			
There is intention to start a business.	0,852			
Enthusiasm towards entrepreneurship exists.	0,814			
There is intention to take over a family business.	0,711			
Individuals are willing to take risks.	0,636			
IF8: Human Capital				
IF8.1: Human Capital - Skilled Labour		**0,69**	**2,633**	**37,6**
There is a sufficient supply of scientists with the qualification's businesses require.	0,795			
There is a sufficient supply of engineers with the qualification's businesses require.	0,789			
There is a sufficient supply of artisans with the qualification's businesses require.	0,781			
The youth/graduates have the right skills.	0,536			
It is easy to acquire skilled labour.	0,464			
There is a sufficient supply of top managers with the qualifications that businesses require.	0,365			
Businesses employ a high percentage of skilled labour.	0,364			
IF8.2: Human Capital - Employment Equity		**0,31**	**1,183**	**59,2**
B-BBEE is important.	0,769			
Employment equity is important.	0,769			

CHAPTER 9: RESULTS FROM THE QUALITATIVE DATA ANALYSIS

9.1   INTRODUCTION

In Chapter Eight, the empirical results, which formed part of Phase One of the mixed methods study, were presented and discussed. The pattern of the data from the frequency distributions were reflective of a bimodal distribution, which satisfies a normal distribution because of the Central Limit Theory. The normal distribution of the data justified the use of the parametric tests, such as the one-sample t-test and univariate ANOVA tests.

Chapter Nine presents a qualitative inquiry to evaluate the views and opinions of a sample of fifteen (n=15) participants. A qualitative inquiry is focused on the lived experiences of people, regarding a topic, to achieve a thick description of their experience (McLaughlin et al., 2016; DeJonckheere & Vaughn, 2019; Saunders et al., 2019). Therefore, the aim was to discover what was happening in a particular situation with a particular group of people. Interviews served as the qualitative data collection method and text data were analysed using perspectives of Social Network Theory; Structural Holes Theory; Institutional Theory; Systems Theory; The Absorptive Capacity Theory of Knowledge Spillover and Broken Windows Theory as a theoretical framework.

The qualitative inquiry was interested in discovering the semantic level of meaning and was interested in the participants' accounts or points of view. The analysis was driven by the research question as a theoretical thematic analysis is used. This is based on Braun and Clarke's (2006) distinction between a top-down and bottom-up approach to thematic analysis. As such, Chapter Nine addresses RO$_7$: *To discover and report on the themes emerging from the qualitative inquiry.* Thereby answering RQ$_7$: "*What are the economic development agents' perceptions of Nelson Mandela Bay's entrepreneurial ecosystem?*"

Thematic analysis is used and seeks for themes in the data. The inquiry builds the analysis off Braun and Clarke's (2006) six-phase method for doing a thematic analysis. This decision was led by its ability to promote the qualitative inquiry's trustworthiness. Any researcher who employs a thematic analysis is obliged to ensure that the criteria of trustworthiness in their study are met to avoid any issues of consistency and coherence (Nowell et al., 2017; Roberts et al., 2019). Furthermore, the qualitative inquiry uses both an inductive and deductive analysis. The deductive analysis used the theoretical perspectives to assist with the coding. Theme development was constructed on the semantic level of meaning to remain close to what the participants were saying.

The qualitative inquiry forms part of Phase Two of this mixed methods study. As detailed in Chapter Two, a *sequential independent design* was followed. By following this type of mixed method design the data from the semi-structured interviews are analysed independently and then the methodological triangulation occurs in Chapter Ten.

Figure 9.1 offers a structural overview of this study and illustrates where Chapter 9 is positioned in the overall structure of the thesis. Figure 9.2 illustrates the roadmap for Chapter Nine. This chapter begins by providing an overview of the qualitative analysis performed.
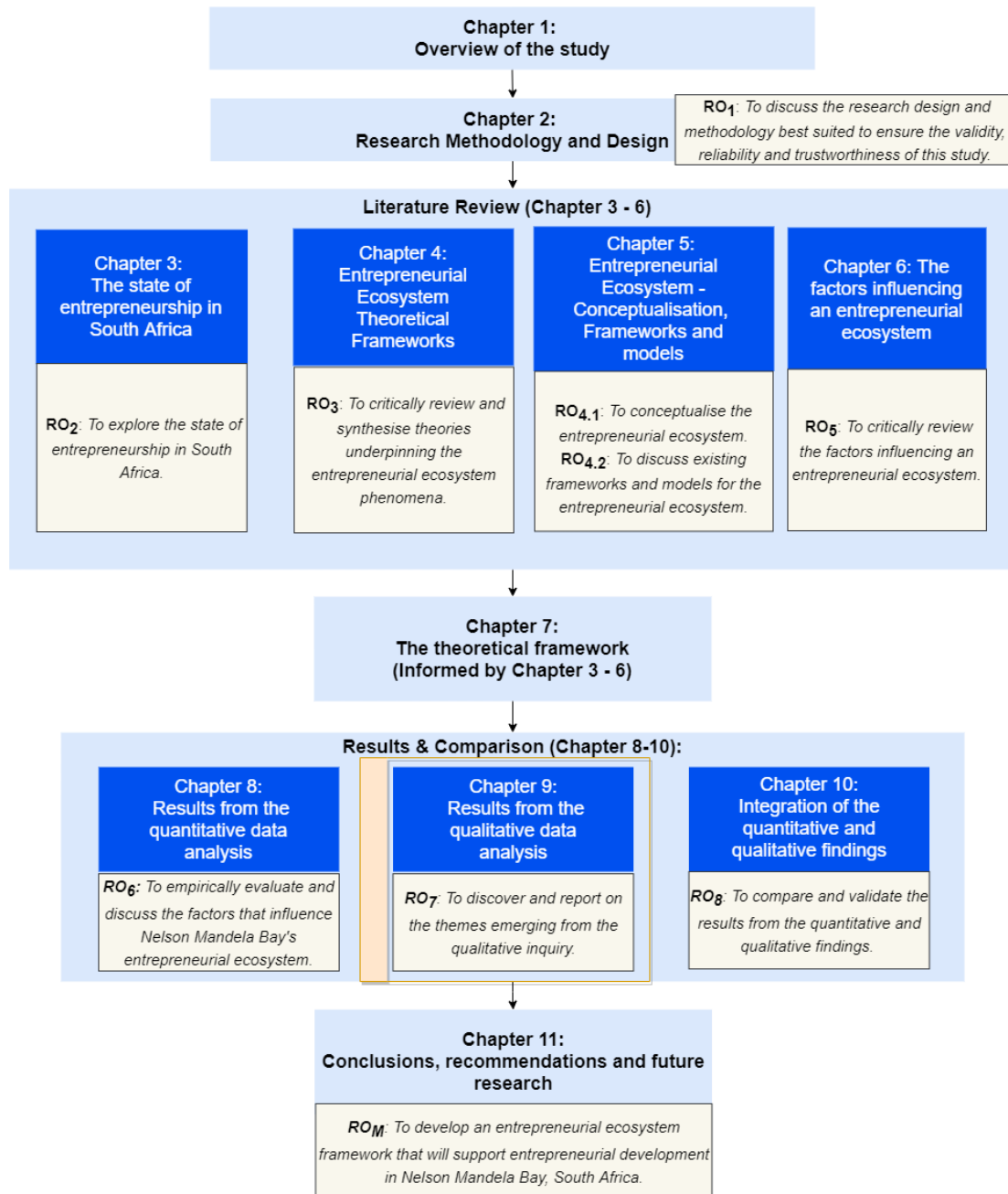

Figure 9.1 - Structural overview of the research study

| CHAPTER 1: Overview of the study |
| CHAPTER 2: Research methodology and design |
| CHAPTER 3: The state of entrepreneurship in South Africa |
| CHAPTER 4: Entrepreneurial ecosystem theoretical frameworks |
| CHAPTER 5: Entrepreneurial ecosystem - conceptualisation, frameworks and models |
| CHAPTER 6: The factors influencing an entrepreneurial ecosystem |
| CHAPTER 7: The theoretical framework |
| CHAPTER 8: Results from the quantitative data analysis |

CHAPTER 9: Results from the qualitative data analysis

9.1   Introduction
9.2   Overview
9.3   Case study results and analysis
9.4   Conclusions

| CHAPTER 10: Integration of the quantitative and qualitative findings |
| CHAPTER 11: Conclusions, recommendations and future research |

Figure 9.2 - Roadmap of Chapter Nine

9.2   OVERVIEW

The predetermined semi-structured interviews provided a platform for discussion. Data were collected from fifteen economic development role players using one-on-one interviews. The fifteen participants were purposefully selected to contribute to the study of Nelson Mandela Bay's entrepreneurial ecosystem. Pseudonyms were used to refer to each participant. The participants interviewed represent state institutions (n=2), arms or entities of the state (n=2), entrepreneurs with high visibility and so-called dealmakers (n=4), individuals from: the higher education institution (n=2); not for profit entities (n=1); incubators (n=2); the main political

party (n=1) and private sector (n=1). Table 9.1 shows the descriptive information about the participants in the qualitative inquiry.

Table 9.1 - Descriptive information for participants in the qualitative phase

Participant and code reference	Age Range (years)	Gender	Category	Race (White; Black Black defined as African; Coloured; Indian; Asian)
Participant 1 (P1)	26-35	Male	Not for Profit	White
Participant 2 (P2)	56-65	Male	Political	Black
Participant 3 (P3)	56-65	Male	Government entity	Black
Participant 4 (P4)	46-55	Male	Business owner	Black
Participant 5 (P5)	36-45	Male	Incubator	Black
Participant 6 (P6)	26-35	Male	Government entity	Black
Participant 7 (P7)	36-45	Female	Private sector	Black
Participant 8 (P8)	36-45	Male	Incubator	Black
Participant 9 (P9)	46-55	Female	Business owner	Black
Participant 10 (P10)	56-65	Male	Higher education	Black
Participant 11 (P11)	36-45	Male	Business owner	White
Participant 12 (P12)	56-65	Female	Government: Municipality	White
Participant 13 (P13)	26-35	Female	Government: Municipality	Black
Participant 14 (P14)	18-25	Male	Higher education	Black
Participant 15 (P15)	26-35	Male	Business owner	White

Guided by the theoretical perspectives: Social Network Theory; Structural Holes Theory; Institutional Theory; Systems Theory; The Absorptive Capacity Theory of Knowledge Spillover and Broken Windows Theory, the author designed the interview schedule to elicit information about the participants views of factors constructing the entrepreneurial ecosystem. The factors followed the more common factors of the ecosystem, as explained in models such as Isenberg's (2010) domains of the entrepreneurship ecosystem. Participants were specifically asked about their views of concepts to improve construct validity. For instance, using the perspective of Institutional Theory assisted in identifying the impact that institutions (formal and informal institutions) have on the performance of entrepreneurship within a given location.

The interviews were captured by audio recording and transcribed verbatim in the software, Otter.ai. Once the transcriptions were completed by the author it was sent to the participant to be vetted, as per the informed consent ethical procedure. Thereafter, the transcripts were imported as MS Word documents into Atlas.ti and analysed in detail.

A thematic analysis was used to analyse the text data. Thematic analysis seeks for themes in the data (Braunerhjelm, Ding & Thulin, 2018; Maguire & Delahunt, 2017). Data were analysed both inductively and deductively. The deductive analysis used the theoretical frameworks, which follow the top-down or theoretical thematic analysis approach (Braun & Clarke, 2006). This approach is driven by the research question and is flexible, to identify patterns in the data (Braun & Clarke, 2006; Maguire & Delahunt, 2017; Clark & Plano Clark, 2019).

Themes were developed using the semantic level as the author was specifically interested in what the participants were saying. Themes were descriptive as they described the general pattern in the data to address the research question. The associated codes applied the participant perspective coding schema underpinned by the reductionist nature of qualitative data management (Vaismoradi, Jones, Turunen & Snelgrove, 2016).

The analysis process was iterative. Initial codes involved coding segments of data, which captured a meaningful perspective about the constructs evaluated. This was done by extracting quotations in the raw data that addressed the research question. Codes were labelled, defined and described in the initial iteration. An open coding schema was applied. Open coding is a process of coding that does not have an initial pre-set of codes and allows researchers to develop, modify and reduce codes as they work through the iterations of the coding process (Maguire & Delahunt, 2017). Several iterations of coding were undertaken, especially as the author had a large data set.

Once a coding theoretical saturation was achieved, a theme search was performed. Codes were examined to see how well they fitted together to form a theme. Using Atlas.ti, codes were created and organised using a colour scheme and allocated to a *Code Group* in the software (Friese, 2016). In this step, the codes allocated in the Code Group were checked to see whether they made sense and, in some instances, the *Split* and *Merge* function was performed in Atlas.ti to combine or separate a code. Codes that were repeated in a patterned way in multiple cases were grouped to establish a theme. The judgment was based on the comparison of codes that revealed links between codes to allow for the nomination of themes. Eight major themes were developed. Sub-themes for each theme emerged during this round of analysis.

Thereafter, network diagrams referred to as thematic maps were created, which assisted with interpreting the findings. This map shows the relationships between themes and sub-themes and their connections are represented by arrows. Additionally, a global overview of the frequencies of the codes within each Code Group was created. Although this is a quantitative approach it assisted to easily locate where the density of codes lies. This was achieved by using the *Code-Document Table* function in Atlas.ti. The Code-Document Table shows the Code Groups, number of code labels and the absolute number of quotations by Code Group (Kalpokaite & Radivojevic, 2019). The advantage of the Code-Document Table is to visually see the Groundedness (GR) of a code, which indicates the amount of time a specific code label was applied. Atlas.ti can view the quotations behind each frequency count, which allowed the author to stay close to the context of these numbers.

The Code-Document Table was exported directly into Excel and presented as an introduction for each theme. The analysis continued by exploring the quotations. An Excel export of the quotations using the *Quotation Manager* function in Atlas.ti was performed to easily explore and extract quotations for reporting purposes that assist in answering the research question (Kalpokaite & Radivojevic, 2020). Quotations improved the validity of the analysis. The literature was used to support the chosen themes in the reporting phase.

9.3 CASE STUDY RESULTS AND ANALYSIS

The focus of this qualitative inquiry was to find patterns derived from the participants' perspectives, both their similarities and differences regarding factors of the entrepreneurial ecosystems. The procedure of thematic analysis allowed for unanticipated insights to emerge. From the interviews, eight major themes are identified. Each theme has a set of sub-themes. The analysis sought the most dominant patterns that emerged from the interviews for each theme. The following subsections present the overarching themes and associated sub-themes.

9.3.1 Theme 1: Regressive City Leadership

During the semi-structured interviews, a pattern emerged, which focused on the city leadership as an obstacle to entrepreneurial development. Therefore, the theme, *Regressive city leadership* was developed. The participants were explicit about their views of the city leadership and the subsequent effect on service delivery. Their responses indicated that the decline in service delivery reduced the social contract with local citizens.

Guided by the theoretical perspective of the Broken Windows Theory, as disorder in society increases so do the broken windows (Gladwell, 2003; Lewis, 2019). According to the theory,

broken windows communicate a sense of low social controls within a community and encourage more serious crimes (Gladwell, 2003; Doran & Lees, 2005; Skogan, 2012). The persistence of broken windows results in residents withdrawing from their community (Doran & Lees, 2005). The theory is applied as participants illuminate that the persistence of corruption and political expediency has regressed Nelson Mandela Bay's economic growth. This in turn has led to the appointment of individuals into positions with very weak outcomes in growing the economic potential of Nelson Mandela Bay. As such, it is proposed that regressive city leadership is a broken window that signals the breakdown of the controls needed to maintain and develop the city. City leaders who abuse their power cannot be trusted to ensure the welfare of society (Alford, 2012).

Within the context of entrepreneurial ecosystems, Acs et al. (2008) explain that entrepreneurs, investors and skilled human capital settle into areas that provide an enabling environment for business to operate. However, regressive city leadership is a 'disorder' that has a moderating effect on achieving city goals. Increased regressive city leadership has spillover effects on GDP, foreign direct investment and increases the cost of doing business (Acs et al., 2008; Detotto & Otranto, 2010; Hoeffler & Fearon, 2014; Mahofa, Sundaram & Edwards, 2016).

Various sub-themes emerged. The sub-themes include (1) *Poor competencies and skills in the public sector*; (2) *Low accountability and implementation*; (3) *Political instability;* and (4) *Unclear goals and vision*. Figure 9.3 provides a thematic map of the relationship between the theme: *Regressive City Leadership* and its associated sub-themes. Each of the sub-themes will be discussed in the following subsection. The absolute values allocated to each sub-theme in the thematic map represent the Groundedness (GR) of codes.
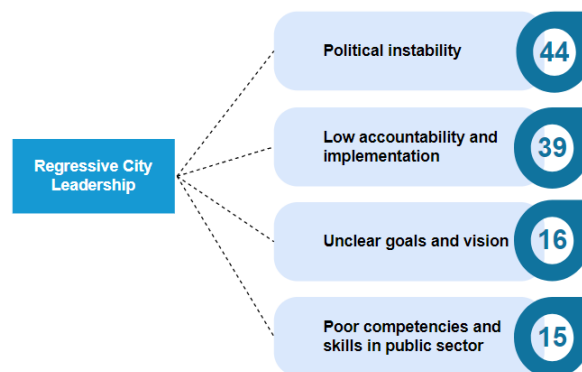

Figure 9.3 – Theme: City leadership as a barrier to achieving entrepreneurial development

Table 9.2 shows the frequencies of each of these sub-themes by the participants and indicates the number of quotations behind each frequency count. The frequency indicates the absolute

value of each sub-theme. Groundedness (GR) highlights the number of times that a specific code label was used as follows: (1) *Poor competencies and skills in the public sector* are grounded with 15 codes; (2) *Low accountability and implementation* are grounded with 39 codes; (3) *Political instability* is grounded with 44 codes and (4) *Unclear goals and vision* are grounded with 16 codes.

Table 9.2 - Frequency distribution of the sub-themes for the theme: Regressive city leadership

Participant	Poor competencies and skills in the public sector Gr=15	Low accountability and implementation Gr=39	Political instability Gr=44	Unclear goals and vision Gr=16
P1; Gr=25	0	1	1	2
P2; Gr=51	2	9	8	1
P3; Gr=41	1	4	2	2
P4; Gr=42	2	7	3	1
P5; Gr=51	3	0	2	1
P6; Gr=45	0	1	3	0
P7; Gr=36	1	3	2	1
P8; Gr=58	1	1	1	3
P9; Gr=42	3	0	0	3
P10; Gr=62	1	7	5	1
P11; Gr=23	0	0	3	0
P12; Gr=26	0	0	4	0
P13; Gr=29	0	1	4	0
P14; Gr=26	0	1	0	0
P15; Gr=56	1	4	6	1
Totals	**15**	**39**	**44**	**16**

In the following subsections, each sub-theme will be discussed.

9.3.1.1 Sub-theme 1.1: Poor competencies and skills in public entities

Some participants expressed concern with the poor competencies and skills of public sector officials or employees of the state. In fact, participants underlined that the lack of competencies and skills impede the development of the city.

In the following excerpts, the participants explained that individuals who hold public sector positions, either do not have the skills, competencies or interest to achieve the policy objectives. Concerning the lack of interest, participants made remarks about officials using terms and phrases, such as "*appetite*", "*play political games*", "*just want to tick your own boxes*" and "*don't have a clue what entrepreneurship is, and they're not interested*". The following data evidence supports the aforementioned.

When asked about the extent that entrepreneurial policies support entrepreneurship, *P10*, *P2* and *P4* underscore issues regarding the competencies of the appointed individuals as follows:

"The problem for us is the actual implementation of policy at the level of local and provincial government and even national and that is where the challenges are, and I think it's because the people responsible for that themselves might not actually have the necessary expertise, nor the capabilities and appetite, maybe for that." ***(P10, lines 136-136).***

"So, the support is there. But as it goes, filters down to the lower levels, the other problem is the appointment of incompetent officials. That's the problem, or maybe I should say, inexperienced, or officials without the knowledge." ***(P2, lines 185-185).***

"I think that's at the core of many of these organisations, I think you need to appoint competent people that's not there to play political games but to execute and make sure it happens. I think there is where we are battling. I think you can apply the same, let us say criticism to why many of the municipal departments are not functioning properly." ***(P4, lines 205-205).***

Similarly, *P3* explains the impact on localisation and domestic suppliers by underlining that tender documents are developed by individuals who undertake a tick box exercise. He states:

"But what happens is that often the tender documents get written by outside people, or by people inside who don't know better. And you just want to tick your own boxes and say, okay, I've got this term of reference. I've got this. We've got 30% in there. We've got the BEE requirements in there, because they haven't looked back into the supply chain process to say, well, how do we grow the economy through the supply chain process? In other words, the backward linkage to the supply chain process. Nobody really talks about that. And I think that's where we are weak, very weak." ***(P3, lines 54-54).***

When *P9* was asked about the public servants' activity surrounding the facilitation of business support for local enterprise development, she responds negatively by saying:

"No, disagree. Because I think actively, they probably doing their job, do what they have to do in the job. But then what worsens the offering that they have is that they just don't have a clue what entrepreneurship is, and they're not interested. You know, this is though talking about the public service." ***(P9, lines 151-151).***

The negative views expressed by the participants are concerning as leaders need to act as role models and provide direction and oversight in order to ensure co-operation and competition (Feld, 2012; Stam, 2015; Stam & van de Ven, 2019). Porter's (1990) seminal work, *Competitive Advantage of Nations* underscores the role of leaders as catalysts to promote the competitiveness of their region. Furthermore, the presence of poor management results in fiscal mismanagement, which contradicts the Public Finance Management Act (South African Government, 1999). In

Phase Three of the reconstruction and recovery plan, the "reconstruct and transform" places emphasis on SMME development (Republic of South Africa, 2020, p. 9). Therefore, it is critical to address the human resources employed and ensure the capabilities and skillset in the state match the positions. Currently, the reconstruction and recovery plan has placed focus on the technical human resources and skills and plan to advance the development thereof on the national, provincial and local level (Republic of South Africa, 2020).

9.3.1.2 Sub-theme 1.2: Low accountability and implementation

Leadership facilitates and directs resources in order for a location to be competitive (Feld, 2012; Stam, 2015; Stam & van de Ven, 2019). Formal leadership rests on the municipality, economic development agents and mayors. Those who are in the leadership roles have a civic duty to provide direction and oversight to ensure that institutions, cities or regions function in a way to achieve a sustainable competitive advantage.

Against this backdrop, a pattern regarding *low accountability and implementation* about Nelson Mandela Bay's city leadership emerged from the interviews. This sub-theme had a Groundedness of 39. The pattern observed indicates that the city's formal leadership falls short of providing direction and oversight to meet key priority areas for economic development. Intuitively, this perpetuates the social exclusion of the poorest in society.

For instance, *P2* explained that the budget allocated to the repair and maintenance of the city went underspent in 2019. He expresses that the city leadership fails to extend efforts on the city's failing infrastructure, but instead directs it to new infrastructure. This underlines the failing social contract between the state and society and undermines the current reconstruction and reform plan, which is guided by a core principle: "ensuring that local communities, particularly historically marginalised communities, are removed from the vicious cycle of under-development". Second, the rollover of any budget regresses from another key enabler, which is fiscal sustainability and improved efficiency of spending. Essentially, the participant reveals that there is a lack of prudent financial management practices that are being followed. In fact, Nelson Mandela Bay's 2020/21 midterm budget and performance report show that the actual expenditure on repairs and maintenance for most line items is below the budget provided (Nelson Mandela Bay Municipality, 2020).

"8% should be spent on repairs and maintenance every year. Currently Nelson Mandela Bay is spending 2% which is way below what it should be, so, so what you have, they are very quick

to, to spend on new infrastructure. But not much on failing infrastructure. So, I believe that it's not efficient" **(P2, lines 354-354).**

P2 highlighted a crucial point in the previous excerpt, which can be linked to a statement made by *P7*. She says:

"There's a little informal square, and people have little stalls in there, there are herbalists, people making these big pots for Incomboti and just in that little square of that business they were driving into to it. So, let's call it a mini mall probably hosting about 10 entrepreneurs in very basic structures but just this, the open square in which the customers must park it's so full of potholes and holes that that now either run off of water and I just thought to myself" **(P7, lines 95-95).**

The participant ends by saying…. "*and I just thought to myself*". Herein, the impact of underspending the budget indicates the lack of accountability and stewardship among city leaders. Effectively, the social inequalities are widened and these entrepreneurs, who may be survivalists, have built the resilience to survive in these conditions. Furthermore, their situation means that they make certain choices on how much to innovate and trade. In particular, research explicated that entrepreneurs, who are competing in a location are influenced by the quality of their surrounding space, land and infrastructure (Neck, Meyer, Cohen & Corbett, 2004; Audretsch, Heger & Veith, 2015; OECD, 2019).

The access to quality business infrastructure in the poor areas was one of the areas that the Integrated Strategy for the Promotion of Entrepreneurship and Small Enterprises addressed (Department of Trade and Industry, 2003). In 2017, the evaluation of four provinces in South Africa revealed that the lack of infrastructure development was a key issue for businesses operating outside of the main economic areas (DPME/Department X, 2017). In the case of Nelson Mandela Bay, city leadership has not aggressively made efforts to reduce the inequality that exists for businesses that operate outside the economic nodes.

In the following excerpt, *P15* explains that many businesses failed because of the non-payment of suppliers by the municipality. Legislation stipulates that invoices and claims are supposed to be paid within 30 days or the agreed-upon period. The non-compliance indicates that accounting officers and officials are not adhering to the South African Public Finance Management Act and the Municipal Finance Management Act. Beyond the non-compliance to the legislation, there seems to be no urgency to meet the principles of Batho Pele. South Africa public officers are

accountable to the citizens and are guided by The Batho Pele White Paper (Department of Social Development, 2021). This White Paper seeks to transform public service delivery.

"I know a couple has failed because the municipality didn't honor their side of payment structures" **(P15, lines 58-58).**

Furthermore, *P2* reveals another shortcoming of the city leadership. He explains that budgets for SMEs to participate in international fairs abroad went underspent. This essentially undermines the White Paper and Pillar Two of the integrated strategy towards creating the enabling environment. The integrated strategy explicitly outlines the strategic actions, which focus on access to markets as a critical area (Department of Trade and Industry, 2003). If this is a part of the activities to satisfy the pillar, government needs to aggressively monitor and evaluate these activities.

"In national government, there is a budget for having fairs internationally. So, the purpose of these fairs is to go and advertise South African products in other countries. And most of the time, the budget is unspent" **(P2, lines 201-201)**.

P4 refers to a situation where two German investors became so frustrated with the city red tape that they sold their land at less than its cost price. Indeed, it reflects the impact of the burdensome red tape and the lack of intentionality from the city to execute on potential foreign investment opportunities for economic integration, technology transfer and knowledge spillovers (Tülüce & Doğan, 2014). Subsequently, opportunities for job creation and local economic growth may be boosted through economic integration.

In 2018, in the State of the Nation Address, President Cyril Ramaphosa expressed that the investment summit held that year would market South Africa as a favourable destination for domestic and international investors (South African Government, 2018). However, in early 2020, the World Economic Forum annual meeting in Davos-Klosters, Switzerland indicated that international investors do not trust South Africa (World Economic Forum, 2020). This annual meeting is a platform where the world leaders collaborate on issues on global, regional and industry agendas. In October 2020, the South African government promulgated the reconstruction and recovery plan, which indicates on the first page that South Africa has "worsened by sustained low levels of investment and growth". This is very concerning, as indicated by *P4*:

"It's devastating, it's such a big deterrent for investment because many of these decisions are time linked. I tell you; I know two German investors here that bought land down in the Seaview

*area where they were going to do huge developments. Because it took so long, both actually sold the land at less their cost price. They just got frustrated. Now, there's very, very fundamental decisions in business and the local government is in control" (**P4, lines 199-199**).*

The above excerpt is one indication of how the city has reduced investor confidence. The current IDP for Nelson Mandela Bay seeks to promote investor and public confidence (Nelson Mandela Bay Municipality, 2021). However, the human capital in key departments needs to be carefully selected and measured in terms of the city leadership's ability to drive and facilitate the importance of making it easier to do business in Nelson Mandela Bay.

The negative investor sentiments about South Africa were expressed by the World Economic Forum in the 2020 Davos-Kloster annual meeting (World Economic Forum, 2020). Equally, in the previous year, the 2019 Global Competitiveness Index reported a decline in South Africa's ranking on conditions, such as trust in politicians, corruption and bribery, crime and violence (Schwab, 2019). Nelson Mandela Bay municipality seems to reflect these findings. For instance, in 2019, an open letter was submitted by the Nelson Mandela Business Chamber (Nkosi, 2019). The open letter clearly states that the municipal administration is a hindrance to growth from a strategic and basic service level. The letter refers to the political infighting and subsequent nonservice delivery. The views from participants alongside the global and local reports indicate that formal leadership need to create oversight to ensure the city functions in a way to achieve a sustainable competitive advantage.

9.3.1.3 Sub-theme 1.3: Political instability

When the participants were asked about the government and regulatory framework, a pattern of *political instability* emerged. Thereafter, the sub-theme *Political instability,* which has a Groundedness of 44 was developed. As in the case of the sub-theme: *Low accountability and implementation*, this pattern aligns with the findings from the 2019 Global Competitiveness Index (Schwab, 2019) and the open letter that was submitted in 2019 by the Nelson Mandela Bay Business Chamber to the mayor and mayoral committee (Nkosi, 2019). In both reports, issues surrounding the political environment are highlighted to have a negative effect on local economic development and growth. In the previous year, 2018, Price Waterhouse and Coopers (PWC) reported how the political instability had a negative correlation with foreign direct investment inflows (PWC, 2018).

The persistence of political instability is a severe issue for the city residents and local economic growth. *P12* and *P13* paint a picture of self-interest, which undermines the essence of good governance, by stating:

"The impact of political instability and no council resolutions is devastating. We need Council's approval for the budget (make funding available), and assistance to the incubators and this delay puts the constraints on the incubators. The delay negatively affects the morale of the entrepreneurs. It is very difficult to coach and assist entrepreneurs without the necessary resources" **(P12, lines 202-203).**

"The major stifling issue here is just our own political interference or interests. Yeah, but provincially and nationally, for example, they will release funding but then it doesn't filter locally because of the many issues" **(P13, lines 226-227).**

In the following excerpts, issue of egos between political parties underlines why there are persistently weak levels of implementation in the city. In fact, looking at the fact that budgets go unspent may be indicative of this regressive attitude between key city leaders. Furthermore, Nelson Mandela Bay has been in a tumultuous situation with regard to the consistent change in leadership based on the power struggles between the political parties. Effectively, voters receive the burden from their internal strife for power. *P2*, *P10* and *P13* explain the salience of self-interest as follows:

"It seems as though you continually striving to get the upper hand over other political parties, even though, you know, it's not the purpose of whatever resolution needs to be made. So, the resolutions are not not supported because of the resolution. And they are not supported because of the party that brings it to the table. So, and, and political instability in Nelson Mandela Bay is rife" **(P2, lines 179-179).**

"I've had talks with the provincial government and with our local city leadership, but you know, because of the change in leadership, it was very difficult to, we had talks with both mayors, but it has fallen through the cracks because of their internal strife" **(P10, lines 9-9).**

"It's purely because of bureaucracy. And that has resulted in a lot of delays in implementation because without a Council resolution, you cannot act" **(P13, lines 206-206).**

Corruption and bribery negatively affected the competitiveness of South Africa (Schwab, 2019). In fact, in the interview with *P15,* he highlights a situation where an individual within a formal metropolitan meeting suggests adopting price-fixing and colluding.

"Yesterday, I was in a metro virtual meeting yesterday and the one, I'm not sure where he falls in politically, but he said that small businesses need to work together and work out prices together and all these things. I disagreed with that because that's colluding and price-fixing" **(P15, lines 76-76)**.

P2 states that the regulatory frameworks are sound and are undermined by unethical behaviour. This is made evident by the event that took place in the metropolitan meeting as explained by P15.

"So, if we talk about the regulatory framework now, you can probably get a whole page or two pages full of regulatory framework that have been established, passed through Parliament rules. There's no problem there. We've got it. The problem comes in is with the corruption" **(P2, lines 185-185)**.

P7 expresses the lack of ethics between the governmental departments. She argues that the city leaders struggle to conduct themselves ethically. In the excerpt following, the same participant outlines that the ethical dilemmas faced filters through all systems.

"I think it's an ethical issue too. We have a huge ethical dilemma across government departments, on a local and national level. And if we can just create municipalities with leaders and people and departments that conduct themselves ethically it will already make it easier to do business with them. Just create an ethical culture to do business and you would have won half of the battle" **(P7, lines 58-58)**.

"We are poorly governed, managed poorly. I can't even use the word leaders for these people. There are poor managers in the public space, public services space, it's, it's just corrupt and poor. So, we can't expect magic from the local people if at national level, we have a huge ethical dilemma, huge, and kind of just filters through all systems" **(P7, lines 176-176)**.

The extent of political instability disenfranchises the members of society. It impoverishes them. P2 paints an explicit picture of what occurs when corruption prevails.

"But we had a minister who was so incompetent and stifled the progress of entrepreneurship in this country. I mean, how is it that you have one company or one family, for example, that has made billions of Rands and taken it out of the country. I mean, if you look at it, I think the figure quoted a few years ago was R10 billion. So that's 10,000 million rand. So basically, you deprived 10,000 South African millionaires or 10,000 individuals, South African individuals of becoming millionaires. That's basically what has happened" **(P2, lines 185-185)**.

In September 2020, the Herald reported that the city's unemployment rate is 40,4% (Kimberley, Kimberley & Donnelly, 2020). Some budgets are rolling over simply because of power struggles within the council constituency as indicated by *P2* (lines 201-201; lines 354-354). This impacts the delivery of priority areas in Nelson Mandela Bay's Integrated Development Plan (IDP). *P7* provides an idiom and qualifies this as follows:

"So, a fish rots from the head. Right. We have created such an unethical work culture in the public space when you think of government, municipalities and I think it's just it's, it's created a society where civil servants are just not prepared to roll up the sleeves unless there's something in it for them something backhanded, you know to them" ***(P7, lines 176-176).***

9.3.1.4   Sub-theme 1.4: Unclear goals and vision

Formal leadership rests with the municipality, economic development agents and mayors. City leaders provide guidance for and direction of collective action in entrepreneurial ecosystems and have a civic duty to direct and oversee that their city functions to promote a sustainable competitive advantage. Entrepreneurs can take this leadership role with other private and public parties. This involves co-creating a vision and enhancing and connecting elements of the entrepreneurial ecosystem (Feld, 2012; Stam, 2015; Stam & van de Ven, 2019). Leaders who co-create a vision spread power, influence and decision-making amongst stakeholders. Thus, leadership is considered as a catalyst for local economic growth and effective leaders actively set the vision for the city or region.

Participants were asked about the extent that Nelson Mandela Bay developed an entrepreneurial ecosystem. Their responses indicated that the city did not and qualified their statements. As they qualified their statements a pattern emerged. The interview data suggested that the participants viewed that city leaders lacked a unified goal and vision.

Against this backdrop, a pattern regarding poor goals and vision emerged. The sub-theme was labelled: *Unclear goals and vision*. This sub-theme had a Groundedness of 16. *P1* explains that the indecision and lack of political pressure or vision have caused regression in developing major economic nodes in the city. Subsequently, this indecision and lack of unified vision affected economic expansion and job creation opportunities for the city. *P1* stated the following:

"Indecision and lack of political pressure and vision on the location and expansion of the PE waterfront, international convention centre, airport (relocation), offshore fish farms, bulk rezoning for specific agro-industrial use within the local municipality (i.e., outside of the Coega SEZ)." ***(P1, lines 269-269).***

P10 explains that a haphazard or uncoordinated approach has been taken to develop entrepreneurship in the city. This is concerning as the idea of an entrepreneurial ecosystem is to co-create a vision while spreading power, influence and decision-making among stakeholders. *P10* underlines the uncoordinated approach by stating:

*"To my knowledge, there has been a fragmented approach to it and it depends entirely on the appetite and the priorities for the leadership of the city." (**P10, lines 5-5**).*

P7 qualifies her response by referring to Rwanda's efforts to promote entrepreneurship. She emphasizes that Nelson Mandela Bay needs to achieve a common goal for the betterment of society. Once again, a pattern regarding the lack of a shared or unified vision or goal is underlined. She qualifies her thoughts as follows:

*"If you think about Rwanda, the first child of Africa, and how they approach things for the greater good of the country. We need a common goal. And it is around building a city of entrepreneurship where they can flourish." (**P7, lines 131-131**).*

P9 refers to the issue of political fast-tracking and government official's unawareness of what activities are required to achieve the objectives and goals. Besides the political interference, the participant indicates there is a lack of a unified understanding in terms of the activities required to achieve the city's entrepreneurial priorities. *P9* states the following:

*"And to marry that, it could be a combination of political fast-tracking, you know, of things, and it could be just the government officials not knowing what to do." (**P9, lines 55-55**).*

In the next excerpt, *P3* qualifies his views by referring to the approach taken by the municipality. He explains that the municipality lacks a comprehensive vision and seemingly follows a tick box exercise when dealing with the issuing of contracts. He continues by stating that the process is predatory instead of developmental in its approach.

*"The municipality is not doing that, they simply just put out contracts, stating the minimum of 30% requirement. They have no way in which to deal with SMMEs. So, the system becomes predatory, rather than a development tool." (**P3, lines 12-12**).*

The interview data suggest that interviewees did not perceive the city to have a clear vision or goals to achieve the entrepreneurial priorities. This is concerning as leadership is fundamental to encourage local economic growth. Effective leadership in a city is explained by its ability to set a clear vision and steps for implementation (Stimson, Stough & Salazar, 2009). At the same

time, it may be important for the city to focus on distributed leadership across stakeholders to develop an entrepreneurial ecosystem.

9.3.2 Theme 2: The institution as a barrier or enabler

One of the major themes that emerged from the interviews was the way the institutional structures mediated or shaped entrepreneurship in Nelson Mandela Bay, South Africa. Institutional structures include government policies, laws and regulations that facilitate economic, social and political interactions (Bosma, Content, Sanders & Stam, 2018; Fritsch & Wyrwich, 2018; Fuentelsaz, González & Maicas, 2019). Literature on entrepreneurial ecosystems argue that the institutional structures shape agencies and affect business dynamism within a location (Fritsch & Wyrwich, 2018; Fritsch, Pylak & Wyrwich, 2019). Leendertse, Schrijvers and Stam (2020) operationalise institutions in the context of entrepreneurial ecosystems by measuring government quality and regulatory frameworks.

In South Africa, the National Development Plan 2030 explicitly describes the important role of entrepreneurship and underscores the role of government as the catalyst to accelerate economic progress (DPME/Department X, 2017; South African Government, 2012). Herein, government policy is expected to reduce barriers to entry and associated burdensome administration. In 1995, parliament promulgated the White Paper on National Strategy for the development and promotion of small business in South Africa by the Department of Trade and Industry (DTI) (Republic of South Africa, 1995). In 2005, as a response to intensifying SMME participation, Cabinet approved the DTIs Integrated Strategy for the Promotion of Entrepreneurship and Small Enterprises, which focused on addressing equity, job creation and access to markets. The strategy was based on three pillars: (1) increased supply for financial and non-financial support services (focused on collaborative approaches and narrowing public and private sector resources); (2) creating demand for small enterprise products and services (B-BBEE and preferential procurement); and (3) reducing regulatory constraints (by creating an enabling environment for businesses to do business).

In 2020, as a result of the COVID-19 pandemic, the South African government decided to focus on localisation and plan to intensify local procurement, specifically in the manufacturing sector (Republic of South Africa, 2020). This decision forms part of the reconstruction and recovery plan and links to the priority intervention: employment orientated strategic localisation, reindustrialisation and export promotion. Once again, a key enabler to achieve this as per the reconstruction and recovery plan is to expedite on forming an enabling environment:

"regulatory changes, a supportive policy environment and enabling conditions for ease of doing business" (Republic of South Africa, 2020, p. 4). The Nelson Mandela Bay Municipality Integrated Plan indicated that the cost of doing business in the city was high compared to other cities in South Africa (Nelson Mandela Bay Municipality, 2021). Subsequently, South Africa's National Treasury is attempting to lower the cost of doing business in the city to improve the scores.

Institutional Theory served as the theoretical perspective for this theme. Institutional Theory is explained by the formal and informal institutions (Scott, 2008). In Scott's (2008) seminal work, he classifies formal institutions through government policies, laws and regulations. Thus, Institutional Theory bounded this theme by focusing on the extent that government policies, laws and regulations shape agencies and business dynamism (Fritsch & Wyrwich, 2018; Fritsch, Pylak & Wyrwich, 2019). Formal institutions are considered as the backbone of an ecosystem and either promote or constrain the resilience of the entrepreneurial ecosystem within a given place.

Against this backdrop, all the interviewees were asked about their views of the policies and legislation guiding and influencing entrepreneurship promotion. Based on their responses, a pattern emerged and the theme: *The institution as a barrier or enabler* was developed. The sub-themes associated with the main theme were (1) *Government policy and processes: Positive;* and *(2) Government policy and processes: Negative*.

Figure 9.4 provides a thematic view of the themes and its associated sub-themes. Each of the sub-themes will be discussed in the following subsection. The absolute values allocated to each sub-theme in the thematic map represent the Groundedness (GR) of codes.
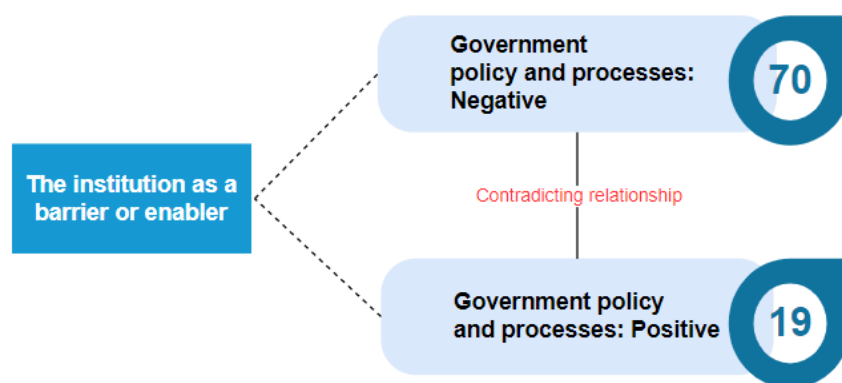

Figure 9.4 – Thematic map for the theme: The institution as a barrier or enabler

To begin the analysis, a frequency table was created. The frequency table allowed for a bird's eye view of the Groundedness of codes to determine where the predominant concentration of views. Table 9.3 shows the frequencies of each of these codes by participants and indicates the number of quotations behind each frequency count. The Groundedness of each code highlights the amount of time a specific code label was applied. The frequency indicates the absolute values for each code and is as follows: (1) *Government policy and processes: Negative* is grounded with 70 codes, (2) *Government policy and processes: Positive* is grounded with 19 codes. The Groundedness of the codes indicates a substantial negative view of the institutional structures as it pertains to entrepreneurial development in Nelson Mandela Bay.

Table 9.3 – Frequency distribution of the sub-themes for the theme: The institution as a barrier or enabler

Participant	Government policy and bureaucratic processes: Negative Gr=70	Government policy and bureaucratic processes: Positive Gr=19
P1; Gr=25	2	1
P2; Gr=51	8	1
P3; Gr=41	5	3
P4; Gr=42	4	1
P5; Gr=51	9	0
P6; Gr=45	5	5
P7; Gr=36	6	0
P8; Gr=58	7	0
P9; Gr=42	3	1
P10; Gr=62	3	0
P11; Gr=23	4	0
P12; Gr=26	1	3
P13; Gr=29	2	1
P14; Gr=26	5	1
P15; Gr=56	6	2
Totals	**70**	**19**

In the following subsection, the sub-themes are integrated and discussed cohesively.

9.3.2.1 Sub-theme 2.1: Government policy and processes (positive and negative views)

The participants were asked about the government and regulatory framework and a strong dissatisfaction emerged and can be identified through the Groundedness of the codes. The sub-theme *Government policy and processes: Negative* has a Groundedness of 70, while *Government policy and processes: Positive* has a Groundedness of 19.

The density of negative views is concerning as policies are aimed to assist and facilitate economic, social and political interactions in a country (Bosma et al., 2018; Fritsch & Wyrwich, 2018; Fuentelsaz et al., 2019). In addition, the participants identified the impact of

bureaucratic processes on enterprise development. To contextualise the views, both the positive and negative views (using excerpts from the interview transcripts) were integrated to compare and contrast participant viewpoints.

In the conversation with *P2,* an immediate disappointment with the regulatory frameworks in terms of its implementation was conveyed. He responded negatively by saying:

*"The problem we have is that there are too many people or too many of these regulatory frameworks that are not strictly adhered to and that are not policed. And as a result of that, there are people that are being corrupt. For example, you're broad based black economic empowerment, nothing wrong with the policy. The policy is an excellent policy. The problem is that how it is implemented, and therein lies the problem. It is designed so that the majority benefit." **(P2, lines 185-185).***

The assertion made by *P2* echoes the findings from the 2019 Global Competitiveness Index, which reported a decline in South Africa's ranking on conditions, such as trust in politicians, corruption and bribery, crime and violence (Schwab, 2019).

In fact, in 2017, a major obstacle was attributed to the poor quality and compliance of South African public agents who managed six key areas: starting a business, dealing with construction permits, accessing electricity, property registration, contract enforcement and trading (DPME/Department X, 2017). In this report, it was underlined that legislation changes were not required, but deemed that the poor compliance of public agencies was the obstacle. Currently, in 2021, the South African National Treasury is overseeing Nelson Mandela Bay's cost of doing business to improve the scores of the city (Nelson Mandela Bay Municipality, 2021, p. 191).

In the following excerpt, *P3* explains that the policies oppose entrepreneurship and promote dependency, by stating the following:

*"So, I don't agree. I think that public policies do not support entrepreneurship. In fact, they support the opposite of entrepreneurship, which is dependency, ironically, of entrepreneurs on public, on public tendering and spend. In other words, there is a dependency created on the fact that the state spends money and that the people rely on the state spending money for them to continuously get work" **(P3, lines 42-42).***

Largely, the issue of dependency may be argued through the history of the economic exclusion of the majority. On this basis, it may be argued that entrepreneurship is exogenous to Black Africans and the rate to understand the dynamics of entrepreneurship is on a backfoot. Herein,

the liberation from colonial rule saw governments taking the lead or assuming responsibility to include Black companies into the economy (Bushe, 2019). However, the rate of globalisation has forced countries to innovate, share ideas and trade with new markets and develop new technologies (Acs, et al., 2018). In turn, the benefits of entrepreneurship would distribute wealth and generate much higher average salaries or wages for low-level jobs.

In late 2020, the Department of Trade, Industry and Competition (2020) explained that the effect of COVID-19 on black-owned companies would cause them to close down, due to poor balance sheets and insufficient collateral as the government needed to reduce their lending rates. This may imply that current businesses lack competitive and scalable capabilities with large dependencies on the state to survive.

When the author asked *P8* about the Preferential Procurement Framework Act, 2000 and the 2011 Preferential Procurement Regulations, he responded negatively by saying:

"So, preferential procurement. My personal opinion is that there has already been 25 years of transformation that has taken place. This preferential procurement plan needs to fall away now because it's actually detrimental to service delivery standards. Because the population is suffering as a result, this is them again that certainly needs to be relooked at. It supports SMMEs, but I think it's once again looking at the social welfare versus development thing" **(P8, lines 128-128).**

In the excerpt, *P8* states that the Act and regulations impede quality standards and create a state of social dependency. Similarly, *P3* underlines issues of dependency when discussing B-BBEE as follows:

"And so, there is a dependency created by the 30% by the BEE, by the this. In other words, if I meet all these criteria, I should be getting work, so you actually create not only the dependency, but the people call this zanufication. So, there is entitlement around, no, but we must have, you must have, if you don't give it, we will do this or we will do that" **(P3, lines 42-42).**

However, divergent to the above statement made by *P8*, *P13* who is an official argues that the Preferential Procurement Act protects small businesses through the 30% allocation measure:

"It protects them. It forces every business to make sure that there's a 30% segment" **(P13, lines 233-233).**

The B-BBEE Act and its associated B-BBEE Strategy aim to redress the inequality of social exclusion of the Black majority. The policy objectives are to increase Black ownership and

control of companies in priority sectors in the South African economy (Department of Trade Industry and Competition, 2021). Thus, the strategy is geared towards accelerated and shared economic growth.

Against this backdrop, the author asked *P15* a question surrounding the Preferential Procurement Act and the response was as follows:

"With the BEE element, you obviously incur more costs if you have a BEE partner. So, what has happened, your prices gone up a bit, but they don't support you anymore. So, the 30% in the private sector are not very transparent. I can see that they don't even support a black transformed company with the best price. Which has been a bit of a scary one, because a lot of white owned companies did the transformation, believing they're gonna get more work or just be able to get the same work and they haven't really been supported that well" **(P15, lines 216-216).**

Transformation and social inclusion are at the core of the National Development Plan Vision 2030 (South African Government, 2012). The above statement is concerning, insofar as it deviates from the impetus of pushing black-owned companies into the mainstream economy. This means that the 51% black ownership lever to reduce structural barriers serves as no incentive if not supported.

Equally, *P8* offers his opinions about the B-BBEE Act as follows:

"So, in my opinion, that should be done away with, because if we look solely at the colour of an entrepreneur's skin, that does not talk to technical capability and experience, it affects the perception of business and the ease of doing business with foreigners as well. That's why we don't have that much foreign investment currently in the Bay, or in the country" **(P8, lines 166-166).**

Further probing regarding policies for local content was done to determine how the domestic (specifically from Nelson Mandela Bay) entrepreneurs are supported in the city. Policy instruments, such as the Preferential Procurement Regulations 2017 on local content aims to ensure that locally manufactured products that meet minimum criteria are considered (Department of Trade and Industry, 2020). There was consensus between interviewees from state institutions that the policy assists entrepreneurs. The excerpts are as follows:

"In the supply chain process local products are given preference" … DTI strategies are adhered to by NMBM" **(P12, lines 213-213).**

"One of the reasons it was developed, is to also try and localise the services and give preferential to the local entrepreneurs to deliver a service. If a department is looking for sanitizers, the first thing they need to do here, is a department in PE or Eastern Cape, what they need to do, they need to look within Port Elizabeth or Eastern Cape, who can offer this service before they can go and get it in Joburg. To me, that works perfectly now with the implementation of the Central Supplier Database" (**P6, lines 291-291**).

However, two issues emerged from the responses from the following three excerpts concerning the procurement of local content. First, lost tax revenue due to the low capacity of local entrepreneurs. Second, the invoicing through third parties. Indeed, two open focus areas emerge, namely: (1) the development of the capacity of the entrepreneurs located in the city and (2) promoting businesses into the mainstream supply chain. These open focus areas or challenges express major concerns despite the government current impetus to focus on strengthening SME supply chain inclusion and localisation through industrialisation (Republic of South Africa, 2020). In terms of the latter, localisation through industrialisation, a key strategic objective is to improve the efficiency of local producers. However, despite efforts made by both public and private business development services, Nelson Mandela Bay struggles to present competitive businesses.

"You might be a local supplier; we prioritize you as a local supplier as a black woman. I will tell you, but we want this dishwashing liquid, procure it for us and it has to be have been sourced from a factory in Port Elizabeth but it can't happen because such capacity does not exist. So, a lot of the money still goes outside of the city, because large companies are BEE level one compliant or level whatever it is and are able to outbid smaller suppliers of the same products. But their head office is in Gauteng, yeah. Not here. They pay their taxes there. They pay their rates there" (**P3, lines 54-54**).

"No, we are hamstrung by it. You are finding that the smaller guy cannot adhere to these Procurement prerequisites. You have no chance against the large established companies. As they tick all the boxes. And we see it time and time again. So, the impact that it has on Nelson Mandela Bay is that we get guys in from CPT, KZN and JHB to fulfil on the needs that we have. We could have injected our own money locally. You can't write a one size fits all Act in an economy like ours, it's just unrealistic" (**P7, lines 50-50**).

"So that's why it's important, this act, that where government does business with smaller businesses, because the smaller businesses have another disadvantage, is that they have to

*invoice for their payment via the medium sized company, I've got a situation well not one but many where the small businesses then don't get paid because the medium sized enterprise hasn't been paid. So, what's the purpose of not doing the contract through the smaller business?" (**P2, lines 191-191**).*

When the author makes a statement "the cost of doing business is low" as a probing method, *P3* immediately responds by stating "totally disagree" and continues by saying:

*"The issue of land use management and, and the cost of doing business, the relationship is difficult. Let me give you an example. It will take you, let's say you want to start a factory of some sorts, or a business of some sorts, and you want to be completely legal about it. It can take you up to two to three years to get your rights, right down to approval of the building plan, where is your economic incentive there" (**P3, lines 103-103**).*

He continues by stating:

*"So, my view is making that three a month process and that's the best economic incentive you will ever have because there are limited holding costs for the entrepreneur. People get the factories built quicker, people start getting employed quicker and longer, and so on and so on and so forth. So, the cost of doing business has actually increased by an inefficient state" (**P3, lines 103-103**).*

Additionally, *P2 and P15* support the previous excerpt regarding bureaucratic processes as inhibitors to economic progress and asserts:

*"Cut the red tape, it's too time consuming. It's, you know, in a place like Rwanda it takes you about 48 hours to register and start the business. In South Africa, it takes you a while. And there's just too much red tape. It's just too time consuming. So, the cost of businesses, it's not low, there's so much you need to provide. And so, it's problematic" (**P2, lines 213-213**).*

*"The cost of doing business is not so low. The simple example is that when you do your cost and rate per hour or your products, you base it on your electricity bill and all these things. But the Municipality in Port Elizabeth has got this weird thing called the winter rate of electricity. The electricity is almost double the price. So, for July, August and September every year, they almost doubled your electricity bill, and you can't carry this cost over to your client, because they will just laugh at you. So, the businesses take a big beating there, which I think is not fair. Doing the costs of business is not as low as it seems" (**P15, lines 229-229**).*

The negative views displayed regarding the cost of doing business align with the outcomes from the World Bank's Ease of Doing Business 2020 report. South Africa, dropped by two points to 84 out of 190 (World Bank, 2020a). The decline in the ease of doing business reflects the sinking growth rate and indicates that it is expensive to do business in South Africa. This means that the regulatory environment is highly restrictive for entrepreneurship and infers why businesses remain informal. For instance, in 2019, it was reported that the proportion of total informal SMMEs in Nelson Mandela Bay accounted for 87,4% of the total enterprises (Dobbin, 2019). In addition, the 2019 Global Competitiveness Report emphasised that South Africa's competitiveness is below par in terms of government adaptability to change, poor business dynamism resulting from insolvency regulations and the administrative burden to start a business (Schwab, 2019).

P6 shows a positive tendency to the impact of the Labour Relations Act and the Basic Conditions of Employment Act, by stating the following:

"Labour Laws benefit SMMEs, by registering with UIF, by registering with your BCA, complying with the Basic Conditions of Employment Act. It is assisting the business once the company goes into problems and you can't afford to pay your workers. For example, you can file with UIF to get your employees to be paid for 6 months, while you still sort out one or two things. So, most SMMEs they don't want to comply because they see it as money being taken away from them. But this is very important in the future. Currently the Labour Laws doesn't affect the SMMEs negatively. I would say that is a positive law" **(P6, lines 329-329).**

However, divergent responses in terms of the Labour Relations Act and Basic Conditions of Employment Act are noted from two well-established entrepreneurs are as follows:

"To me the policies in terms of the Labour Laws are very harsh, I think. Because I think we the only place in the world that after three months employees are deemed permanent and makes it very rigid, so we can't employ as we wish. We have to be really considerate and that's why a lot of companies don't employ, so I think that policy definitely needs to be reconsidered" **(P15, lines 207-207).**

"I think it's serious, serious effects. Because it's difficult to get rid of a lazy employee or a non-committed worker because the processes are too stringent, you know, the disciplinary processes are too stringent. So, what we do is we tend to back off and not employ people and then that affects growth" **(P9, lines 107-107).**

These divergent responses imply that the labour laws are cumbersome for entrepreneurs. Furthermore, it may be implied that the laws acted as inhibitors to the establishment and growth of SMMEs (Luvhengo & Thomas, 2019; Nieuwenhuizen, 2019).

In 2017, an evaluation was conducted on South Africa's Integrated Strategy for the promotion of entrepreneurship and small enterprises as it pertained to the ease of doing business. This report measured regulations against six stages: starting a business, dealing with construction permits, accessing electricity, property registration, contract enforcement and trading (DPME/Department X, 2017). Findings indicated that South African entrepreneurs faced various regulatory obstacles based on where they were situated. The core issue attributed to these issues was based on poor compliance issues by public agents, which shows the effect of *Regressive City Leadership (Theme 1).*

Arguably, the regulatory framework may influence the entrepreneurial culture and incentive to start a business. It may be inferred by the participants' responses that the policies act to strengthen and reinforce the existing entrepreneurial culture. Businesses with onerous regulatory demands reduce the incentive to start a business and red tape is more expensive for small business compared to big businesses (Porter, 1990, 1998; OECD, 2007, 2019b). For instance, the 2020 World Competitiveness Yearbook, the leading survey for competitiveness, reported that the South African government efficiency dropped to 54 out of 63 countries (Department of Employment and Labour, 2020; International Institute for Management Development, 2020).

By reflecting on the views from the participants and notable global findings and reports, such as the recent OECD Economic Survey (OECD, 2020a) it is asserted that the complexity of the regulatory framework and bureaucratic structures impede on competition and growth. Currently, the National Treasury is overseeing Nelson Mandela Bay's cost of doing business, focusing on electricity, construction permits and property registration (Nelson Mandela Bay Municipality, 2021).

9.3.3 Theme 3: Culture and societal norms

The social legitimacy of entrepreneurship in a location creates a demand of local goods and services (Porter, 1990; Kibler, Kautonen & Fink, 2014; Spigel, 2015). Spigel and Vinodrai (2020) argue that an entrepreneurial culture drives entrepreneurial intention and affords resource endowments, such as finance and competencies (Autio & Fu, 2015; Woolley, 2017). The resource endowments are as result of the social legitimacy of entrepreneurship (Kibler et

al., 2014; Fritsch & Wyrwich, 2018). Ultimately, the social legitimacy of entrepreneurship helps spur an innovation differential (Danish, Asghar, Ahmad & Ali, 2019).

Guided by the theoretical perspective of Institutional Theory, namely the Normative (societal norms and values) and Cultural Cognitive (shared understanding and common beliefs) the specific research question was addressed. In particular, how the economic development agents viewed the culture in Nelson Mandela Bay, in terms of the entrepreneurial ecosystem.

Through judgement, the theme *Culture and societal norms* emerged with associated sub-themes: (1) *A culture of dependency and entitlement*; (2) *Negative view of social legitimacy and culture;* and (3) *Positive views of social legitimacy and culture*. Figure 9.5 provides the thematic map of the main theme and its associated sub-themes. The absolute values allocated to each sub-theme in the thematic map represent the Groundedness (GR) of codes.
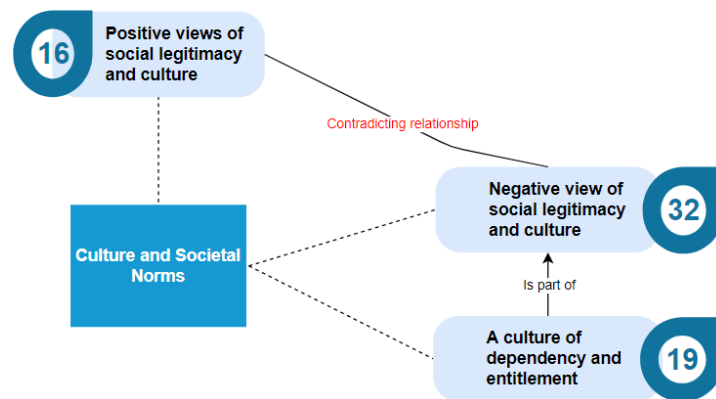
Figure 9.5 - Thematic map of the View of Culture and Norms and the relationship between sub-themes

In order to begin the analysis, the author generates a frequency table to have a bird's eye view of the Groundedness of codes to see where the concentration of views lied. Table 9.4 shows the frequencies of each of these sub-themes by participants and indicates the number of quotations behind each frequency count. Groundedness (GR) highlights the number of times that a specific code label was used as follows: (1) *A culture of dependency and entitlement* is grounded with 19 codes; (2) *Negative view towards social legitimacy and culture* is grounded with 32 codes; and (3) *Positive view towards social legitimacy and culture* is grounded with 16 codes. It is clear from the Groundedness of codes that a predominantly negative view of the culture and norms exist.

In the following subsections, each sub-theme is discussed.

Table 9.4 - Frequency distribution of the sub-themes for the theme: Culture and societal norms

Participant	A culture of dependency and entitlement is present Gr=19	Negative view of social legitimacy and culture Gr=32	Positive view of social legitimacy and culture Gr=16
P1; Gr=25	0	0	1
P2; Gr=51	0	1	5
P3; Gr=41	5	0	0
P4; Gr=42	2	5	0
P5; Gr=51	3	6	0
P6; Gr=45	0	0	1
P7; Gr=36	0	2	1
P8; Gr=58	2	1	0
P9; Gr=42	3	1	0
P10; Gr=62	0	3	1
P11; Gr=23	0	4	1
P12; Gr=26	1	1	3
P13; Gr=29	0	1	2
P14; Gr=26	0	0	1
P15; Gr=56	3	7	0
Totals	**19**	**32**	**16**

9.3.3.1   Sub-theme 3.1: A culture of dependency and entitlement

Throughout the interviews, participants expressed that the entrepreneurs in the city suffered from entitlement and dependency. In fact, these views emerged when referring to the policies, such as the 30% allocation in the Preferential Procurement Regulations and the B-BBEE Act. As indicated in the theme: *The institution as a barrier or enabler*, the regulatory framework influences the entrepreneurial culture and can either weaken or reinforce the culture.

For instance, when asked about the Preferential Procurement Act, *P12* supported the Act. However, through further probing to understand how the entrepreneurs perceived the 30% allocation, the participant responds as follows:

"The SMMEs are opportunists and have a sense of entitlement." (P12, lines 217-217).

When asked about how the policies support entrepreneurship, *P3* states that policies do not support entrepreneurship and qualifies his statement as follows:

"In other words, there is a dependency created on the fact that the state spends money and that the people rely on the state spending money for them to continuously get work. So, this is a dependency by those people on state expenditure" ...

"And so, there is a dependency created by the 30% by the BEE, by the this. In other words, if I meet all these criteria, I should be getting work, so you create not only the dependency, but the

people call this zanufication. So, there is entitlement around, "No, but we must have, you must have, if you don't give it, we will do this or we will do that" (**P3, lines** **42-42).**

In the following two excerpts, *P5* and *P15* use the terms "*entrepreneurs are seen as a necessary evil*" and "*they actually threaten big business, private sectors and parastatals who get the work*". These negative views demonstrate that participants feel that a strong sense of entitlement exists in Nelson Mandela Bay. In fact, even though the integrated strategy for the promotion of entrepreneurship is geared towards accelerated and shared economic growth, the views tend to indicate a very negative outlook on the processes followed to satisfy the objectives. The following data evidence support the aforementioned:

"I just don't feel that there is that culture of entrepreneurial support in anything entrepreneurs are seen as a necessary evil, you know, give them their 30% so that they can stop making a noise" (**P5, lines 145-145).**

"And when you say celebrate, I feel that the angle that they have used for SMMEs to keep them happy, has almost given them a sense of entitlement. So, what I mean about this is if there's any tenders from government or municipalities, there's almost been a whole consensus around black businesses that they have to get to work and they actually threaten big business, private sectors and parastatals who get the work. And there's been a big drive from Nelson Mandela Bay to get small businesses export ready on a global market, but they can't even service the local PE market. Because all the work they get is just on a threatening basis. And for me, I'm a little bit concerned regarding that whole space. So ja, that's my thoughts on that side" (**P15, lines 52-52).**

P4 responds to his view of the Preferential Procurement Act by explaining that many good business owners exist in the city. However, he continues by explaining that these individuals would not benefit from the Act. He qualifies this by underlining the extent of corruption and entitlement through the B-BBEE strategy. Essentially, the participant explains that entrepreneurs suffer from entitlement and not entrepreneurship. He states the following:

"But to the extent that I say look there's this 30% policy of the municipality so because I'm Black so I can walk into any White business or and they must give me 30%...that's more opportunism, its entitlement. It's, you know, not linking risk and reward like entrepreneurs do and so on. So that's not entrepreneurship. That's pure opportunism and the wrong mindset" (**P4, lines 89-89).**

9.3.3.2   Sub-theme 3.2: Negative view of social legitimacy and culture

The legacy of entrepreneurial traditions within a specific spatial location (place, location, region, city) underscores continued entrepreneurial activity and knowledge spillovers. Places with a high density of entrepreneurial activity are characterised by having entrepreneurial role models who act as peers who induce a favourable perception of entrepreneurship (Fritsch & Wyrwich, 2018). Similarly, within an entrepreneurial culture, society does not shame failure and entrepreneurs who fail have generated new know-how or competencies and may act as mentors or advisors. Both Daniel Isenberg and Brad Feld indicate that ecosystems should not be opposed to a scenario of fast failure (Isenberg, 2010; Feld, 2012).

Against this backdrop, participants were asked about their overall view of Nelson Mandela Bay's entrepreneurial culture. *P9* states that the city does not have an entrepreneurial culture. In fact, her view is that it is based on the pressure from unemployment. Her view indicates that starting a business leans towards survivalism. This is supported by the statement made by *P11*. The statements made by *P9* and *P11* are as follows:

"I think the culture is not entrepreneurial, but it's a needs pressure from unemployment and pressure from, you know, trying to create solutions for poverty, more than focusing on creating a solid entrepreneurial culture" ***(P9, lines 55-55).***

"Most SMMEs are just trying to survive" ***(P11, lines 21-21).***

The celebration of entrepreneurship is centred around elevating the status of entrepreneurship. Elevating the status of entrepreneurship improves the tolerance towards risk and failure. This manifests in society that failure is perceived as an opportunity to learn (Isenberg, 2011; Feld, 2012; Kibler et al., 2014). When asked whether the city celebrates entrepreneurship, *P10, P13* and *P15* explain that no efforts have been put in place. In fact, *P15* brings attention to the superficial way entrepreneurs in the city are awarded. The following excerpts include the statements made by *P10*, *P13* and *P15*:

"I think what we don't have in this is a celebration of entrepreneurial excellence. We have the Business Chamber annual banquet and there they celebrate companies that are actually doing great, you know, from a performance point of view. But we don't go to your individual entrepreneurs and there are some brilliant, brilliant businessman in this city, people that are operating under the radar, and they're not celebrated in my view" ***(P10, lines 19-19).***

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"We do encourage strongly, but we haven't had that culture of celebration and having role models that we can say, these are the people that we have supported and they're doing wonderful work in the community. No, we don't do that. So, in short no" ***(P13, lines 57-57).***

"I don't believe they are. And also, all the entrepreneurs that comes in newspapers and social media is by a vote of friends who can sms the most, and no one really conducts a deep analysis of small businesses in the metro and see who actually honours their staff properly and who is actually financially doing well. So, you always get these awards getting handed out, but I know for a fact that half of them are so riddled with debt and don't pay their staff on time, but they win all the awards" ***(P15, lines 64-64).***

P11 was asked whether locals support entrepreneurs in the city and offered a positive response. However, he was saddened by the lack of support from the public sector, large corporates and the university. His response is as follows:

"In financial services, companies used by the public sector, large corporates or even NMMU. It is actually shocking that larger corporates, universities and the public sector only deal with national finance and insurance companies but then expect us to support them. So no, sadly, if it were not for local private sector support, SMME's would not exist. Sad!" ***(P11, lines 32-32).***

P15 was asked about whether the culture in Nelson Mandela Bay had a tolerance for risk and failure. He felt that the city had a negative view of failure and qualifies his view as follows:

"That's a difficult question...if you fail, then everyone looks at you're different...So, we've got a very bad culture in South Africa, that when businesses landed and tenders are awarded, the first thing that the business owners do, is to buy expensive cars and not run their business profitable. So yes, that is why there's a bad connotation to failure in South Africa, because failure is bound to happen when it's a political tender that is going out ... if you fail before, then no one really wants to support you after that. And just because the culture is bad" ***(P15, lines 70-70).***

9.3.3.3   Sub-theme 3.3: Positive view of social legitimacy and culture

According to Fritsch and Wyrwich (2017, p.6) the social acceptance of owning a business elevates the entrepreneurial culture. *P1* explains that the economic development agents, such as the business chamber increase the flow of knowledge as follows:

"There are promotions, which for example, share success stories through information communication material… The Nelson Mandela Bay Business Chamber promotes the flow of information" (**P1, lines 312-312**).

In the following three excerpts, *P2*, *P13* and *P7* explain that self-employment is encouraged. They state the following:

"The Nelson Mandela Bay has promoted public image for entrepreneurship. And I believe that more can be done. So, there is the opportunities that are created. small and medium enterprises are encouraged, or should I say individuals are encouraged to become business owners and entrepreneurs, so it definitely is. I'm not going to talk about the connections anymore. I'm just going to say, there is opportunities. And I believe so" (**P2, lines 39-39**).

"If I look at the amount of staff with a side hussle, if I look at the SPAZA shops, the informal businesses that fills Korsten. I think there is, South Africans have realised that seeking formal employment is like finding needle in a haystack. But starting your own business is the onset of putting food on the table" (**P7, lines 123-123**).

"Yes, they are viewed as economic drivers. So, it is held in high regard. In fact, it's promoted rather than formal employment. Many are encouraged to startup businesses, to contribute to the local economy, create jobs and things like that" (**P13, lines 69-69**).

When asked about whether the local community of Nelson Mandela Bay supported local businesses, both *P10* and *P11* explain that the support exists. This is encouraging as local demand is essential for entrepreneurship to occur. Local demand reflects that there is social legitimacy amongst the community. *P10* and *P11* provide their views as follows:

"But I think there is a general pride in our city and a general loyalty to our business in our city" (**P10, lines 29-29**).

"I think that despite national and especially local government, lack of support for SMME's, community support in NMB is quite strong" (**P11, lines 32-32**).

9.3.4   Theme 4: Connections

During the semi-structured interviews, a pattern emerged regarding connections and collaboration. Therefore, the theme, *Connections* was developed. Entrepreneurial ecosystems are described by the extent of co-operation between various actors. The relationships afford co-operation and competition among the actors (either partisan, distributed, or embedded) of

the entrepreneurial ecosystem (Stam & Van de Ven, 2020). In fact, the connections are seen as a precondition in the establishment of an entrepreneurial ecosystem.

Connections are warranted as they drive co-creation which leads to new venture creation, such as knowledge spillovers, spinoffs and access to markets (Brown & Mason, 2017; Stam & Spigel, 2018). Co-creation leads businesses into supply chains within a specific sector. However, certain ties within a network may lead to closed social circles or fragmented ties within the entrepreneurial ecosystem, which undermines co-operation (Crespo, Suire & Vicente, 2014; Boschma, 2015).

Guided by the theoretical perspectives of Social Network Theory, the author focused on the concepts of structural embeddedness and centrality of the actors. These concepts explain the balance between co-operation and competition (Borgatti, Mehra, Brass & Labianca, 2009; Stam, 2015; Ofem et al., 2018). Structural embeddedness focuses on density of the ties between direct and indirect actors towards co-operation and co-creation (Granovetter, 1992). Centrality refers to the position of the set of actors. The actors' position influences how information flows, how it is exchanged and how decisions are made that would potentially add value for them.

Furthermore, the Structural Holes Theory was applied. Structural Holes Theory is embedded in Social Network Theory. The theory explains the importance of density in the relationships formed within the entrepreneurial ecosystem (Motoyama & Watkins, 2014; Motoyama & Knowlton, 2017).

The literature-based construction of networks may be explained through co-operation, co-creation and knowledge spillover. These concepts were explored within the interviews to determine the relevance of those concepts to the entrepreneurial ecosystem of Nelson Mandela Bay. Overall, the participants had divergent responses regarding the connections between actors in the city.

Through judgement, two sub-themes emerged. The sub-themes include (1) *Fragmented networks;* and (2) *Positive networks*. Figure 9.6 provides a thematic map of the relationship between the theme: *Connections* and its associated sub-themes. The absolute values allocated to each sub-theme in the thematic map represent the Groundedness (GR) of codes.
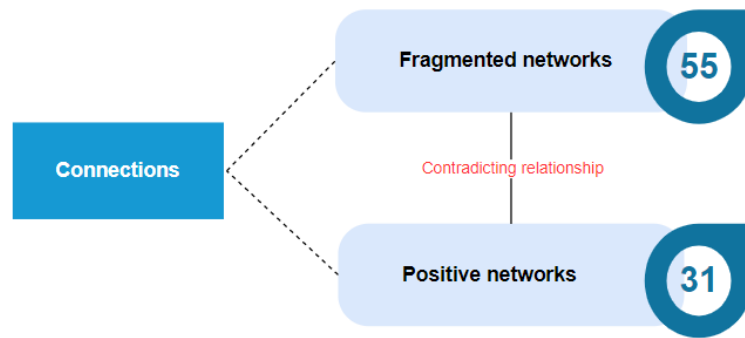
Figure 9.6 - Thematic map for the theme: Connections

Table 9.5 shows the frequencies of each of these sub-themes by participants and indicates the number of quotations behind each frequency count. The frequency indicates the absolute value of each sub-theme. Groundedness (GR) highlights the number of times that a specific code label was used as follows: (1) *Fragmented Networks* is grounded with 55 codes and (2) *Positive Networks* is grounded with 31 codes.

Table 9.5 - Frequency distribution of the sub-themes for the theme: Connections

Participant	Fragmented Networks Gr=55	Positive Networks Gr=31
P1; Gr=25	1	3
P2; Gr=51	5	0
P3; Gr=41	1	0
P4; Gr=42	7	1
P5; Gr=51	7	0
P6; Gr=45	1	6
P7; Gr=36	2	1
P8; Gr=58	5	4
P9; Gr=42	3	4
P10; Gr=62	12	1
P11; Gr=23	3	0
P12; Gr=26	0	4
P13; Gr=29	2	2
P14; Gr=26	4	2
P15; Gr=56	2	3
Totals	**55**	**31**

In the following subsections, each sub-theme will be discussed.

9.3.4.1 Sub-theme 4.1: Fragmented Networks

Participants were asked whether economic development agents and entrepreneurs increase the entrepreneurial knowledge flow in Nelson Mandela Bay. Two of the entrepreneurs indicated that information or knowledge spillovers do not happen. *P9* described the city as having social cluster or status issues. She explains that entrepreneurs are more likely to know about opportunities based on the social cluster that they belong to. This response is concerning for

the enterpeneurial ecosystem as it undermines knowledge spillovers for ideation, access to markets and new sectors. In the following excerpts, *P9* and *P15* qualify their statements as follows:

"Nelson Mandela Bay suffers from class issues and clusters, and social clusters, social status issues, which really should be donkey years ago issues. But I think we have not left that. So, I speak of blue ocean economy because I get to hear it, because I'm walking along the paths of those in that sort of cluster. But generally, if I were an entrepreneur that lives in Nelson Mandela Bay and came about starting a business, those clubs and those meetings and those groupings, I would never hear about them" (**P9, lines 195-195**).

"However, I feel that at the moment, the collaborations are not there because we're operating in silos like we all know. And the one business doesn't want the next competitor to succeed. So, at the moment, I think the information flow is non-existent and everyone's keeping to themselves. Too much pride" (**P15, lines 76-76**).

When asked broadly about whether Nelson Mandela Bay developed an entrepreneurial ecosystem, *P10* explains that efforts are made by informal organisations in the city. However, he explains that the efforts are fragmented, as follows:

"I've been involved with a number of efforts to develop entrepreneurship in the so-called disadvantaged areas, through skills development, and then of course, developing entrepreneurial skills. And there, it was either for individuals, individuals, or they were some, of course, some informal organisations that would come to me and talk about those efforts. So, there's a lot of like I said, fragmented work in that space" (**P10, lines 7-7**).

Participants were asked about the relationships with academia and the research environment. *P13* shares that even though a memorandum exists between the municipality and the university, the relationship is strained. She described that the issue may be the result of the government's attitude, implying that it creates a barrier. The underinvestment in knowledge, such as networks with universities has the potential to create major disparities for entrepreneurial development (Obschonka & Audretsch, 2019). These disparities reduce business survival, innovation, access to markets or the ability to develop new sectors and create negative economic development in under-resourced environments (van Beers & Zand, 2014; Link & Scott, 2019). *P13* and *P6* qualify their statements as follows:

"So, we have a memorandum of understanding, for example, with the University. However, there seems to be a disconnect, and maybe because perhaps, of our attitude as government, you

know, so lack of information or lack of response, and things like that, such that even the university is not relying on our city or government to be a reliable partner. So, I don't think that relationship is fluid enough" (**P13, lines 448-448**).

"I will say yes, but there are improvements that needs to take place. I think all agencies supposed to utilize the academic industry as an important source of information or research, in terms of SMMEs, be it for product development or be it for product testing. That is our one shop stop where we supposed to get more information due to the availability of laboratories and so on. There is a relationship with academia, but that relationship to me still needs to be enhanced" (**P6, lines 506-506**).

Entrepreneurial ecosystem literature explicates the importance of networks for sustainable entrepreneurship. The weak integration of functional specialisations between actors reduces the likelihood of connections to occur for collaboration. This creates missed opportunities to recycle complimentary benefits and subsequent spinoffs. Therefore, fragmented networks need to be addressed to ensure that the various actors engage to benefit from knowledge spillovers for ideation, access to markets and to tap into new sectors.

9.3.4.2   Sub-theme 4.2: Positive Networks

Events that create relationships are important in order to achieve an advantage ecosystem (Ter Wal, Alexy, Block & Sandner, 2016; Roundy, 2017; Spigel, 2017). Therefore, efforts made towards building networks may be described as essential towards creating an advantage ecosystem. In South Africa, non-financial support services aim to create collaborative approaches to support businesses (Department of Trade and Industry, 2003). These institutions are seen as the connective tissue for networking opportunities (Isenberg, 2011; Spigel, 2017; Meyers, 2018; Vedula & Kim, 2019).

Participants were asked how actively local economic development agents support entrepreneurs to access markets. *P6* expressed that there are efforts made to introduce entrepreneurs to international markets through trade exhibitions by stating the following:

"Year to year, these clients, we take them also overseas to showcase their products, here locally as well. We have various trade exhibitions taking place. Expo, National Arts Festival, manufacturing Indaba, automotive and various other sectors" (**P6, lines 303-303**).

Similarly, *P9* and *P10* support the previous excerpt by explaining that local governmental agencies provide network platforms for collaboration. The following data evidence supports the aforesaid:

"Yes, because I know a few collaborate and have an open event that has all of them like your ECDC and sometimes the municipality and ECDC and SEDA. They do have those network platforms for SMMEs" ***(P9, lines 157-157).***

"Well, I know work of SEDA, I can testify that they are active. In fact, we are in a partnership with them and the chamber in a triple helix collaboration." ***(P10, lines 262-262).***

Participants were asked about the success of collaborations to promote Nelson Mandela Bay's local enterprise development, *P1* describes that the cluster management organisations established by the local business chamber as evidence of successful collaborations. He states the following:

"Establishment of various cluster management organisations (e.g., NMB Maritime Cluster, the NMB Tourism Action Group). The successes and activities of the NMB Business Chamber are prime examples of ongoing collaborative efforts to promote LED in NMB." ***(P1, lines 290-290).***

Both *P12* and *P13* explained that entrepreneurs access information if they belong to a forum. However, the author highlights that those entrepreneurs may struggle with information asymmetry about the services offered. Information asymmetry creates a disproportionate effect on nascent entrepreneurs. In fact, in the sub-theme: *Fragmented Networks*, *P9* explained issues of information asymmetry by describing the prevalence of social clusters. *P12* and *P13* qualify their views as follows:

"If entrepreneurs belong to a forum, they will be informed. In NMBM we make provision to assist people in their own language, but printed material is in English" ***(P12, lines 290-290).***

"Yes, they're connected because they work through forums. For example, in Summerstrand, we have the Summerstrand Business Forum that specifically caters for entrepreneurs…There are over 100 forums in NMBM. Now which not necessarily feed into the business chamber, but they have their own other platforms they feed into" ***(P13, lines 77-77).***

Participants were asked about interventions to develop the workforce. *P8* referred to the partnerships that exist between the Further Education and Training institutions and the Business School in Nelson Mandela Bay. He continued by explaining that institutions engage with the incubator to do information sessions and outreach programmes. This is essentially a way to introduce these individuals to their possibilities once they have completed their training courses and assists to reduce information asymmetry. *P8* stated the following:

"Midlands college, we have got PE college, there is the Nelson Mandela Bay Business School, there is the interaction with Nelson Mandela University, we've got relationships and different interventions with each of them…Those individuals are then referred to us to register businesses or come together and form businesses and so on as well. And we actually go there and there is new registrations in the New Year. And we go there and we do information session, we do an outreach program, and we get to present to them to the scholars so that they are aware of what they can do post those training courses" ***(P8, lines 330-330).***

Being a leader in student entrepreneurship at the university, *P14* explains that they (the students) are socially embedded through a dense network. The advantages of social proximity may be echoed through its knowledge exchange and networking opportunities. This is especially important for start-ups or nascent entrepreneurs (Bell-Masterson & Stangler, 2015). *P14* explains the benefits of social proximity as follows:

"I'll refer mostly to SMMEs. NYDA has done a whole lot of things that has exposed us to other people. Also, The Business Places has done many things to expose us to other things. They have this thing, they say they do workshops, many different people who come and connect. There are many people besides the government, even private initiatives really connect to us. Without those workshops and those are resources, there would be no connection" ***(P14, lines 35-35)***.

"There's a whole lot of hackathons happening, for ICT especially a lot. There are a whole lot of, even for any business and any sector. There's even entrepreneurship intervarsity. So, by the EDHE entrepreneurship development in higher education, there's quite a lot of those competition these days. So those are resources they have available and it's just about you taking part in them" ***(P14, lines 37-37)***.

The interview data suggest that Positive networks are being created in Nelson Mandela Bay. The participants indicate that various stakeholders are involved in creating both informal and formal networks. The Groundedness of this code was 31. By comparing it with the sub-theme: *Fragmented Networks*, it is argued that measures need to be taken to offset the fragmented networks that exist. For instance, the relationship between the university and municipality needs to be repaired so that these institutions can become active partners in developing entrepreneurship in the city.

9.3.5   Theme 5: Perception of Business Support Services

Support institutions are argued as the connective tissue in an entrepreneurial ecosystem (Isenberg, 2011; Spigel, 2017; Meyers, 2018; Vedula & Kim, 2019). They offer various kinds of support to address potential co-ordination failures and issues of information asymmetry. The programmes support innovation, value chain and association strategies (Cravo & Piza, 2016). Furthermore, these institutions aim to scale businesses from small to bigger, while the latter relates to creating dynamism in terms of innovation and market access.

In South Africa, the DTIs Integrated Strategy for the Promotion of Entrepreneurship and Small Enterprises emphasises the importance of the supply of financial and non-financial support services (Department of Trade and Industry, 2003). From a national perspective, the National Small Business Act outlines that the Small Enterprise and Development Agency (SEDA) as the coordinating agency directing other support agencies. However, this has been difficult to achieve since many agencies work autonomously (DPME/Department X, 2017).

According to the strategy, the financial and non-financial support services would be developed through collaborative approaches and by reorganising the public and private sector resources. From a local perspective, various business development services and programmes were organised through public and private institutions and are classified as follows:

- State institutions: local economic development agencies, local economic development initiatives, local support centres, incubators and business support centres; and
- Other institutions: Private incubators, business chambers and business enterprise development programmes.

Financial and non-financial support services exist to support new ventures (OECD, European Union, European Training Foundation & European Bank for Reconstruction and Development, 2015; Fritsch & Wyrwich, 2018; Vedula & Kim, 2019; Leendertse et al., 2020; Stam & van de Ven, 2019). In particular, there are networking opportunities, information about potential sales and advice to scale operations (Isenberg, 2011; Spigel, 2017; Meyers, 2018; Vedula & Kim, 2019).

OECD et al. (2015) assert that support service institutions guide and train SMMEs to scale capacities towards productive entrepreneurship. However, these service providers struggle with information asymmetry in the demand and supply of their services (OECD et al., 2015). This creates a disproportionate effect on nascent entrepreneurs as described below:

- Demand information asymmetry – this refers to limited knowledge from the nascent entrepreneurs about accessibility, resources and benefits. This may lead nascent entrepreneurs to underinvest in intermediary services; and

- Supply information asymmetry – this refers to limited knowledge about training needs, preventing them from providing tailored and timely business support. Private intermediary service providers face funding challenges that may crowd out private initiatives.

Guided by the theoretical perspective of Systems Theory, specifically, the perspective of the social system argues that the function of support services offers resources vital for entrepreneurship. Systems Theory explains how activities in the entrepreneurial ecosystem transform inputs within the city's structure to create outputs for the stakeholders in that ecosystem (Leendertse, Schrijvers & Stam, 2020).

Through judgement, the theme *Perception of Business Support Services* emerged with associated sub-themes: (1) *Support services as active role players*; (2) *Support services as catalysts for collaboration*; and (3) *Lack of measurement of support services*. Figure 9.7 provides the thematic map of the main theme and its associated sub-themes. The absolute values allocated to each sub-theme in the thematic map represent the Groundedness (GR) of codes.
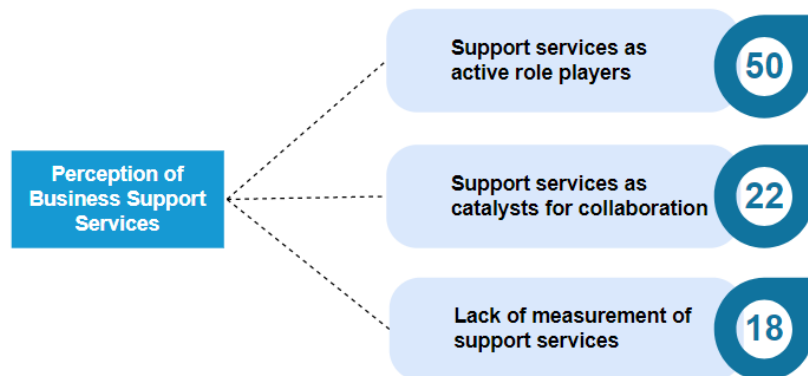
Figure 9.7 - Thematic map for theme: Perception of business support services

Table 9.6 shows the frequencies of each of the sub-themes by participants and indicates the number of quotations behind each frequency count. The frequency indicates the absolute value of each sub-theme. Groundedness (GR) highlights the number of times that a specific code label was used as follows: (1) *Support services as active role players* are grounded with 50 codes; (2) *Support services as catalysts for collaboration* is grounded with 22 codes; and (3) *Lack of measurement of support services* is grounded with 18 codes.

Table 9.6 - Frequency distribution of the sub-themes for the theme: Perception of Business Support Services

Participant	Support services as active role players Gr=50	Support services as catalysts for collaboration Gr=22	Lack of measurement of support services Gr=18
P1; Gr=25	4	2	2
P2; Gr=51	1	0	0
P3; Gr=41	3	0	3
P4; Gr=42	1	0	2
P5; Gr=51	2	0	2
P6; Gr=45	7	6	0
P7; Gr=36	3	1	0
P8; Gr=58	8	2	0
P9; Gr=42	4	3	1
P10; Gr=62	3	2	4
P11; Gr=23	0	0	2
P12; Gr=26	2	3	0
P13; Gr=29	4	0	2
P14; Gr=26	5	2	0
P15; Gr=56	3	1	0
Totals	**50**	**22**	**18**

In the following subsections, each sub-theme will be discussed.

9.3.5.1 Sub-theme 5.1: Support services as active role players

Questioning began by establishing whether the business support institutions were visible and active in the city. The participants agreed that support services were well prioritised in Nelson Mandela Bay. An encouraging highlight is a focus on underserved communities of Nelson Mandela Bay. Their deliberate efforts to include these communities illuminates that these agents enact the pillars of the DTIs strategy. The participants explained the types of activities undertaken by their institutions and indicated that active steps were taken to develop entrepreneurship. The following are extracts support the aforementioned:

"Yes. So, I believe those agencies definitely go a long way to assist in the entrepreneurial knowledge of entrepreneurs" **(P2, lines 379-379).**

"In Uitenhage we actually train SMMEs on how to conduct meetings, how to tender for projects, even in Helenvale, how to fill out basic tender forms, how to be compliant, because a lot of small entrepreneurs don't know how to be compliant. So, we train them in that as well. And so, we've given them certificates on how to conduct public meetings, how to do basic tendering and how to help with CIDB one gradings" **(P3, lines 18-18).**

"Meanwhile, to be fair, there is a substantial amount that the municipality is investing in SMME development, people might not be aware of this, but these institutions, including our own that

*are being funded by the municipality for them to be able to provide SMME support and development" (**P5, lines 145-145**).*

*"I believe that local business chamber is doing a lot of try and get businesses out there, try and talk to big business to support the local content of SMMEs. The change agents do support entrepreneurs to access markets" (**P15, lines 220-220**).*

The interview data suggest that business support services are a functional area in Nelson Mandela Bay. This perspective was shared by most participants, both government and non-government participants. This is encouraging as support service institutions aim to guide and train entrepreneurs to scale capacities towards productive entrepreneurship.

9.3.5.2 Sub-theme 5.2: Support services as catalysts for collaboration

Collaboration serves to promote networking, information about potential sales opportunities and scaling. The author was interested in determining whether efforts have been made to promote collaboration through networking or information, through the support institutions. This sub-theme has a direct link to the theme: *Connections*.

Nine participants agreed that the business support institutions promote collaboration. This is encouraging and promotes the opportunity for positive spillovers to occur. For instance, Brown and Mason (2017) explain that a supportive environment may be described by the extent of co-operation between actors. This co-operation leads to mutually inclusive relationships, which create co-operation and competition among the actors of the entrepreneurial ecosystem (Stam & Van de Ven, 2020). Furthermore, there seem to be efforts made by the public and private institutions within Nelson Mandela Bay. The following extracts support the aforesaid:

*"Establishment of various cluster management organisations (e.g., NMB Maritime Cluster, the NMB Tourism Action Group). The successes and activities of the NMB Business Chamber are prime examples of ongoing collaborative efforts to promote LED in NMB" (**P1, lines 290-290**).*

*"We support them to access markets through trade exhibitions" (**P6, lines 303-303**).*

*"Your ECDCs and SEDAs have got what they call Annual Support for Exhibitions and I know a lot of SMMEs have benefited from that. So, to be fair to them, I think there is something happening. And I know a number of SMMEs that have gone to platforms that they would not ordinarily afford, you know, your, your local and international platforms. And so yeah, but there is activity there, so I would say they're actively doing it" (**P9, lines 93-93**).*

"And I can confirm, you know, that from a BEE point of view, from supplier and a development point of view, from the big side of our companies in PE, they definitely do support them. And they actually are quite innovative in the way that they try to accommodate them into their supply chain and the quality and setting themselves up. They don't just say oh, come and help us and you try to do it yourself" ***(P10, lines 139-139).***

9.3.5.3   Sub-theme 5.3: Lack of measurement of support services

Eight participants explained that they were unable to identify systems that monitor or evaluate the impact of the interventions. The uncertainty came from both the government and non-government participants. However, some internal monitoring was taking place, it seems that the statistics were not meaningful to inform the delivery thereof. The following extracts offer the assertions made by the participants:

"It is currently not measured. This makes it difficult to make inter-city comparisons. As a city we need to think of ways on how to measure that" ***(P1, lines 293-293).***

"I know they have programmes. So, I would agree, but the impact, I don't know that the extent of the impact you understand, but I know there are interventions. There was a whole huge funding with the Partnership for Helenvale and the municipality, and yeah, so I don't know the impact, but I know there is. It was implemented by the MBDA. But it's a metro project" ***(P9, lines 252-252).***

"And in as far as the efficient support services, it's very difficult to answer that question because we don't have a formal system to measure the impact of those services. It's very, very fragmented, and disorganised, and it is probably indicative of a, of an ecosystem that's certainly disintegrated" ***(P10, lines 258-258).***

"How efficient it is, I'm not sure but they do call for meetings, workshops. I've seen a schedule before I'm not sure how active they follow it on things to be done towards entrepreneurs. You know, I've seen it even paper not sure reality if they follow through" ***(P13, lines 424-424).***

The monitoring and evaluation activity is fundamental to determine the economic feasibility of entrepreneurship policies and programmes (OECD, 2018b). By performing this activity, the city can establish whether the combination and makeup of various policies and programmes are appropriate to achieve the development priorities of a city. Moreover, monitoring and evaluation are integral to improve the social contract with citizens and embed accountability.

9.3.6   Theme 6: Regressive City Planning

Authors have argued that businesses competing in a location are influenced by the quality of their surrounding space, land and infrastructure (Neck et al., 2004; Audretsch et al., 2015; OECD, 2019b). Therefore, businesses located in a specific geography make choices on how much to innovate and can trade based on a city's design and structure. The OECD (2019b) contends that connectedness through physical connections is essential for social inclusion and improves land value. Thus, urban policies are designed to develop spaces of production and consumption (Glaeser & Gottlieb, 2006; Rousseau, 2009; Miles, 2012). Similarly, this supports the OECDs (2019b) argument that the urban fabric of a place is essential for start-ups and SMME development.

Guided by the theoretical perspectives of Systems Theory and Social Network Theory, through the lens of agglomeration economics, an efficient spatial design, land use and infrastructure allow firms to benefit from external economies of scale. Investment into these components reduces business transaction costs and allows for knowledge spillovers to occur. Furthermore, businesses benefit from greater access to labour, suppliers and customers. In effect, the businesses may gain access to various sectors, *inter alia*, localised and urbanisation economies.

Through judgement, the theme *Perceptions of City Planning* emerged with associated sub-themes: (1) *Poor spatial planning and land use*; and (2) *Poor access and maintenance of infrastructure*. Figure 9.8 provides the thematic map of the main theme and its associated sub-themes. The figure also shows the relationship with sub-themes associated with the Theme: *Regressive city leadership* (Section 9.3.1).
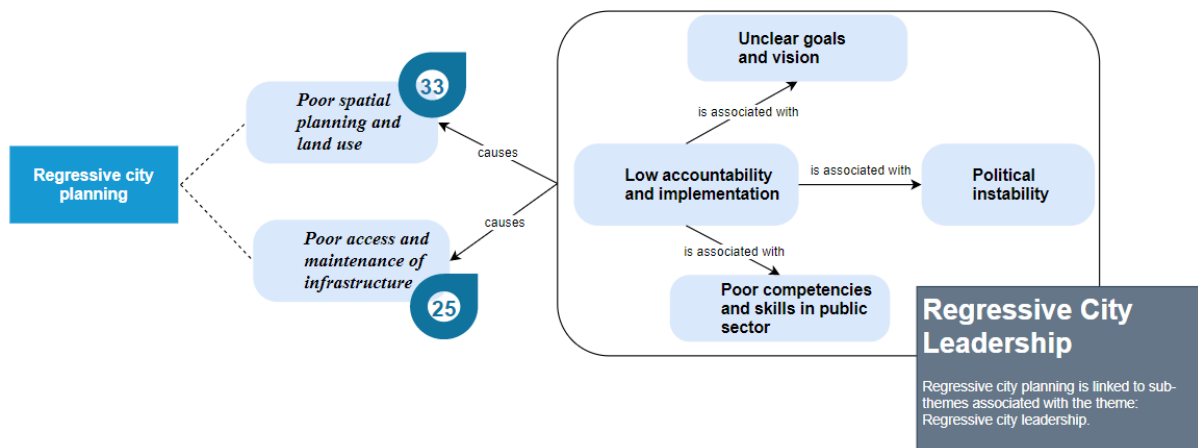
Figure 9.8 - Thematic map for the theme: Regressive city planning

Table 9.7 shows the frequencies of each of these sub-themes by participants and indicates the number of quotations behind each frequency count. The frequency indicates the absolute value

of each sub-theme. Groundedness (GR) highlights the number of times that a specific code label was used as sub-themes: (1) *Poor spatial planning and land use* is grounded with 33 codes; (2) *Poor access and maintenance of infrastructure* are grounded with 25 codes. It is clear from the Groundedness of codes that a predominantly negative view of Nelson Mandela Bay's city planning exists. In the following subsection, each sub-theme is discussed.

Table 9.7 - Frequency distribution for the theme: Perceptions of City Planning

Participant	Poor spatial planning and land use Gr=33	Poor access and maintenance of infrastructure Gr=25
P1; Gr=25	4	1
P2; Gr=51	2	3
P3; Gr=41	2	1
P4; Gr=42	3	1
P5; Gr=51	3	3
P6; Gr=45	1	1
P7; Gr=36	5	1
P8; Gr=58	2	2
P9; Gr=42	0	1
P10; Gr=62	2	4
P11; Gr=23	1	1
P12; Gr=26	1	1
P13; Gr=29	1	0
P14; Gr=26	2	1
P15; Gr=56	4	4
Totals	**33**	**25**

9.3.6.1 Sub-theme 6.1: Poor spatial planning and land use

Participants were asked about the success of the National Spatial Development Framework and the responses were negative. This question was specifically chosen to address the extent that spatial development efforts promoted social inclusion to support the commercial activities of entrepreneurs. Froy (2019) presented an article at an OECD conference titled "*The City As Incubator: The Role Played By Urban Morphology*" where she explained the role of cities to create an economic culture. She explains that cities create (1) trade networks, feedback, import substitution; (2) diverse supply chains; (3) financing and space; and (4) skills. In fact, in 2019, the OECD explains the importance of the city to support entrepreneurs by focusing on the space and connections (OECD, 2019b).

In 2020, the National Spatial Development Framework Draft was published (South African Government, 2020). In this draft, the spatial transformation focuses on (1) reducing segregated spatial patterns; and (2) correcting social injustice and inequality to access opportunities based on segregated spatial patterns. According to the IDP, land use is supposed to promote

development and use of efficient public transformation (Nelson Mandela Bay Municipality, 2021).

Participants explicated that the spatial design of Nelson Mandela Bay has still not addressed social exclusion. This indicates that the mandate as set out by the Act has not been achieved. Thus, the efforts towards equality in terms of the city's spatial design has burdened transformation.

For instance, *P2* brings attention to the living conditions of the citizens. Here he highlights that people "*are still living in shacks…people still have to walk for water*". The city's spatial strategy is based on three strategic documents, one being the Sustainable Community Planning Methodology (Nelson Mandela Bay Municipality, 2021). This methodology explains that housing is a functional element to promote a minimum standard of living. However, *P2* indicates that the disparities have widened by commenting as follows:

"*If you look at the conditions that our people are living under, it's nothing to write home about. So, I would say hasn't done much. It hasn't done much to improve this spatial development. Definitely not. Yeah, when you see in 2020, that people are still living in shacks. People still have to walk for water*" (**P2, lines 348-348**).

The statements made by *P2* are supported in the following three excerpts. The participants reveal how the current structure of the city has major disparities in standards of living. In fact, as mentioned in the IDP, the existing pattern is based on historical segregation (Nelson Mandela Bay Municipality, 2021, p. 106). *P5*, *P7* and *P8* qualify their statements as follows:

"*Show me a picture from 1986 of townships. Show me a picture from today of the same country. And I'll give you a nice game of spot the difference. Because there'll be none and that's basically where we are, you know, It's exactly the same, if not worse*" (**P5, lines 125-125**).

"*Not much. I have been here for five years now, I have not seen, apart from Bay West. Look, the Northern Areas itself is not a priority*" (**P7, lines 83-83**).

"*We have Historical problems. So, this Stanford road, let's say this is the entrance to the township, to Motherwell and so on, there was always one way in and one way out. It was designed like that specifically from a military perspective, for control*" (**P8, lines 241-241**).

According to Nelson Mandela Bay's IDP, specific focus is given to providing an enabling business environment. According to *P1* and *P4* there are substantial zoning issues. In particular, the fact that it takes eighteen months to two years to rezone land for commercial activities. This

incapability from the municipality defies The White Paper on Spatial Planning and Land Use Management (South African Government, 2001). In 2021, the IDP provides the direction given by the Business Chamber. Herein, the Business Chamber expresses that the municipality needs to apply sound turnaround strategies to address the delays in planning and rates clearance as it pertains to land use (Nelson Mandela Bay Municipality, 2021). Notably, the impact on entrepreneurs is substantial. Entrepreneurs locate their businesses where the resources are made available. Therefore, strategic development areas for commercial activity are vital. For instance, a mixed-use node that supports business and community services are considerations for the viability of starting a business. In the following extracts, *P1* and *P4* comment on the poor spatial planning and land use of Nelson Mandela Bay as follows:

"A lot of those aspects of the city is inefficient. E.g., rezoning issue…" (**P1, lines 271-271**).

"No, definitely no. You know, if that was the case, the town planning would understand that you cannot take 18 months to two years to rezone land from let's say residential to business use or whatever else the category of business is" (**P4, lines 145-145**).

"Indecision and lack of political pressure/vision on the location/expansion of the PE waterfront, international convention centre, airport (relocation), offshore fish farms, bulk rezoning for specific agro-industrial use within the local municipality (i.e., outside of the Coega SEZ)" (**P1, lines 269-269**).

P15 brings attention to the poor maintenance of the industrial infrastructure in the city. He explains that focused efforts on these areas could drive up employment opportunities for the communities situated there. This reveals the lack of a long-term vision of the city leadership to actively promote growth and development. Furthermore, it shows that the city has not implemented the Industrial Policy Action Plan (Department of Trade and Industry, 2018). *P15* stated the following:

"If you look at the city planning in Port Elizabeth, the industrial infrastructure need attention. We are a blue-collar city in Port Elizabeth. Upgrading of industrial areas like, Markman Township, around the Airport, Industrial Park at Walmer, New Brighton and Motherwell. If businesses there can be supported to ramp up the infrastructure for industrial parks, they can essentially feed the community with work and upskill the community right next to it" (**P15, lines 318-318**).

The interviews explicate that the spatial planning and land use in Nelson Mandela Bay has not been implemented and remains segregated. This creates opportunity losses for those who want

to start a business. Furthermore, existing industrial areas should be maintained as employment nodes, as they provide opportunities for the surrounding community. According to the Nelson Mandela Bay's current IDP, mixed-use nodes, specifically located at accessible transport exchange routes that integrate residential, community and commercial components will be focused on (Nelson Mandela Bay Municipality, 2021).

Notably, issues regarding zoning should be less complicated and this justifies the current oversight by the National Treasury as it has increased the cost of doing business. Indecisions regarding land use are creating missed economic opportunities for businesses to integrate into the value chain and missed employment opportunities for society.

9.3.6.2   Sub-theme 6.2: Poor access and maintenance of infrastructure

Participants were negative when asked about the efficiency of the physical infrastructure, *inter alia*, information and communication, utilities, roads, electricity, water and sewerage or transport. Physical infrastructure is an essential component for economic activity to occur (Venkataraman, 2004; Spigel, 2015; Stam, 2015; Stam & van de Ven, 2019). Supporting the physical infrastructure is critical to support commercial activities and the provision of services. Generally, it is argued that a well-maintained physical infrastructure promotes and facilitates connectivity between individuals and underscores labour mobility and knowledge spillovers. This in turn increases the returns on investment in a spatial location (Roundy, 2017).

For example, an efficient Information and Communication Technology infrastructure allows increased access for entrepreneurs to access markets. This means that Information and Communication Technology is a mode to facilitate the exchange of information (BIAC, B20 China, World SME Forum, SME Finance Forum, 2016; OECD, 2016).

Participants brought attention to the state of buildings. Their responses acknowledge that repairs and renovations to buildings are not undertaken by the municipality. This is concerning, as the Nelson Mandela Bay IDP specifically seeks to ensure that the infrastructure of the city is adequately maintained and supported (Nelson Mandela Bay Municipality, 2021, p. 199). In fact, the political leader (*P2*) explains that the municipality underspent on its budget for infrastructure maintenance and underscores the municipality's non-compliance with the National Treasury Regulations. He comments as follows:

"So, we have a serious problem with first of all infrastructure spending, new infrastructure, but we also have a problem of maintenance of infrastructure. We spending too little. I mean, that's

a treasury regulation, where you must spend 8% and we not spending that, so it's a problem" **(P2, lines 354 – 354).**

In South Africa, National Treasury broadly defines infrastructure as the "spending on new assets; replacements; maintenance and repairs; upgrades and additions; and rehabilitation, renovation and refurbishment of assets" (National Treasury, 2021, p. 139). The 2021 Public-sector infrastructure update, as published by National Treasury, explains that specific focus will be given to water and sanitation, energy, transport, digital infrastructure, agriculture and agro-processing and human settlement sectors (National Treasury, 2021, pp. 157–158).

National Treasury outlines these priority areas as essential for job creation and economic growth stimulus. In line with the current focus from National Treasury, the author underlines the importance of oversight of the budget. The assertion hinges on the underspending of the 2019 Nelson Mandela Bay municipality budget regarding the line items on repairs and maintenance specifically in line with Property, Plant and Equipment.

The underspending of the budget is a serious concern. For instance, poor infrastructure reduces foreign investors' appetite to do business in the city. *P15* explains that the underinvestment affects the logistics of a business to easily access its value chain of suppliers and customers. *P15* comments as follows:

"I think we need to spend the full budget because that's why it is there. Foreign Direct Investors is not going to come to a city that got potholes, and their logistics can't drive to the areas to service their suppliers or their clients" **(P15, lines 324 – 324).**

Ageing infrastructure is a safety risk for the city. Issues such as water and sanitation, as explained by *P14*, are not prioritised in the townships of Nelson Mandela Bay. The IDP highlights that the lack of maintenance of the water and sanitation results in leakages, pipe bursts, blockages and electricity disruptions (Nelson Mandela Bay Municipality, 2021, p. 23). *P14* comments as follows:

"Utilities, a lot can still be done. Roads, not a really great job. Water and sewerage is terrible in the townships, I don't know why they don't pay attention to it" **(P14, lines 149 - 149).**

In the following excerpt, the participant (*P15*) revealed poor oversight from the municipality. It seems that the municipality hires partially qualified suppliers that do not complete their service to the city. This means that their service falls short in terms of the definition of an overall good-quality service delivery. This assertion is based on the expectations of the Standard for Infrastructure Procurement and Delivery Management. Herein, the South African

National Treasury states that "the effective and efficient functioning of the supply chain management system for the procurement and delivery of infrastructure will realise value for money and good-quality service delivery. Value for money may be regarded as the optimal use of resources to achieve the intended outcomes" (National Treasury, 2015, p. iii).

"On the digital side, installing fiber optics. They're getting companies that's partially qualified, and they dig up trenches in Port Elizabeth, install the fiber optics, but they don't refill the trenches and finishes it up to standard" **(P15, lines 324 -324)**.

In October 2020, Statistics South Africa reported that public-sector spending on infrastructure declined within the one-year period (Statistics South Africa, 2020c). As a result, South Africa has significant issues with potholes. Claims to the value of R5,219,365.03 were lodged within the 2019/2020 financial year against the Transport Ministry (Businesstech, 2020). The issues of potholes filter down to businesses as indicated by *P3* and *P15:*

"No, quite the contrary and there is my argument about fixing the potholes" **(P3, lines 145 – 145)**.

"If we can get that more secured and the infrastructure maintained, because the infrastructure at the moment is going backwards. If you drive into Deal party, there's potholes as big as a house, everything is going backwards. So that's why businesses don't want to move in there anymore" **(P15, lines 320 – 320)**.

The access and maintenance of infrastructure is vital for sustainable economic growth, labour market expansion and foreign investment. It is evident from their responses that the city suffers from: (1) poor efforts to maintain the infrastructure, in terms of repairs and maintenance; and (2) social exclusion in poorer areas, such as the townships and Northern Areas of Nelson Mandela Bay. The latter may be explained through the spatial transformation issues.

The financial performance audit outcomes for the period 2018/2019 shows as outstanding for Nelson Mandela Bay (Municipal Money, 2020). The auditor general gave a qualified opinion about the financial statements of the municipality. A qualified opinion means that the Auditor-General has reservation about the fair presentation of the financial statements. In the audit, eight percent of the value of property, plant and equipment should be allocated to repairs and maintenance. The actual percentage was two percent.

9.3.7   Theme 7: The entrepreneurial mindset

The entrepreneurial intention in a place is a product of the culture. As stated in Section 9.3.3, the entrepreneurial culture drives entrepreneurial behaviour (Kibler et al., 2014; Fritsch & Wyrwich, 2014, 2018; Fritsch et al., 2019; Spigel & Vinodrai, 2020). Therefore, it may be inferred that the culture acts as a catalyst for risk taking and allows for fast failure.

In South Africa, the status of entrepreneurship has increased, which is reported in the GEM South Africa report. The report indicates that the number of people who see entrepreneurship as a good career choice has increased between the period 2017 (69.4%) to 2019 (78.8%). This may indicate that there is a shared value in Nelson Mandela Bay, which promotes starting a business (Fritsch & Wyrwich, 2014; Kibler et al., 2014; Fritsch & Wyrwich, 2018; Fritsch, Pylak et al., 2019). Furthermore, both the GEM South Africa and GEI indicate that South Africa scores high on opportunity perception, but a fear of failure is notably high at 49.8% (Bowmaker-Falconer & Herrington, 2020).

Guided by the theoretical perspective of Institutional Theory, namely the Normative (societal norms and values) and Cultural Cognitive (shared understanding and common beliefs) the specific research question was addressed. In particular, how the economic development agents viewed the entrepreneurial intention or mindset in Nelson Mandela Bay, in terms of the entrepreneurial ecosystem.

Through judgement, the theme: *The entrepreneurial mindset* emerged with associated sub-themes: (1) *Entrepreneurial challenges: mindset and knowledge*; and (2) *Seeking business opportunities*. Figure 9.9 provides the thematic map of the main theme and its associated sub-themes. The absolute values allocated to each sub-theme in the thematic map represent the Groundedness (GR) of codes.

Figure 9.9 - Thematic map of the view of the entrepreneurial mindset and the relationship between sub-themes

In order to begin the analysis, a frequency table was generated to have a bird's eye view of the Groundedness of codes to see where the concentration of views lie. Table 9.8 shows the

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frequencies of each of these sub-themes by participants and indicates the number of quotations behind each frequency count. Groundedness (GR) highlights the number of times that a specific code label was used as follows: (1) *Entrepreneurial challenges: mindset and knowledge* is grounded with 25 codes; and (2) *Seeking business opportunities* is grounded with 14 codes. In the following subsections, each sub-theme is discussed.

Table 9.8 - Frequency distribution of the sub-themes for the theme: The entrepreneurial mindset

Participant	Entrepreneurial challenges: mindset and knowledge Gr=25	Seeking business opportunities Gr=14
P1; Gr=25	0	0
P2; Gr=51	2	1
P3; Gr=41	0	1
P4; Gr=42	3	0
P5; Gr=51	2	3
P6; Gr=45	2	3
P7; Gr=36	0	2
P8; Gr=58	2	1
P9; Gr=42	4	2
P10; Gr=62	3	0
P11; Gr=23	0	0
P12; Gr=26	1	0
P13; Gr=29	0	0
P14; Gr=26	0	0
P15; Gr=56	6	1
Totals	25	14

9.3.7.1   Sub-theme 7.1: Entrepreneurial challenges: mindset and knowledge

This theme emerged naturally throughout the interview for separate questions and interpreted as a codable moment after searching for themes in the interview data. The following extracts act as data evidence to support the theme.

P2 was asked whether the network of entrepreneurs provide an information flow. He responded that networks exist, but businesses do not use the opportunities presented to them. As he qualified his statement, he expressed that there is a dissonance in understanding the difference between an entrepreneur and a survivalist. The following excerpt is an extract of *P2*s response.

"But maybe the smaller businesses need to be educated. And maybe the other thing is, as well as what I'd like to say about that, is that a small business, and sorry for repeating this, it's not somebody who sells apples outside the hospital, that's not a small business, that is not even a survivalist. That's, you know, unfortunately, somebody that hasn't got an income, but I mean, small businesses, I mean, your turnover of our R5 million, that's still a small business. So, I

think just the mindset must be changed and entrepreneurs must make use of the opportunity" ***(P2, lines 51-51).***

P4 was asked whether the culture in Nelson Mandela Bay encourages and celebrates entrepreneurship and he responded that it is a *"foreign culture"* and qualified his statement as follows:

"Let's say you try and get 20 fairly established entrepreneurs from the Northern Areas, I think you will find it very difficult to. You could put your criteria down to describe let's say an established or relatively successful entrepreneur. And the reason for that is, or one of the reasons is that there is not an acknowledgement, a support and a reinforcement of entrepreneurial behaviour and there's many factors" ***(P4, lines 64-64).***

"So, the risk appetite is just not there. Because risk appetite gets passed on from generation to generation. It's easier for someone that's grown up in a household where, let's say both parents were entrepreneurs, the chances are that their risk appetite would be much greater than let's say, for example, someone that's been brought up in a house where both parents were teachers. Because the concept of risk is not understood" ***(P4, lines 64-64).***

Based on the first question of the interview regarding the entrepreneurial ecosystem, *P9* immediately asserted that the entrepreneurial ventures were based on unemployment and qualifies her view as follows:

"Now, the expectation to be given work, you know, by small businesses to fight for work opportunities, not to be able to competitively develop businesses that can get work opportunities…it has also been infiltrated by the need for people to do an activity whilst they are not really entrepreneurial" ***(P9, lines 13-13).***

P10 was asked about the support given to domestic suppliers of products insofar that it aids in accessing various supply chains. In his response, he argues that businesses in Nelson Mandela Bay do not meet basic requirements on competitive tenders and lack the requisite capabilities.

"I know of the Volkswagen initiative, which was actually quite a big one. They added around 400 people, suppliers that actually were invited to actually make a pitch to them. And I think only about 40 of them actually met the requirements. You know, the problem is also that small businesses and so on, they want to be suppliers to big business. But when big businesses are actually competitive in terms of quality, that becomes a problem sometimes as well" ***(P10, lines 139-139.***

During the discussion surrounding the business support services and the extent of assistance provided to access funds, *P15* underlines that the support exists. However, he continues by stating that there is a lack of business acumen. *P15* highlights, that entrepreneurs access the support services too late and loose contracts as a result.

"A small business don't have all the business acumen, respectfully said. They know they're good at what they do, their quality is great and that's why they started their own business. They don't understand business that well. So now they're chasing, they are putting their quotations in. Eventually they get the business they wanted. They get a big order and then they wake up too late. Then they go to an incubator and say, I need a million rand for a project, I need it within a week, you cannot do that, it just doesn't happen" (**P15, lines 376-376**).

The interviews explicate that the potential reasons for going into self-employment are based on unemployment and explain that there a lack of requisite skills and knowledge to compete effectively. These views may support the fact that 87,4% of businesses operating in Nelson Mandela Bay operate within the micro-enterprise category (Dobbin, 2019). This indicates that a disproportionate amount of employment lies within this category. Other issues highlighted were the mindset of entrepreneurship, which was explained as a product of historical exclusion from the mainstream economy. A history of self-employment in a location reveals entrepreneurial personalities and innovation capacity. However, this may invoke that there is a lack of entrepreneurial role models between disparate groups in the city.

High levels of self-employment impede scalability and reduce innovation potential and economic growth. Scalability allows businesses to move into the next size category, which allows businesses to access finance more easily. Scaling of businesses affect innovation, competition, employment and the average wage rate (Acs & Lloyd, 2018; OECD, 2018). This may address issues such as the low productivity rates and income inequality (OECD, 2018a). The views from the interviewees acknowledge that there are insufficient knowledge and skills among the city entrepreneurs, which affect place competitiveness and lowers the ability to improve the socio-economic landscape.

9.3.7.2 Sub-theme 7.2: Seeking business opportunities

Participants were asked whether they believed that the citizens of Nelson Mandela Bay search for entrepreneurial opportunities. Some participants indicated that entrepreneurs did, however most alluded to a dissonance in terms of their mindset as described in the previous sub-theme. Those who responded to this question, expressed their views as follows:

"So, I think that notwithstanding the challenges in municipalities, there are people who will do things. It's the scaling up that becomes the problem" **(P3, lines 211-211).**

"I believe they do in more than usual levels…you've got at any given time, a group of people that are looking for entrepreneurial opportunities" **(P5, lines 182-182).**

"So, we do we have a lot of clients for export with export development. Some of them are looking for areas to establish new manufacturing where we link them with Coega Development. So, there's quite a lot of opportunities within the Port Elizabeth area of which, an entrepreneur if they don't take such advantage. There is a lot of opportunities within various sectors be it in consultancy, automotive, tourism, a lot of opportunities in Port Elizabeth" **(P6, lines 61-61).**

"If I look at the amount of staff with a side hussle, if I look at the the SPAZA shops, the informal businesses that fills Korsten…South Africans have realised that seeking formal employment is like finding needle in a haystack. But starting your own business is the onset of putting food on the table. So definitely" **(P7, lines 123-123).**

The participants explained that individuals in Nelson Mandela Bay seek business opportunities. Both the GEM and GEI acknowledge that South Africa ranks high in terms of opportunity perception (Acs, Szerb, et al., 2018; Bosma et al., 2019; Bowmaker-Falconer & Herrington, 2020). However, the fear of failure has been reported as an obstacle to start a business. Furthermore, as noted in the previous sub-theme, the potential reason for starting a new venture is a product of the lack of employment opportunities. In 2020, the unemployment rate for Nelson Mandela Bay stood at 40.4% (Kimberley et al., 2020; Nelson Mandela Bay Municipality, 2021)

9.3.8   Theme 8: Human capital as a competitive edge

Skilled individuals are an essential resource in an entrepreneurial ecosystem (Isenberg, 2011; Spigel, 2015; Stam, 2015; Spigel, 2017; Stam & van de Ven, 2019; Vedula & Kim, 2019). They possess skills and expertise acquired through their education, training and previous business knowledge. Thus, skilled employees can assist new ventures through their understanding of processes and market opportunities. Regions with a density of quality human capital attract entrepreneurs. In particular, melting pots of entrepreneurial activity have been associated with a density of skilled knowledge and experience workers. According to Nelson Mandela Bay's IDP, the labour market is not growing at the rate it should be compared to other

metropoles (Nelson Mandela Bay Municipality, 2021, p. 93). The plan further explains that Nelson Mandela Bay has lost its attractiveness for potential employees and businesses.

Guided by the theoretical perspective of The Absorptive Capacity Theory of Knowledge Spillovers, the author argues that human capital has the potential to generate knowledge intensive entrepreneurial opportunities in a place. According to the theory, knowledge is produced from science and business within the ecosystem (Qian & Stough, 2013). Therefore, science and business form part of the knowledge ecosystem. Knowledge ecosystems are viewed by the presence of universities, research institutions, entrepreneurial firms, established companies and venture capitalists (Clarysse, Wright, Bruneel & Mahajan, 2014; Woolley, 2017; O'Connor et al., 2018).

The underinvestment in knowledge causes disparities for the development of entrepreneurship and negative economic development for under resourced environments (van Beers & Zand, 2014; Link & Scott, 2019; Obschonka & Audretsch, 2019). This leads to a decline in business survival, innovation, access to markets or the ability to develop new sectors.

Through judgement, the theme *Human capital as a competitive edge* emerged with associated sub-themes: (1) *Human Capital as a competitive advantage*; and (2) *Investment into Human Capital*. Figure 9.10 provides the thematic map of the main theme and its associated sub-themes. The numbers allocated in the figure refer to the Groundedness of each sub-theme.
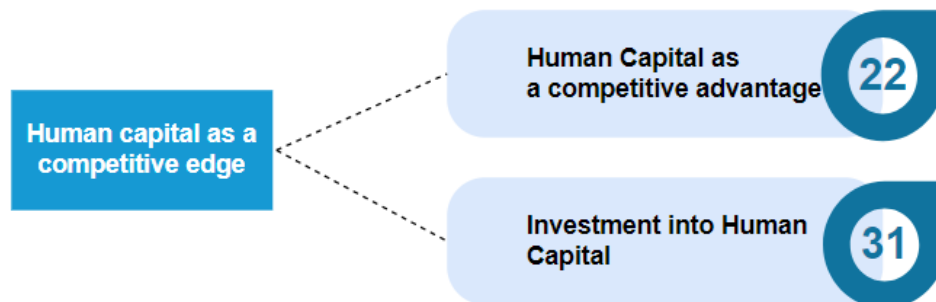
Figure 9.10 - Thematic map for the theme: Perspectives of Human Capital

Table 9.9 shows the frequencies of each of the sub-themes by participants and indicates the number of quotations behind each frequency count. The frequency indicates the absolute value of each sub-theme. Groundedness (GR) highlights the number of times that a specific code label was used as follows: (1) *Human Capital as a competitive advantage* is grounded with 22 codes and (2) *Investment into Human Capital* is grounded with 31 codes.

Table 9.9 - Frequency distribution of the sub-themes for the theme: Perspectives of Human Capital

Participant	Human Capital: Competitive Advantage, Gr=22	Human Capital: Investment Gr=31
P1; Gr=25	1	1
P2; Gr=51	2	3
P3; Gr=41	1	4
P4; Gr=42	1	2
P5; Gr=51	3	1
P6; Gr=45	1	1
P7; Gr=36	1	1
P8; Gr=58	1	3
P9; Gr=42	3	4
P10; Gr=62	3	9
P11; Gr=23	1	0
P12; Gr=26	1	0
P13; Gr=29	1	1
P14; Gr=26	1	0
P15; Gr=56	1	1
Totals	**22**	**31**

In the following subsections, each sub-theme will be discussed.

9.3.8.1   Sub-theme 7.1: Human Capital as a competitive advantage

Participants were asked if human capital was a resource that contributed to a city's competitive advantage and all interviewees stated that it did. The interview data suggested that a city's labour force was a pre-condition upon which an entrepreneurial ecosystem is built. For instance, *Participant 2* and *Participant 4* underline its importance as follows:

"In my view, human capital is the most important asset in any business to human capital. So, human capital for me is an important part of your enterprise and so therefore I believe they should be developed here" (**P2, lines 392 – 392**).

"Big time, that's the one asset in business, in any organisation, whether it's a University, City, or a country. If you deal with that, and you get that talent set the rest will fall into place" (**P4, lines 448-448**).

All the participants agreed that human capital is essential to achieve a sustainable competitive advantage. For an entrepreneurial ecosystem to flourish, it requires a strong knowledge economy. However, Nelson Mandela Bay's labour market is low and its attractiveness to potentially knowledgeable workers has reduced (Nelson Mandela Bay Municipality, 2021). Notably, investors follow melting pots of knowledge. Furthermore, the global competitiveness of a region is measured according to various skills criteria and highlights potential investment opportunities. Against this backdrop, it was important to determine what efforts were made to develop Nelson Mandela Bay's human capacity.

9.3.8.2 Sub-theme 7.2: Investment into Human Capital

The investment into human capital is an asset that correlates with local economic development. Regions and cities geared towards innovation and competitive advantages invest in building this capacity. The underinvestment in human capital causes negative growth and development, especially in under-resourced environments (van Beers & Zand, 2014; Link & Scott, 2019; Obschonka & Audretsch, 2019).

Most participants indicated that efforts are made in the city to develop human capital. The role of higher education institutions (universities and colleges) seems to play a central role. However, other public, private and non-profit institutions are also involved. Participants responded as follows:

"Most academic institutions have coursework that promotes entrepreneurship" ***(P1, lines 308-308).***

"Agree with that, definitely, they spend a lot of money at the university I know developing staff as well as public reps" ***(P2, lines 428-428).***

"The Human Capital and career development centers are those TVET colleges. They have a lot of skilled labour courses being completed" ***(P8, lines 330-330).***

"From the university points of view that there are a few programmes that offer entrepreneurial education" ***(P9, lines 181-181).***

"I've been involved with a number of efforts to develop entrepreneurship in the so-called disadvantaged areas, through skills development, and then of course, developing entrepreneurial skills" ***(P10, lines 7-7).***

"From your private sector companies' point of view, I can say I agree that they are efforts on their part to upskill their workers to serve the business needs and so on because it is strategic" ***(P10, lines 332-332).***

The responses are encouraging. Investment in human capital development creates benefits for those who are not formally trained at a university. Thus, leverage is created for those without formal education through knowledge spillovers (Kirchhoff, Newbert, Hasan & Armington, 2007).

P3 highlights two interesting aspects of human capital development. He explained that a communal project that their institution deployed in Helenvale (a high poverty area with high rates of criminality) employed four community social workers to promote the community's

development. In contrast, he brought attention to the Social Development public institution that only uses one social worker. Herein, *P3* underlines that there is a lack of investment from the public sector towards human capacity development for the underdeveloped areas of Nelson Mandela Bay. Moreover, it is indicative of regressive city leadership. *P3* qualified his statement as follows:

"So, like the things we deal with in Helenvale, we've got four projects we do, we've got four community social workers, for the entire Northern Area. The Department of Social Development has one. You see my point that we are not investing in people" **(P3, lines 67-67)**.

Another interesting aspect to the community work done within this institution, are the way they engage with individuals from this high poverty area. To the extent that community members, after undergoing training, are heading up various communal projects. *P3* stated the following:

"So that's one of the reasons why we decided, well let's go in and train people, even if they associated with the gangs, as long as you don't have a criminal record. In some of those places, some of those projects, we've put people who would normally not be put in charge of projects. So, the Stanford Road Sports Complex that we are completing right now is ahead of schedule, quality work. The guy who runs it, has been responsible for some antisocial behavior, in that community, but he's running it. He has a purpose in life" **(P3, Lines 24-24)**.

When asked about whether efforts toward human capital retention were undertaken by the city. Respondents explained that it did not. Three excerpts from their responses are as follows:

"I disagree. But there are strategies, but I also want to say one of the key strategies to retain talent in any region is to be competitive, market competitive in terms of remuneration. And the Nelson Mandela Bay doesn't have that capability. It cannot because it's a region. If you look at Nationals Scale of salaries, we are at number five, even in terms of scale of salaries" **(P9, lines 222-222)**.

"It has failed dismally so disagree because they leave. In terms of retaining them there is not a lot of effort or we are not doing enough" **(P13, lines 477-477)**.

"More improvements need to be done by those responsible" **(P6, lines 578-578)**.

Competitive locations need to strategically prioritise their human capital as a way to promote innovation, start-ups and cluster's towards value-added products and services (Porter, 1990). In Porter's (1990) seminal work he argues that having access to an experienced pool of individuals reduces the costs of searching and recruiting, which is an advantage for a place. Human capital

has the knowledge and skills that help new ventures and strengthens innovation efforts (Mason & Brown, 2014; Stam, 2015; Mack & Mayer, 2016; Braunerhjelm et al., 2018; Malecki, 2018; Nicotra, Romano, Del Giudice & Schillaci, 2018). By building this capacity, Nelson Mandela Bay would strengthen the city's brand making it more attractive for knowledge workers and investors.

9.4   CONCLUSIONS

The Chapter addressed RQ$_7$, which questions "*What are the economic development agents' perceptions of Nelson Mandela Bay's entrepreneurial ecosystem?*". Thereby achieving RO$_7$ which was: *To discover and report on the themes emerging from the qualitative inquiry.* The objective was achieved by analysing the interview data using theoretical perspectives, such as Social Network Theory; Structural Holes Theory; Institutional Theory; Systems Theory; The Absorptive Capacity Theory of Knowledge Spillover and Broken Windows Theory.

Data were collected from fifteen economic development role players using one-on-one interviews. The participants interviewed represent state institutions (n=2), arms or entities of the state (n=2), entrepreneurs with high visibility and so-called dealmakers (n=4), individuals from: the higher education institution (n=2); not for profit entities (n=1); incubators (n=2); the main political party (n=1) and private sector (n=1).

In order to promote trustworthiness of the study, the author applied Braun and Clarke's (2006) six-phase method. This promoted the scientific quality of the study in line with the dimensions of credibility, transferability, dependability and confirmability (Lincoln & Guba, 1985).

Data were analysed both inductively and deductively. The deductive analysis used the theoretical frameworks. The study developed themes using the semantic level of themes. Therefore, the participant coding perspective was applied to ensure that the author described the views of the participants. This aligns with the top-down approach of thematic analysis, which is referred to as a theoretical thematic analysis (Braun & Clarke, 2006). An open coding procedure was used to develop and modify codes through each iteration of the coding process. Once a coding theoretical saturation was achieved, a theme search was performed. The themes were descriptive as they described the pattern in the data. During the theme review, it was found that sub-themes were required as they described different perspectives of the major theme.

The patterns emerging from the qualitative inquiry explicates that there are dominant pre-conditions to build the city's entrepreneurial ecosystem in Nelson Mandela Bay. Through the

qualitative inquiry eight major themes emerged, namely: *Regressive city leadership*; *The institution as a barrier or enabler*; *Culture and Norms*; *Connections*; *Perceptions of business support services*; *Regressive city planning*; *The Entrepreneurial Mindset* and *Human capital as a competitive edge*.

The theme, ***Regressive city leadership*** highlights that a significant shift is necessary in Nelson Mandela Bay's formal leadership. First, the city needs to urgently address their recruitment strategies to ensure that those in key positions satisfy the capabilities required to assume the positions. Second, the leaders need to have a unified vision and shared goals that filter down to all levels, with the purpose of meeting the city's development priorities. Third, the issue of self-interest and political expediency need to be addressed as it caused persistently weak levels of implementation in the city.

The theme, ***the institution as a barrier or enabler*** reveals that Nelson Mandela Bay suffers from onerous regulatory demands that reduce the incentive to start a business. The participants explicated that the red tape experienced by entrepreneurs was expensive. Key issues that Nelson Mandela Bay needs to focus on are the cost of doing business, electricity, construction permits and property registration. However, the root cause of these issues may be attributed to the poor compliance of public agencies. For instance, a participant underlines issues with land use where *"It can take you up to two to three years to get your rights, right down to approval of the building plan"*. Similarly, the cost of electricity inhibits the growth potential of businesses insofar that they need to absorb the additional costs due to their limited economies of scale. The provision of a stable electricity supply facilitates an entrepreneur's ability to meet service level agreements with their customers. In 2021, National Treasury has taken control to provide oversight concerning the cost of doing business challenges in Nelson Mandela Bay (Nelson Mandela Bay Municipality, 2021, p. 191).

The rigidity of the Labour Act is perceived to protect employees; however, it protects potentially destructive employees and this is a major obstacle for entrepreneurs. Furthermore, participants had mostly negative views about the implementation of the B-BBEE Act and strategy. Some participants felt that B-BBEE has caused a culture of dependency and entitlement among the city's entrepreneurs. One participant viewed it as a "*social welfare versus development thing*". So, instead of entrepreneurs competing to innovate, trade ideas, access markets or develop technology there is a dependency on the state for work. The state is the largest procurer in this regard.

The participants had mixed views on the 30% allocation in the Preferential Procurement Act in terms of its implementation and net benefit on local economic growth. Some participants felt that the Preferential Procurement Regulations 2017 on local content were well prioritised and adhered to, while others felt it created challenges for city development. A notable concern was the lost tax revenue to Nelson Mandela Bay due to the low capacity or ability of local entrepreneurs to compete with bigger businesses in acquiring contracts. This meant that the city would award contracts to companies outside of the Nelson Mandela Bay area. This was mostly based on the lack of competitiveness of those businesses situated in Nelson Mandela Bay. To this extent, there is a missed opportunity to promote local businesses into Nelson Mandela Bay's mainstream supply chain.

The Groundedness of the theme ***Culture and societal norms*** was mostly negative. Several of the participants qualified their statements. The participants felt that entrepreneurship in the city was mostly concerned with daily survival and mentioned that the levels of poverty and unemployment forced individuals into self-employment. The participants attempted to make sure that the author understood their version of self-employment versus entrepreneurship. The former was based on surviving, while the latter was driven by the intent to scale, access markets and innovate.

Other factors, such as low efforts to elevate the status of entrepreneurship were mentioned. For instance, participants felt that more was needed to celebrate entrepreneurship in the city. They felt that insufficient campaigns, celebrations and role models existed. However, participants mentioned that efforts were made by the local business chamber, such as sharing success stories through information material and an annual banquet to celebrate successes in Nelson Mandela Bay. The participants felt that the local community and local private sector did support businesses in the city. In terms of the latter, there was a sense that larger corporates and the public sector did not adequately support businesses in the city to the extent that they could. Furthermore, participants indicated that a fear of failure existed that inhibited individuals from starting a business.

The theme ***Connections*** had divergent responses. Some participants indicated that positive efforts have been made by both public and private agents towards building connections and transferring knowledge in the city. Public agents, such as ECDC, SEDA and NYDA have been reported to provide networks platforms through trade exhibitions for entrepreneurs. SEDA was the most positively reported public entity in this regard. The local business chamber has also made efforts towards local economic development, such as the development of cluster

management organisations in Nelson Mandela Bay. Many of the participants highlighted the existence of forums, however the participants indicated that they were fragmented. In fact, *P13* highlighted that over one-hundred forums existed, which did not filter into the local business chamber. At the same time, participants indicated that there are efforts made by the Business School and Colleges to upskill entrepreneurs. Participants indicated that the Nelson Mandela University was very active in providing the networking platform for students through the Entrepreneurship Development in Higher Education (EDHE) community of practice. The participation of the EDHE seems to be a very active area in developing students for entrepreneurship.

The sub-theme *Fragmented Networks* had a Groundedness of 55. Herein, most participants felt that there were insufficient information and knowledge spillovers taking place in the city. Participants mentioned that many fragmented efforts were taking place, which reduced co-creation. This refers to closed social circles or fragmented ties which undermines co-operation (Crespo et al., 2014; Boschma, 2015). Notably, *P13* highlighted an important point about the strained relationship between the university and the municipality. This is concerning as a memorandum of understanding exists but is not being utilised. It is vital to acknowledge the importance of an advantage ecosystem that aims to invest in knowledge in a specific location. With varying networks in a location, events that create relationships are important in order to achieve an advantage ecosystem (Ter Wal et al., 2016; Roundy, 2017; Spigel, 2017).

The interview data suggest that *business support services* are a functional area receiving attention from the public-private sector and non-profit institutions. This is encouraging as support service institutions aim to guide and train entrepreneurs to scale capacities towards productive entrepreneurship. The one area that may need to be focused on is reducing the demand and supply information asymmetry. Participants were unsure about the impact of the support institutions as there were no transparent reporting mechanism in place. Thus, efforts to monitor and evaluate the efforts made by these institutions are essential to increase the value of their participation in the ecosystem.

The interview data clearly explicates that there has been a lack of effort to create an economic culture. Thus, the theme: *Regressive city planning* emerged. First, the city's spatial design remains segregated. Second, the indecision or lack of vision regarding land use has created missed economic opportunities. Third, the city infrastructure is not being maintained. The poor city planning has reduced economic opportunities, such as diversification in supply chains and space to trade. According to the OECD, the city has the obligation to act as an incubator for

entrepreneurship to occur (Froy, 2019). The low attention given to city planning has reduced labour mobility, supply of knowledge workers and investors.

Furthermore, existing industrial areas should be maintained as employment nodes, which filter opportunities to the surrounding community. Issues regarding zoning should be less complicated and indecisions regarding land use has created missed economic opportunities.

The interview data for the theme: *The entrepreneurial mindset* indicated that individuals in Nelson Mandela Bay seek business opportunities. However, three issues emerged: first, that self-employment was a response to unemployment; second, entrepreneurs had a lack and business know-how and capabilities to compete effectively compete; and a lack of historical self-employment in disparate groups have reduced their risk appetite or ability to scale. This theme links to the theme: *Culture and societal norms*.

The final theme: *Human capital as a competitive edge* shows that all participants view human capital as essential for competitive advantage. Participants indicated that efforts are made in the city to develop the human capital. However, Nelson Mandela Bay's labour market is low and its attractiveness to potentially knowledgeable workers have reduced (Nelson Mandela Bay Municipality, 2021). Thus, more efforts are required to improve the human capacity development in the city.

This chapter successfully measured the perceptions of the fifteen economic development agents, thereby achieving the RO_7: *To discover and report on the themes emerging from the qualitative inquiry.* In addition, this analysis answered the RQ_7: *"What are the economic development agents' perceptions of Nelson Mandela Bay's entrepreneurial ecosystem?"* A broad overview of the themes and semantic links are represented in the network diagram, Figure 9.11.

 In Chapter Ten, the methodological triangulation is performed, which addresses RO_8 : *To compare and validate the results from the quantitative and qualitative findings.*
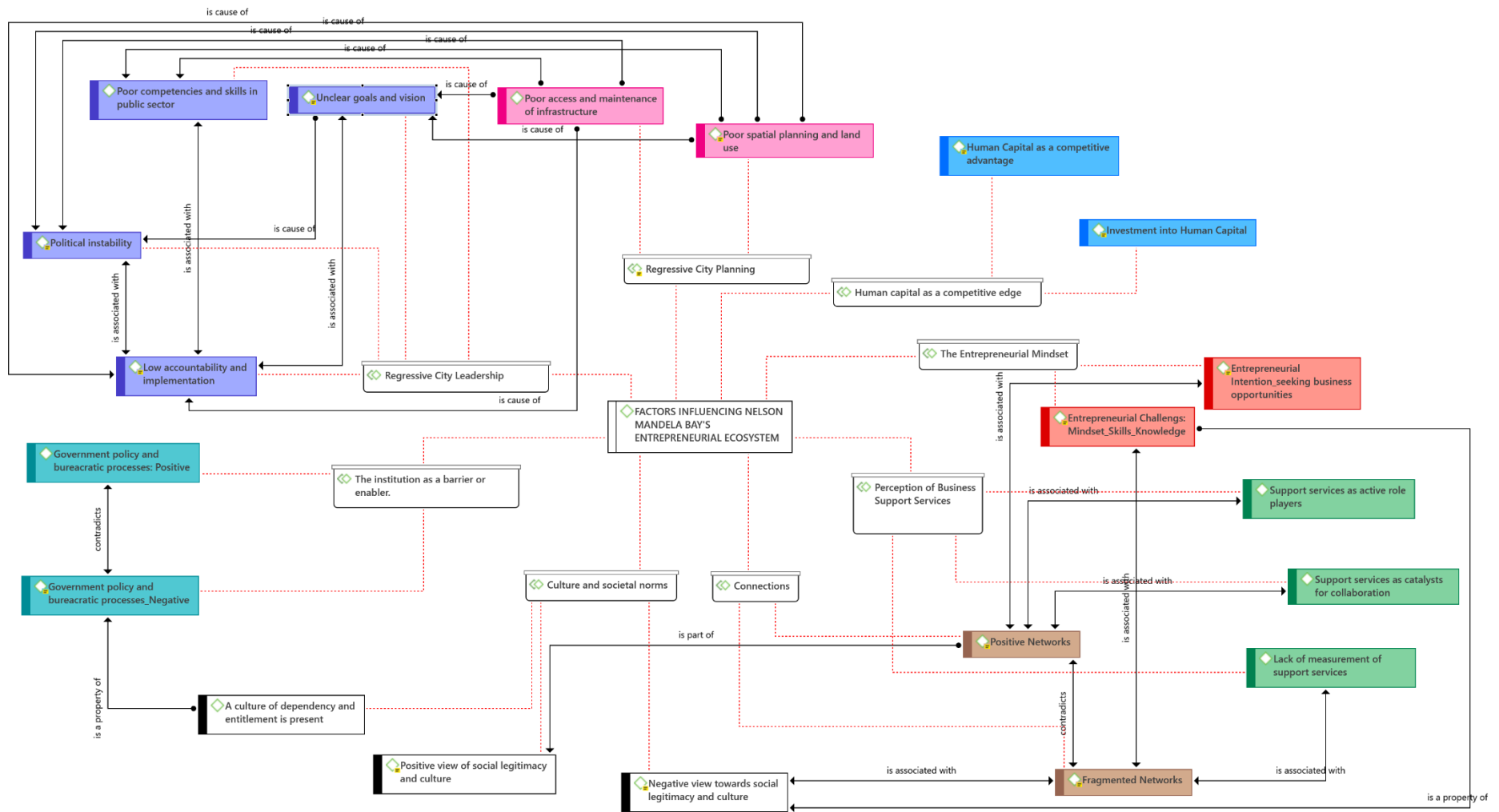
Figure 9.11 - Broad overview of the semantic links between themes

CHAPTER 10: INTEGRATION OF THE QUANTITATIVE AND QUALITATIVE FINDINGS

10.1 INTRODUCTION

The quantitative results were presented in Chapter Eight. The quantitative analysis formed part of Phase One of this mixed methods study. The quantitative analysis aimed to empirically evaluate and discuss the factors that influence Nelson Mandela Bay's entrepreneurial ecosystem. In total, usable responses were received from three hundred participants falling into the category start-ups, micro-enterprises, SMEs, big business, corporates and MNEs (n=300). A combination of descriptive and inferential statistical data analysis techniques was used to analyse the data.

Chapter Nine presented the results from the qualitative analysis. This formed part of Phase Two of the study. Data were collected from fifteen influential economic development role players, using one-on-one interviews. Eight major themes were developed using thematic analysis, in order to analyse the data obtained from the interviews. The text data were analysed using the theoretical perspectives of Social Network Theory; Structural Holes Theory; Institutional Theory; Systems Theory; The Absorptive Capacity Theory of Knowledge Spillover, Broken Windows Theory and Design Thinking.

Chapter Ten integrates the major findings from the quantitative analysis and the qualitative findings presented in the previous two chapters. In Chapter Two, it was mentioned that the point of integration for this sequential independent design is triangulation. As such, Chapter Ten addresses RO_8: *To compare and validate the results from the quantitative and qualitative findings.* Thereby answering RQ_8: "*Do the quantitative and qualitative data show congruence in establishing the factors that influence an entrepreneurial ecosystem for Nelson Mandela Bay?*"

This chapter begins by providing an overview of the techniques used to integrate the two datasets. Secondly, the planning of the major inferential statistics and themes for the integration are explained. Thirdly, the joint displays for the main concepts are explained using a side-by-side comparison. Fourthly, limitations experienced in the integration process are explained. Finally, a conclusion is presented that discusses the main findings from the integration of the two datasets.

Figure 10.1 offers a structural overview of this study and illustrates where Chapter Ten is positioned in the overall structure of the thesis. Figure 10.2 illustrates the roadmap for Chapter Ten. This chapter begins by providing an overview of the integration methods performed.
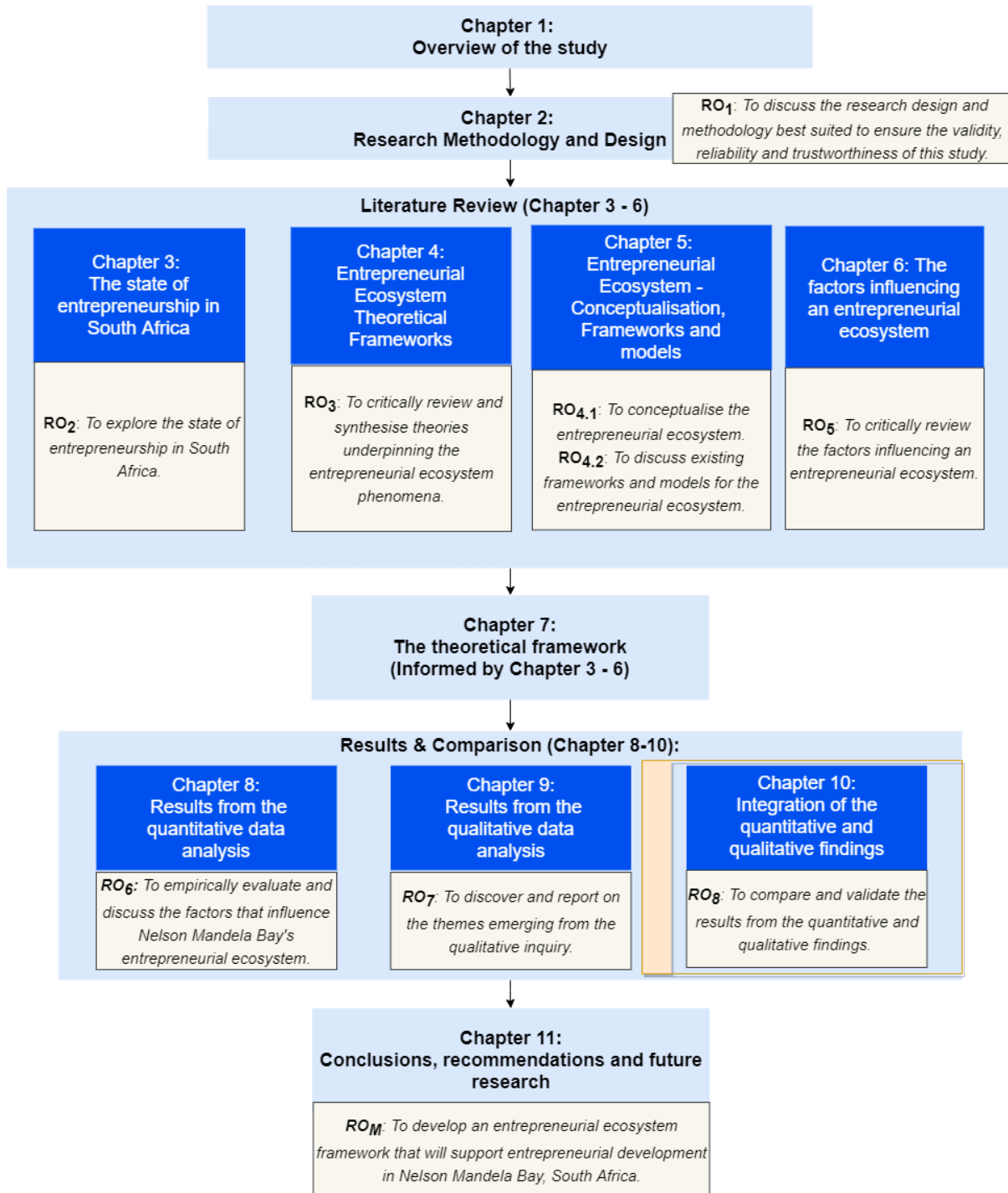
Figure 10.1 - Structural overview of the research study

CHAPTER 1: Overview of the study	
CHAPTER 2: Research methodology and design	
CHAPTER 3: The state of entrepreneurship in South Africa	
CHAPTER 4: Entrepreneurial ecosystem theoretical frameworks	
CHAPTER 5: Entrepreneurial ecosystem - conceptualisation, frameworks and models	
CHAPTER 6: The factors influencing an entrepreneurial ecosystem	
CHAPTER 7: The theoretical framework	
CHAPTER 8: Results from the quantitative data analysis	
CHAPTER 9: Results from the qualitative data analysis	

CHAPTER 10: Integration of the quantitative and qualitative findings

- 10.1 Introduction
- 10.2 Triangulation of research findings
- 10.3 Planning of the joint display
- 10.4 Integration
- 10.5 Observed limitations
- 10.6 Conclusions

CHAPTER 11: Conclusions, recommendations and future research

Figure 10.2 - Roadmap of Chapter Ten

10.2 TRIANGULATION OF RESEARCH FINDINGS

Chapter Two explained that this study follows a mixed methods design. Mixed methods follow six core designs, which include a set of decisions (Creswell & Plano Clark, 2011). The core design followed was a *sequential independent design*. As explained in Chapter Two, there are situations where concurrent designs follow a dependent data analysis and sequential designs follow an independent data analysis (Schoonenboom & Johnson, 2017). The set of decisions for any design typology include (1) timing of data collection; (2) the dependence or independence of the data collected; and (3) the point of integration. The following decisions were made:

i. **Timing**: the study followed a sequential design where most interviews were performed after the dissemination of the quantitative surveys;

ii. **Dependence**: data are collected and analysed independently; and

iii. **Point of integration**: the point of integration was triangulation (merging the results) followed by a comparison of the results.

The chosen point of integration was triangulation. Triangulation was used to increase confidence in the study's findings, thus improving validity. For a mixed methods study the results may converge, complement or supplement, or diverge (Tashakkori & Teddle, 2003; Creswell & Tashakkori, 2007; Creswell, 2014).

After the results were independently analysed, the datasets were merged. Thereafter, the cross-validation of the findings was done to find patterns of convergence, complementary, supplementary or divergent insights. The chosen technique utilised to achieve this was through joint displays. The choice of joint displays satisfies the criteria of representation and interpretation as the key elements for integration in mixed methods studies (Creswell & Plano Clark, 2018; Younas, Pedersen & Durante, 2019; Haynes-Brown & Fetters, 2021). Joint displays require a level of harmony in terms of the constructs being examined in order to assist in the interpretation (Creswell & Plano Clark, 2018).

Joint displays involve merging the results by doing a side-by-side comparison (Guetterman, Fetters & Creswell, 2015; Haynes-Brown & Fetters, 2021). The side-by-side comparison evaluates whether there is a fit between the two datasets. Thus, data and inferences from both datasets were included. This technique seeks coherence and leads to either confirmation, expansion or discordance (Fetters, Curry & Creswell, 2013). Fetters et al. (2013) describe confirmation, expansion and discordance as follows:

i.   **Confirmation**: this occurs when the two datasets converge;
ii. **Expansion**: this occurs when the two datasets provide complimentary or supplementary insights; and
iii. **Discordance**: this occurs when the findings from the datasets are divergent.

Confirmation and expansion provide supportive data evidence, however discordance in the results requires researchers to re-evaluate both datasets to ensure the inferences made were correct (Erzberger & Kelle, 2003). This is an important step to eliminate doubts or issues about the data interpretations. Once this is completed, it is important to determine whether the discordance reveals a different dimension of the phenomenon being studied. If it reveals a different dimension, an expansion with new insights may be gathered (Fetters et al., 2013; Moseholm & Fetters, 2017). These insights carry complementary or supplementary insights about the phenomenon. Furthermore, to assist in clarifying any discordance, researchers may draw on existing theory to help explain contradictions in the datasets (Tashakkori & Teddlie, 2008).

Figure 10.3 provides an overview of the procedures undertaken in this study. As indicated, a *sequential independent design* is followed. Figure 10.3 illustrates the phases, timing of phases, data collection methods, data analysis methods, point of integration and the technique employed for the evaluation of the datasets.

The results and findings are organised into columns. The first column includes the quantitative findings, the second column includes the qualitative findings and the third column offers an interpretation of the integration. The decision to employ the joint display serves to compare the attitudes and perceptions of participants, from both phases, to determine which factors influence an entrepreneurial ecosystem in Nelson Mandela Bay, South Africa.
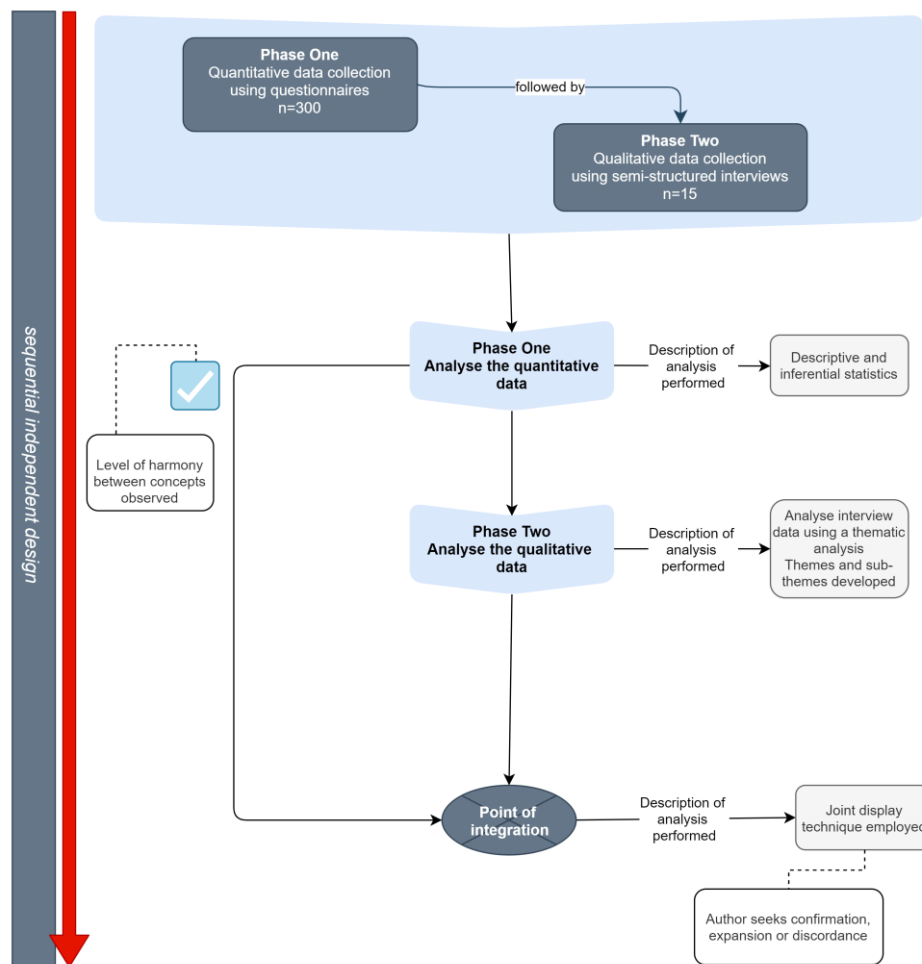
Figure 10.3 - Procedural diagram: The sequential independent design (Adapted from Ivankova, Creswell & Stick, 2006)

10.3   PLANNING OF THE JOINT DISPLAY

Developing meta-inferences aids as a response to address mixed method research questions (Tashakkori & Teddlie, 2008). This study's mixed method RQ$_8$ was: "*Do the quantitative and*

qualitative data show congruence in establishing the factors that influence an entrepreneurial ecosystem for Nelson Mandela Bay?"

In order to answer RQ$_8$, the major results from the quantitative and qualitative datasets were integrated. The following results from the quantitative analysis were used for the joint displays:

i.   Frequency distribution of the measurement items;

ii.   Frequency distribution of the factors;

iii. The measure of central tendency: the mean and standard deviation; and

iv.   Correlation analysis (Pearson's product moment correlation) which indicates the strength of relationships with the dependent factor.

The major sub-themes from the qualitative inquiry were applied. Quotations were added to support the integration. As stated, joint displays require a level of harmony in terms of the constructs being examined in order to assist in the interpretation (Creswell & Plano Clark, 2018). Comparable constructs to perform a reliable interpretation were discussed.

10.4   INTEGRATION

The quantitative and qualitative results were compared using a joint display, where the data were merged by doing a side-by-side comparison. The joint display serves as a visual tool to determine confirmation, expansion or discordance. Notably, this technique is argued as a framework for integration (Greene, 2007, p. 143). Guetterman et al. (2015) recommend that researchers integrating findings from different datasets label their results, show a consistent integration method and showcase confirmation, expansion or discordance.

10.4.1 Joint-display – *The Regulatory Framework and The Institution as A Barrier or Enabler*

In Chapter Nine, the results from the Pearson's correlation showed that there was a medium positive correlation between *The Regulatory Framework* and the *Entrepreneurial Ecosystem* ($|r| = 0.552$).

In Chapter Ten, the theme: *The institution as a barrier or enabler* emerged. In particular, the sub-theme was *Government policies and bureaucratic processes: Negative* had a Groundedness of 70 compared to the sub-theme *Government policies and bureaucratic processes: Positive,* which had a Groundedness of 19. The sub-themes with the naming convention, *Negative* and *Positive* related to the attitudes of the participants.

In the following Table 10.1, the joint display compares the findings from the quantitative and qualitative results. The third column provides an interpretation to determine the fit between the two datasets and explain whether there is confirmation, expansion or discordance.

Table 10.1 - Joint display comparing the quantitative and qualitative findings for the factor The Regulatory Environment/the institution as a barrier or enabler

Quantitative results (n=300)	Qualitative results (n=15)	Interpretation
Central Tendency: $M = 2.72$ (SD = 0.77) (Neutral) **Range** on Likert Scale = 1-5 **Instrument topics:** 1. Dealing with municipality 2. Cost of doing business 3. Red tape 4. B-BBEE codes 5. Procedure to open business 6. Labour laws **Frequency distribution:** 43% had a Negative attitude about the Regulatory Environment $r = 0.552$ (medium positive correlation)	Participants were generally negative about government policies and bureaucracy. Most participants referred to the Preferential Procurement Act. For instance: *"There is a dependency created by the 30% by the BEE… In other words, if I meet all these criteria, I should be getting work" (P3).* Participants also indicated that the cost of doing business is expensive, for example: • *"Cut the red tape, it's too time consuming…in a place like Rwanda it takes you about 48 hours to register and start the business. In South Africa, it takes you a while" (P2).* • *"The cost of doing business is not so low…but the Municipality in Port Elizabeth has got this weird thing called the winter rate of electricity. The electricity is almost double the price…and you can't carry this cost over to your client" (P15).* The entrepreneurs indicated a negative tendency to the labour laws: • *"To me the policies in terms of the Labour Laws are very harsh, I think. Because I think we the only place in the world that after three months employees are deemed permanent" (P15).* • *"I know of the Volkswagen initiative…They added around 400 people, suppliers that actually were invited to actually make a pitch to them. And I think only about 40 of them*	The datasets show divergence and offer both complementary and supplementary insights to provide **expansion**. The perspective of Institutional Theory is applied. **Complementary insights**: • The Preferential Procurement Act and B-BBEE have a disabling effect on economic growth in Nelson Mandela Bay. This has led to contracts being surrendered to companies outside the city. Thus, there is lost tax revenue for the city and employment opportunities; and • The cost of doing business and government-generated red tape is high. This creates a disproportionate effect on small businesses. For instance, small businesses cannot carry additional costs over to their clients. **Supplementary insights:** The regulatory framework may have the right intentions; however, its power has constrained economic potential. Moreover, it has created a disproportionate effect on small businesses. This leads to small businesses not being able to

	actually met the requirements. ...But when big businesses are actually competitive in terms of quality, that becomes a problem sometimes as well" (P10).	compete effectively and benefit from agglomeration economies.

The triangulation highlighted deviances between the two datasets. Therefore, during the integration, it was investigated whether any complementary or supplementary insights about the phenomenon existed.

The correlation from the quantitative analysis showed that medium positive correlation existed between the *Regulatory Framework* and Nelson Mandela Bay's entrepreneurial ecosystem. The frequency distribution indicated a Negative frequency (n=130, 43%). The mean of 2.72 illustrates a Neutral attitude, showing that the responses were ambivalent. Thus, to perform the integration, a bar chart was added to visualise the frequency of each variable for the construct, *Regulatory Framework* from the quantitative analysis. Figure 10.4 shows the frequency distribution of the attitudes of the respondents from the quantitative analysis. Table 10.1 used the frequencies of the variables from the quantitative analysis to assist with the integration.

Attitudes to the Regulatory Framework (n=300)

	Dealing with the local municipality	Cost of doing business e.g. cost of complying with tax requirements, regulatory burdens, electricity and fuel costs.	Government-generated red tape.	B-BBEE codes	Procedure to open a business	Labour Laws	Supply Chain requirements
Obstacle	62%	57%	56%	41%	39%	30%	35%
Neutral	17%	19%	29%	27%	23%	32%	31%
No Obstacle	22%	24%	16%	32%	38%	38%	34%
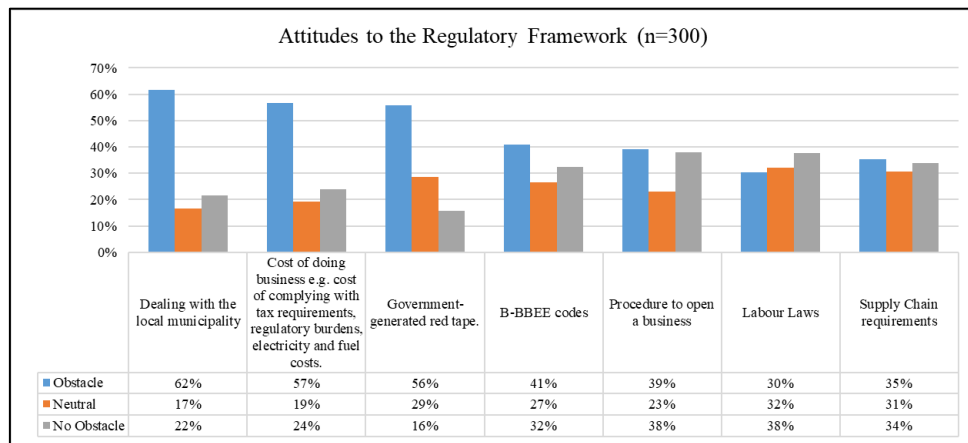
Figure 10.4 - Frequency distribution of the attitudes of the Regulatory Environment

Table 10.1 shows both complementary and supplementary insights leading to an **expansion**. The perspective of Institutional Theory guided the argument as far as government policy, laws and regulations shape agencies and business dynamism (Fritsch & Wyrwich, 2018; Fritsch, Pylak & Wyrwich, 2019). Thus, formal institutions can promote or constrain the resilience of the entrepreneurial ecosystem within a given place.

To support this expansion, insights from the Nelson Mandela Bay IDP were drawn. The plan indicated that the cost of doing business was high and too much red tape hindered development.

The cost of doing business in the city was high compared with other cities in South Africa (Nelson Mandela Bay Municipality, 2021). Subsequently, South Africa's National Treasury is now attempting to lower the cost of doing business in the city to improve the scores.

To support the supplementary insights provided, the OECD Economic Survey (OECD, 2020a) asserted that the complexity of South Africa's regulatory framework and bureaucratic structures impede competition and growth. The 2020 World Competitiveness Yearbook, the leading survey for competitiveness, reported that the South African government efficiency dropped to 54 out of 63 countries (Department of Employment and Labour, 2020; International Institute for Management Development, 2020).

10.4.2 Joint-display – *Culture* and *Culture and Societal Norms*

In Chapter Nine, the results from the Pearson's correlation showed that there was a medium positive correlation between *Culture* and the *Entrepreneurial Ecosystem* (|r| =0.663).

In Chapter Ten, the theme *Culture and Societal Norms* emerged. Three sub-themes were developed based on the views of the participants. The sub-theme *Negative views of social legitimacy and culture* had a Groundedness of 32; *A culture of dependency and entitlement* had a Groundedness of 19; and *Positive views of social legitimacy and culture* had a Groundedness of 16.

In the following Table 10.2 the joint display compares the findings from the quantitative and qualitative results. The third column provides an interpretation to determine the fit between the two datasets and explain whether there is confirmation, expansion, or discordance.

Table 10.2 - Joint display comparing the quantitative and qualitative findings for the factor Culture and Culture and societal norms

Quantitative results (n=300)	Qualitative results (n=15)	Interpretation
Central Tendency: $M = 3.29$ (SD = 0.71) (Neutral) **Range** on Likert Scale = 1-5 **Instrument topics**: 1. Community support 2. Businesses support each other	Most participants had a negative view of the culture and societal norms. Several of the participants qualified their statements. For example, some participants indicated that individuals go into self-employment to survive. *"I think the culture is not entrepreneurial, but it's a needs*	The datasets show convergence (**confirmation**) and divergence (**discordance**). To address the discordance both complementary and supplementary insights are provided for **expansion**. **Confirmation**: There tends to be a social legitimacy of entrepreneurship in that the community supports local businesses. Similarly, local businesses support each other. This is supported by Institutional Theory.

3. Entrepreneurship as a good career choice 4. City support of innovation 5. Support of migrant entrepreneurs 6. Successful business owners acting as mentors **Frequency distribution:** 54% had a Positive attitude about the Culture $r = 0.663$ (medium positive correlation)	*pressure from unemployment and pressure" (P9).* Another participant explains that there are low efforts to elevate the status of entrepreneurship. *"We do encourage strongly, but we haven't had that culture of celebration and having role models" (P13).* Another participant explains that the SMME are opportunists and have a mindset of entitlement. *"The SMMEs are opportunists and have a sense of entitlement" (P12).*	The perspective of Structuration Theory was incorporated to structure the analysis for the **discordance**. The following supplementary insights using the perspective of Giddens (1984) Structuration Theory were offered. The theory explains that social actions create social structures. These social actions then lead to patterns that become routines or practices: • The choice of being self-employed was a reaction to the social and economic structures of the city. Notably, the unemployment rate 40.4% and poor economic growth (Kimberley et al., 2020; Nelson Mandela Bay Municipality, 2021); and • Democracy in South Africa led to governments taking the responsibility to include Black-owned companies into the mainstream economy (Bushe, 2019). The Preferential Procurement Act and B-BBEE enable this integration (Department of Trade Industry and Competition, 2021). However, in South Africa, the government has become the largest procurer, which created a dependency on the state for contracts (*P3, P4, P5, P12, P15*). In turn, this has led to low levels of innovation and competitive businesses.

The datasets showed **confirmation** in that the community supported local businesses and local businesses supported each other. Thus, the findings from both datasets reinforced the relationships. Gleaning off the Institutional Theory, there seems to be a social legitimacy of entrepreneurship that induces local demand. The social legitimacy of entrepreneurship in a location creates a demand for local goods and services (Porter, 1990; Kibler et al., 2014; Spigel, 2015). Fritsch and Wyrwich (2017) argue that demand is linked to the social legitimacy of entrepreneurship.

The **expansion** as indicated in the interpretation may be justified by the high levels of unemployment and poor economic growth in Nelson Mandela Bay. In September 2020, the Herald reported that the city's unemployment rate was 40,4% (Kimberley, Kimberley &

Donnelly, 2020). In Nelson Mandela Bay, the total informal SMMEs accounted for 87,4% of total enterprises (Dobbin, 2019). Thus, a disproportionate concentration of employment existed in the informal sector.

The Structuration Theory helps to understand the societal context (Giddens, 1984). Structuration Theory, first, invokes supplementary insights on the reasons why individuals in Nelson Mandela Bay decide to go into self-employment. Second, the theory explains potential reasons why, in the qualitative inquiry, the participants explained that current business owners had a mindset of dependency on the state.

A history of self-employment in a location reveals entrepreneurial personalities and innovation capacity. However, Structuration Theory helped to understand the context of self-employment in Nelson Mandela Bay. Self-employment within the social context of Nelson Mandela Bay may be predominantly a result of high unemployment and survival. It is important to underline that each region is unique in its entrepreneurial intention, innovation capacity and new venture establishment (Fritsch, Obschonka & Wyrwich, 2019). The South African government took the responsibility of integrating black-owned businesses into the mainstream economy. The government used levers such as the Preferential Procurement Regulations and B-BBEE to promote the integration. Subsequently, the government has become the largest procurer, which underscores why in the qualitative inquiry, participants felt that a culture of dependency and entitlement is rife. These supplementary insights reinforce that this mindset has created low levels of innovation and poor business competitiveness.

Against this backdrop, applying a design-thinking perspective in Nelson Mandela Bay may offset divergences in the culture. Design thinking is an approach that deals with so-called 'wicked problems', which are broadly defined as "a class of social system problems which are ill-formulated, where the information is confusing, where there are many clients and decision-makers with conflicting values and where the ramifications in the whole system are thoroughly confusing" (Churchman, 1967; Riel, 2009). The deployment of a design thinking approach, in the context of entrepreneurial ecosystems, may address the disparities and elevate the culture of entrepreneurship. There are disparate groups in Nelson Mandela Bay, predominantly based on historical social exclusion. Applying a user-centric approach may lead to the discovery of interventions to develop a culture and norms that benefit the city's entrepreneurial development goals.

10.4.3 Joint-display – *Business Environment* and *Regressive City Leadership*

In Chapter Nine, the results from the Pearson's correlation showed that there was a medium positive correlation between the *Business Environment* and the *Entrepreneurial Ecosystem* ($|r|$ =0.538). The variables for this construct ranged from "Very Severe Obstacle" to "No Obstacle".

In Chapter Ten, the theme *Regressive City Leadership* was developed. In particular, the sub-theme *Political instability* had a Groundedness of 44 and *Low accountability and implementation* had a Groundedness of 39. These two sub-themes had the highest number of codes allocated to them.

In Table 10.3, the joint display compares the findings from the quantitative and qualitative results. The third column provides an interpretation to determine the fit between the two datasets and explain whether there is confirmation, expansion or discordance.

Table 10.3 - Joint display comparing the quantitative and qualitative finds for the factor Business Environment and Regressive City Leadership

Quantitative results (n=300)	Qualitative results (n=15)	Interpretation
Central Tendency: $M = 2.08$ (SD = 0.85) **Range** on Likert Scale = 1-5 **Instrument topics:** 1. Corruption 2. Bribery 3. Professionals that act unethically 4. Disorder 5. Political instability **Frequency distribution:** 75% of participants stated that the business environment was an *Obstacle* $r = 0.538$ (medium positive correlation)	During the semi-structured interviews, the theme *Regressive City Leadership* emerged. First, there was a strong consensus around political instability and in particular the impact of corruption on local economic development. The political instability hindered accountability and because of political agenda's recruited individuals into key positions. **Quotations:** *"So, a fish rots from the head. Right. We have created such an unethical work culture in the public space when you think of government, municipalities and I think it's just it's, it's created a society where civil servants are just not prepared to roll up the sleeves unless there's something in it for them something backhanded, you know to them"* (**P7**). *"I know a couple has failed because the municipality didn't honor their side of payment structures"* (**P15**),	There is a **confirmation** between the two datasets. Political instability, corruption, bribery, and unethical behaviour have a significant impact on the economic potential of the city. This has also impacted the social contract with the citizens. These findings reinforce that there are significant issues in Nelson Mandela Bay. In particular, the confirmation between the two datasets underlines the lack of trust in politicians and the prevalence of corruption and bribery. This is underpinned through the perspective of The Broken Windows Theory.

Table 10.3 shows **confirmation** between the two datasets. Guided by The Broken Windows Theory, the persistence of corruption, unethical behaviour and political expediency has caused Nelson Mandela Bay's economic growth to regress. As stated in Section 9.3.1, the persistence of these broken windows has led to a decline in the economic potential of Nelson Mandela Bay. The explanation from The Broken Windows Theory explicates that the characteristics and actions demonstrated by the city leadership are a severe obstacle for entrepreneurial development.

10.4.4 Joint-display – *City Planning and Regressive City Planning*

In Chapter Nine, the results from the Pearson's correlation showed that there was a medium positive correlation between the *City Planning* and the *Entrepreneurial Ecosystem* (|r| =0.642). In Chapter Ten, the theme *Regressive City Planning* emerged. In particular, the sub-theme *Poor spatial planning and land use* had a Groundedness of 50 and *Poor access and maintenance of infrastructure* had a Groundedness of 22. Groundedness refers to the amount of time a specific code label was applied.

In the following Table 10.4, the joint display compares the findings from the quantitative and qualitative results. The third column provides an interpretation to determine the fit between the two datasets and explain whether there is confirmation, expansion or discordance.

Table 10.4 - Joint display comparing the quantitative and qualitative findings for the factor City Planning

Quantitative results (n=300)	Qualitative results (n=15)	Interpretation
Central Tendency: *M* = 2.74 (SD = 0.91) (Neutral) **Range** on Likert Scale = 1-5 **Instrument topics:** 1. NMB is inclusive, resource efficient 2. Spatial development of the city on socio-economic conditions 3. The physical infrastructure	During the semi-structured interviews, the theme *Regressive City Planning* emerged. This theme explained that the poor efforts towards city planning reduced the economic opportunities for entrepreneurs, such as diversification in supply chains and space to trade. Some key findings are as follows: • The participants explained that the city's spatial design remains segregated; • Indecision or lack of vision regarding land use has created missed economic opportunities; and • Poor maintenance of the city infrastructure has reduced entrepreneurial promotion, moved	The datasets show divergence (**discordance**) and supplementary insights are provided for **expansion**. **Supplementary:** • The existing infrastructure restricts the free movement of resources across the city, which impedes the growth and expansion of the ecosystem; • The spatial design promotes social exclusion; and • The poor focus on land use tied with the ineffective

4. Service infrastructure 5. City infrastructure for doing business **Frequency distribution:** 40% had a Negative attitude about City Planning $r = 0.642$ (medium positive correlation)	businesses out of industrial areas and reduced the attractiveness for potential investors. **Quotations:** *"So, we have a serious problem with first of all infrastructure spending, new infrastructure, but we also have a problem of maintenance of infrastructure. We spending too little. I mean, that's a treasury regulation, where you must spend 8% and we not spending that, so it's a problem"* **(P2).** *"No, definitely no. You know, if that was the case, the town planning would understand that you cannot take 18 months to two years to rezone land from let's say residential to business use or whatever else the category of business is"* **(P4).** *"Not much. I have been here for five years now, I have not seen, apart from Bay West. Look, the Northern Areas itself is not a priority"* **(P7).** *"If we can get that more secured and the infrastructure maintained, because the infrastructure at the moment is going backwards. If you drive into Deal party, there's potholes as big as a house, everything is going backwards. So that's why businesses don't want to move in there anymore"* **(P15).**	implementation from town planning has created a disproportionate effect on entrepreneurial development. Thus, entrepreneurs cannot benefit from agglomeration economies.

As indicated in Table 10.4, there is a divergence between the two datasets. Guided by Systems Theory and Social Network Theory, it is posited that an efficient spatial design, land usage and infrastructure allow firms to benefit from external economies of scale. This argument is based using the perspective of agglomeration economies. As discussed in Section 9.3.6, the underinvestment into these components creates lost opportunities, such as greater access to labour, suppliers and customers.

10.4.5 Joint-display – *Business Support Services* and *Perception of Business Support Services*

In Chapter Nine, the results from the Pearson's correlation showed that there was a medium positive correlation between *Business Support Services* and the *Entrepreneurial Ecosystem* (|r| =0.446). In Chapter Ten, the thematic analysis revealed a substantial Groundedness for *Business Support Services*. In particular, the sub-theme *Support Services as an active role player* had a Groundedness of 50 and *Support services as a catalyst for collaboration* had a Groundedness of 22.

Table 10.5 and Table 10.6 compare the findings from the quantitative and qualitative results for *Business Support Services*. The third column provides an interpretation to determine the fit between the two datasets and explain whether there is confirmation, expansion or discordance.

Table 10.5 - Joint display comparing the quantitative and qualitative findings for the factor Business Support Services

Quantitative results (n=300)	Qualitative results (n=15)	Interpretation
Central tendency: *M* = 3.06 (SD = 0.76) *Neutral* frequency **Range** on Likert Scale = 1-5 **Instrument topics**: 1. Access to legal services 2. Access to tax services 3. Access to incubators 4. Access to competent business consultants 5. Access to education and training 6. Enthusiasm towards entrepreneurship **Frequency distribution:** 52% of participants had a *Neutral* response	Participants were generally positive on the role of the support institutions in Nelson Mandela Bay: • They felt that support institutions were active in Nelson Mandela Bay; and • They perceived that support institutions created the platforms for collaboration. **Quotations:** *"In Uitenhage we actually train SMMEs on how to conduct meetings, how to tender for projects, even in Helenvale, how to fill out basic tender forms, how to be compliant, because a lot of small entrepreneurs don't know how to be compliant. So, we train them in that as well. And so, we've given them certificates on how to conduct public meetings, how to do basic tendering and how to help with CIDB one gradings" (P3).* *"Meanwhile, to be fair, there is a substantial amount that the municipality is investing in SMME development, people might not be*	The datasets show divergence (**discordance**) and offer both complementary and supplementary insights to provide **expansion**. **Complementary**: Further analysis revealed that in the quantitative analysis the highest "*Neutral*" frequency was found in the variables: (1) *access to incubators* and (2) *access to competent business consultants*. This may represent issues of information asymmetry and poor structural holes.

$r = 0.446$ (medium positive correlation)	*aware of this, but these institutions, including our own that are being funded by the municipality for them to be able to provide SMME support and development" (P5).*	

Table 10.6 - Continued joint display comparing the quantitative and qualitative findings for the factor Business Support Services

Quantitative results (n=300)	Qualitative results (n=15)	Interpretation
Central tendency: $M = 3.06$ (SD = 0.76) *Neutral* frequency **Range** on Likert Scale = 1-5 **Frequency distribution:** 52% of participants had a *Neutral* response $r = 0.446$ (medium positive correlation)	The only disturbing fact mentioned is the lack of measurement regarding the impact that the support has had on entrepreneurs in the city. **Quotations:** *"It is currently not measured. This makes it difficult to make inter-city comparisons. As a city we need to think of ways on how to measure that" (P1).* *"I know they have programmes. So, I would agree, but the impact, I don't know that the extent of the impact you understand, but I know there are interventions. There was a whole huge funding with the Partnership for Helenvale and the municipality, and yeah, so I don't know the impact, but I know there is. It was implemented by the MBDA. But it's a metro project" (P9).* *"And in as far as the efficient support services, it's very difficult to answer that question because we don't have a formal system to measure the impact of those services. It's very, very fragmented, and disorganised, and it is probably indicative of a, of an ecosystem that's certainly disintegrated" (P10).*	**Supplementary:** The qualitative inquiry indicated that there are no transparent measures in place to evaluate the effectiveness of support institutions. Applying the Systems Theory, it may be prudent to apply measurements that allows for feedback to strengthen the ties in the ecosystem.

As indicated in Table 10.5 and Table 10.6, there is a divergence between the two datasets. Guided by Structural Holes Theory, it is posited that there is a lack of structural holes in Nelson Mandela Bay. Structural Holes Theory explains that opportunities are created by connecting disparate groups of people. The theory underlines the importance of connectivity, proximity and density as it relates to productive entrepreneurship.

The lack of structural holes may be associated with issues of information asymmetry. The information asymmetry may be present both on the supply and demand side. First, entrepreneurs may have insufficient knowledge about the accessibility, resources and benefits of support institutions. Second, from a supply-side, business support services may need to improve their visibility by actively going into communities. Support institutions may also have limited knowledge about training needs, preventing them from providing tailored and timely business support.

Systems Theory argues that activities in the entrepreneurial ecosystem follow a process of using inputs from the environment, transforming those inputs within the city's structure that create outputs for the stakeholders in that ecosystem (Leendertse, Schrijvers & Stam, 2020). It further demonstrates how feedback is used to improve activities. The feedback strengthens the ties in the ecosystem. Thus, introducing mechanisms to measure the adequacy and impact of support institutions may allow how to better exploit support services.

10.4.6 Joint-display – *Entrepreneurial intention and The Entrepreneurial Mindset*

In Chapter Nine, the results from the Pearson's correlation showed that there was a medium positive correlation between *Entrepreneurial Intention* and the *Entrepreneurial Ecosystem* (|r| =0.382).

In Chapter Ten, the theme: *The entrepreneurial mindset* emerged. In particular, the sub-theme *Entrepreneurial challenges: mindset* had a Groundedness of 24 and *Entrepreneurial intention: seeking business opportunities* had a Groundedness of 16.

Table 10.7 illustrates the joint displays that compare the findings from the quantitative and qualitative results. The third column provides an interpretation to determine the fit between the two datasets and explain whether there is confirmation, expansion or discordance.

Table 10.7 - Joint display comparing the quantitative and qualitative findings for the factor Entrepreneurial Intention

Quantitative results (n=300)	Qualitative results (n=15)	Interpretation
Central tendency: $M = 3.54$ (SD = 0.72) (Positive) **Range** on Likert Scale = 1-5 **Instrument topics**: 1. Intention to develop business ideas 2. Intention to start a business 3. Intention to take over a family business 4. Willing to take risks 5. Fear of failure **Frequency distribution**: 62% of participants had a *Positive* response $r = 0.382$ (medium positive correlation)	Most participants indicated that there was an intention to start new ventures. **Quotations:** *"So, I think that notwithstanding the challenges in municipalities, there are people who will do things. It's the scaling up that becomes the problem"* **(P3).** *"I believe they do in more than usual levels…you've got at any given time, a group of people that are looking for entrepreneurial opportunities"* **(P5).** *"If I look at the amount of staff with a side hussle, if I look at the the SPAZA shops, the informal businesses that fills Korsten…South Africans have realised that seeking formal employment is like finding needle in a haystack. But starting your own business is the onset of putting food on the table. So definitely"* **(P7).** *"The risk appetite is just not there"* **(P4).** *"Where you find that SMMEs would want, you know, the politics of the day or the regime that's in charge in an area to actually play a role, a significant role in how they get business and how their businesses survive and those kinds of things"* **(P5).** *"Now, the expectation to be given work, you know, by small businesses to fight for work opportunities, not to be able to competitively develop businesses that can get work opportunities…it has also been infiltrated by the need for people to do an activity whilst they are not really entrepreneurial"* **(P9).**	After performing cross-validation between the two datasets there are patterns of convergence and divergence. The convergence between the datasets presents **confirmation:** first, both datasets indicate that individuals in Nelson Mandela Bay seek out business opportunities for new venture creation. Second, both datasets confirm that a fear of failure exists. The divergence (**discordance**) between the datasets presented the opportunity to present complementary and supplementary insights to provide **expansion**. The insights are guided by the perspective of Structuration Theory. **Complementary**: 41% of the participants in the quantitative analysis indicated a Neutral attitude to the risk appetite of individuals from Nelson Mandela Bay. However, the qualitative inquiry established that the adverse risk appetite was based on the historical social exclusion of the previously disadvantaged communities. This may indicate that a low entrepreneurial legacy exists in disparate groups of Nelson Mandela Bay.

There were convergent and divergent patterns found between the two datasets. For the divergent patterns, an investigation was performed to determine whether any complementary or supplementary insights about the phenomenon existed.

The central tendency indicated a Positive frequency. A bar chart was used to visualise the frequency of each variable for the construct, *Entrepreneurial Intention* from the quantitative analysis. Figure 10.5 shows the frequency distribution of the attitudes of the respondents from the quantitative analysis. Table 10.7 used the frequencies of the variables from the quantitative analysis to assist with the integration.

	The intention to develop business ideas exists.	There is intention to start a business.	There is intention to take over a family business.	Individuals are willing to take risks.	A fear of failure restricts people from starting their own business.
■ Disagree	13%	10%	13%	20%	6%
■ Neutral	18%	16%	30%	41%	15%
■ Agree	69%	75%	57%	39%	79%
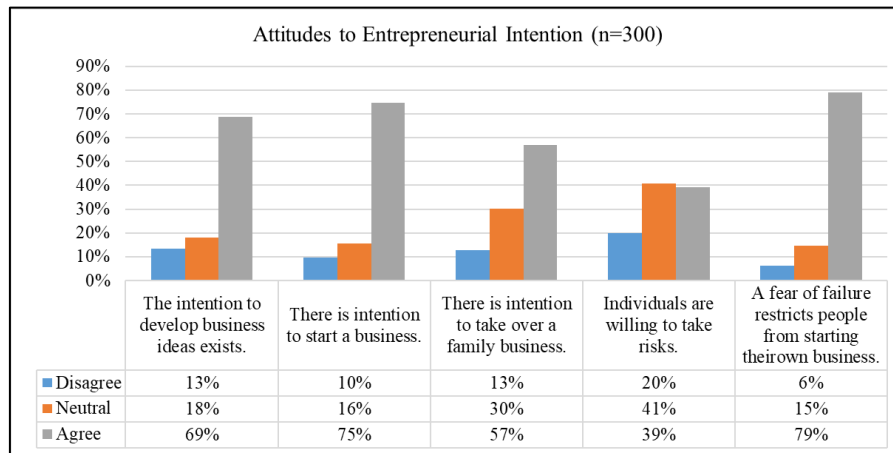
Figure 10.5 - Frequency distribution of the attitudes towards Entrepreneurial Intention

The perspective of Structuration Theory (Giddens, 1984) is applied to support **expansion**. There is an interplay with Culture and this theory was applied for expansion in Section 10.4.2. Structuration Theory explains why the divergence exists as it relates to how the structures of social systems, such as norms become social practices. Agents, such as individuals who operate in the ecosystem reproduce these practices. For instance, first, self-employment is a shared response towards high unemployment and supports survivalism. Second, there is a shared understanding that entrepreneurs are entitled to transactions from the state. This mindset indicates a high dependency on the state, which opposes the true value of entrepreneurship in terms of competition and innovation. The fact that most businesses in Nelson Mandela Bay remain informal, reinforces the use of this theory.

10.4.7 Joint-display – *Human Capital and Human capital as a competitive advantage*

In Chapter Nine, an Exploratory Factor Analysis was performed and omitted three variables in accordance with the results. The three variables that were omitted are: *Businesses employ a high percentage of unskilled labour*; *skilled labour is expensive* and *skilled labour makes the*

business environment more competitive. The statistician split two variables: *B-BBEE is important* and *Employment equity is important* into a separate construct as they did not directly link to skilled labour. Thereafter, a Cronbach's Alpha Coefficient test for reliability was performed: α = 0.69 for all variables relating to skilled labour and α = 0.31 for the two split variables. The statistician explained that both variables for the factor *Human Capital – Employment Equity* related to the Entrepreneurial Ecosystem, thus internal consistency of the measuring instrument was not an issue. The Pearson's correlation showed a low positive correlation for *Human Capital – Skilled Labour* (|r| =0.231) and *Human Capital – Employment Equity* (|r| =0.360). The correlation for the variables pertaining to Skilled Labour were not statistically significant.

However, to perform this integration, all the variables were included. Another statistical test was performed. A Cronbach's Alpha test indicated a reliability of α = 0.68. This shows a fair reliability, which is not an ideal result. The results from the Pearson's correlation showed that there was a low positive correlation between *Human Capital* and the *Entrepreneurial Ecosystem* (|r| =0.309). Furthermore, based on this second test, a Mean value of 2.94 and Standard Deviation of 0.53 were calculated. The central tendency indicated that 81.3% (n=244) of the respondents had a Neutral response.

In Chapter Ten, the theme *Human capital as a competitive edge* emerged. In particular, the sub-theme *Human Capital as a competitive advantage* had a Groundedness of 22 and *Investment into Human Capital* had a Groundedness of 31. Table 10.8 and Table 10.9 illustrate the joint displays that compare the findings from the quantitative and qualitative results. The third column provides an interpretation to determine the fit between the two datasets and explain whether there is confirmation, expansion or discordance

Table 10.8 - Joint display comparing the quantitative and qualitative findings for the factor Human Capital

Quantitative results (n=300)	Qualitative results (n=15)	Interpretation
Central tendency: M = 2.94 (SD = 0.53) (Neutral) **Range** on Likert Scale = 1-5 **Frequency distribution:** 81% had a *Neutral* response to Human Capital **Instrument topics:** 1. Employment of skilled labour 2. Employment of unskilled labour 3. Skilled labour is expensive 4. Access to skilled labour 5. The skills of youth/graduates 6. B-BBEE importance 7. The competitiveness of skilled labour 8. Supply of top manager 9. Supply of scientists 10. Supply of engineers 11. Supply of artisans 12. Employment equity importance r = 0.309 (low positive correlation)	All participants considered human capital, specifically skilled human capital, as essential for a business to compete. *"Big time, that's the one asset in business, in any organisation, whether it's a University, City, or a country. If you deal with that, and you get that talent set the rest will fall into place"* **(P4).** Most participants indicated that efforts are made in the city to develop the human capital. Various actors were involved in this. Participants indicated that not enough effort has been made to retain skilled individuals in the city. *"It has failed dismally so disagree because they leave. in terms of retaining them there is not a lot of effort or we are not doing enough"* **(P13).** *"More improvements need to be done by those responsible"* **(P6).** *"I also want to say one of the key strategies to retain talent in any region is to be competitive, market competitive in terms of remuneration. And the Nelson Mandela Bay doesn't have that capability"* **(P9).**	After performing cross-validation between the two datasets there are patterns of divergence. This means that there was **discordance** present. Re-evaluation of both datasets was done to eliminate doubt and to determine a new dimension (complementary and supplementary insights) of the phenomenon. A second iteration of comparison was performed. For the quantitative analysis, each variable in the frequency distribution of the measurement items was investigated. Thereafter, two bar-charts were created, see Figure 10.6 and Figure 10.7. Thinking simultaneously about the datasets the following was revealed: • There are balancing perspectives that human capital is an essential resource for businesses to compete; • There is not a high density of skilled human capital in the city; • Insufficient retention strategies for skilled human capital exist; and • The city is not market competitive to attract or retain skilled human capital. At the same time, skilled labour is seen as expensive.

Table 10.9 - Continued joint display for comparing the quantitative and qualitative findings for the factor Human Capital

Quantitative results (n=300)	Qualitative results (n=15)	Interpretation
Central tendency: M = 2.94 (SD = 0.53) **Range** on Likert Scale = 1-5 **Frequency distribution:** 81% had a *Neutral* response to Human Capital r = 0.309 (low positive correlation)	*"The Human Capital and career development centers are those TVET colleges. They have a lot of skilled labour courses being completed" (**P8**).* *"From the university points of view that there are a few programmes that offer entrepreneurial education" (**P9**).* *"I've been involved with a number of efforts to develop entrepreneurship in the so-called disadvantaged areas, through skills development, and then of course, developing entrepreneurial skills" (**P10**).* *"From your private sector companies' point of view, I can say I agree that they are efforts on their part to upskill their workers to serve the business needs and so on because it is strategic" (**P10**).*	To address the inconsistency in the datasets, both complementary and supplementary insights are provided in order to allow for **expansion**. **Complementary**: The Absorptive Capacity Theory of Knowledge Spillover contends that human capital creates knowledge-intensive entrepreneurial opportunities (Qian, Acs & Stough, 2013). Based on the comparison it is posited that a higher supply of human capital interventions, such as skills training and impact assessments are needed. Potentially, unskilled labour may be capacitated into the semi-skilled labour pool. The underinvestment in knowledge causes negative economic development (van Beers & Zand, 2014; Link & Scott, 2019; Obschonka & Audretsch, 2019) especially in under-resourced environments, such as Nelson Mandela Bay. **Supplementary**: The labour market in Nelson Mandela Bay is growing at a slow rate (Nelson Mandela Bay Municipality, 2021, p. 93). Equally, the city has lost its attractiveness for potential employees. By underpinning the supplementary insights in the Design Thinking perspective it is posited that a labour market integration process, using a participatory approach may build city attractiveness to draw in human capital.

As part of the second iteration of comparison, the variables were independently investigated and a visualisation, using a bar charts were produced (Figure 10.6 and Figure 10.7 respectively). Figure 10.6 illustrates the variables that indicate attitudes to human capital, in particular skill levels.
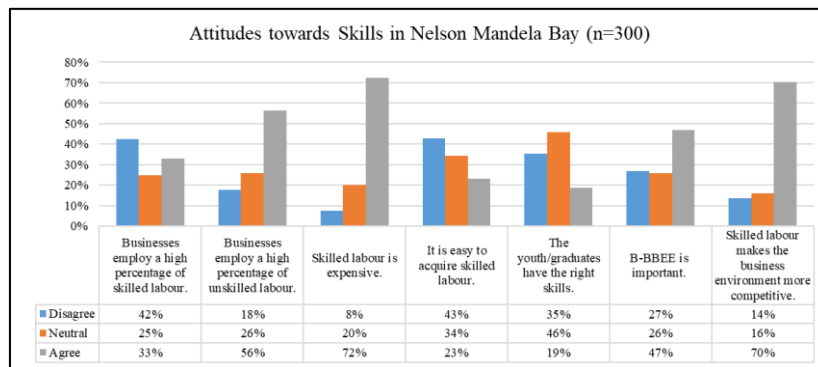
Figure 10.6 - Frequency distribution of the attitudes towards Human Capital

Figure 10.7 illustrates the variables that indicate attitudes to human capital, in particular the supply of various skilled human capital in the city.
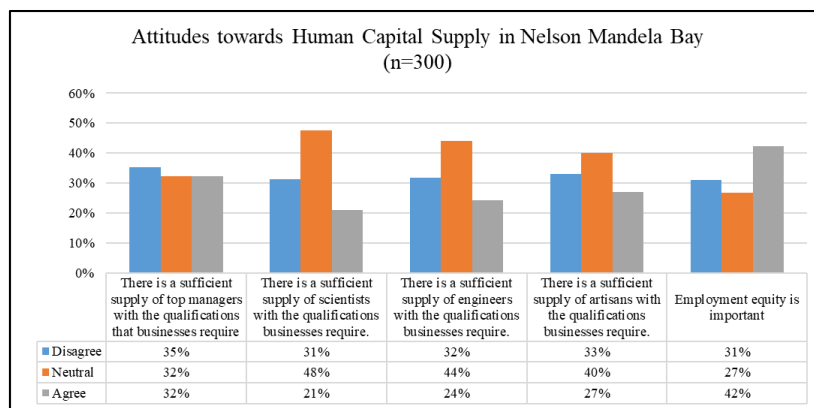
Figure 10.7 - Frequency distribution of the attitudes towards Human Capital

According to Nelson Mandela Bay's IDP, the labour market is not growing at the rate it should be when compared to other metropoles (Nelson Mandela Bay Municipality, 2021, p. 93). The plan further explains that Nelson Mandela Bay has lost its attractiveness for potential employees and businesses. Thus, the **expansion** provided is justified through the lens of Absorptive Capacity Theory of Knowledge Spillover and Design Thinking.

10.5   OBSERVED LIMITATIONS

The construct: *Finance* indicated a mean value of 2.56 (Negative), with a standard deviation of 0.69. Correlation analysis indicated that a relationship between Finance and the entrepreneurial ecosystem exists, where $|r| = 0.487$ indicates a medium positive correlation.

There were no major themes developed for *Finance* in the qualitative inquiry. The semi-structured interviews included a Likert Scale for cognitive probing. However, the participants gave limited additional insights to *Finance*. Instead, participants referred to the entrepreneurial intention or mindset when it came to *Finance*. Therefore, no reasonable integration could be provided. However, a supplementary insight may be inferred to the extent that *Finance* is based on the mindset and intention of entrepreneurs in the city.

10.6   CONCLUSIONS

The Chapter addressed RQ_8: "Do the quantitative and qualitative data show congruence in establishing the factors that influence an entrepreneurial ecosystem for Nelson Mandela Bay?" Thus, the Chapter completed RO_8, which was: To compare and validate the results from the quantitative and qualitative findings. This Chapter sought to integrate the quantitative analysis and qualitative findings.

Joint displays were used as a visualisation tool to undertake a side-by-side comparison of the major quantitative analyses and qualitative findings. The visualisation tool allowed the author to determine whether there was confirmation, expansion or discordance present between the datasets. The choice of joint displays satisfies the criteria of representation and interpretation as per the key elements for integration in mixed methods studies (Creswell & Plano Clark, 2018; Younas et al., 2019; Haynes-Brown & Fetters, 2021).

Seven joint displays were presented in Table 10.1 to Table 10.9. The joint displays were based on the constructs investigated in Phase One and Phase Two of the mixed methods study. The construct, *Finance* did not provide adequate rich information from the qualitative inquiry and deemed it an observed limitation for interpretation. In the qualitative inquiry, the theme: *Connections* emerged and will be applied in the construction of the conceptual framework. The theme: *Connections* could not adequately be used in the integration as a level of harmony between constructs is required for joint displays in mixed methods.

i.   **Integration: The Regulatory Framework and The Institution as A Barrier or Enabler**

The integration for the *Regulatory Framework* and *the institution as a barrier or enabler* provides **expansion**. The Preferential Procurement Act and B-BBEE are underlined as having a disabling effect on the economic potential of Nelson Mandela Bay. The Preferential Procurement Framework Act, 2000 and the 2011 Preferential Procurement Regulations serve to include previously disadvantaged business owners into the economy. The B-BBEE Act and

its associated B-BBEE Strategy aim to redress the inequality of social exclusion of the Black majority. The policy objectives are to increase Black ownership and control of companies in priority sectors in the South African economy (Department of Trade Industry and Competition, 2021). Thus, the strategy is geared towards accelerated and shared economic growth.

In the quantitative analysis, 47% (n=141) of the respondents indicated that B-BBEE was important. However, participants from the qualitative inquiry explained that many businesses that were B-BBEE compliant were not competitive in terms of various supply chain requirements and this has led to contracts being surrendered to businesses outside of Nelson Mandela Bay. This meant that the city lost on potential tax revenue and employment opportunities. Thus, it is postulated, using the lens of Institutional Theory, that policies should enable growth.

The quantitative analysis showed divergent responses for the variables: labour laws; procedure to open a business and supply chain requirements. However, the participants, in particular the entrepreneurs from the qualitative inquiry explained that the labour laws had a disproportionate effect on small businesses. They explained that the bureaucracy surrounding labour laws restricted them from hiring as they wanted.

To provide supplementary insights, the perspective of Institutional Theory was applied. Institutional Theory contends that the regulatory environment navigates the structure, performance and configuration of a place (Alvedalen & Boschma, 2017; Autio, Nambisan, Thomas & Wright, 2018; Iftikhar, Justice & Audretsch, 2020; Shwetzer, Maritz & Nguyen, 2019; Stam & van de Ven, 2019).

It may therefore be explicated that the labour laws are cumbersome for entrepreneurs and are inhibitors to the establishment and growth of SMMEs (Luvhengo & Thomas, 2019; Nieuwenhuizen, 2019). Both the procedure to start a business and meeting minimum supply chain requirements included divergent responses in the quantitative frequency distribution of the measuring instrument. Therefore, the qualitative inquiry was important to offset the divergence. Participants in the qualitative inquiry expressed that the procedure to start a business was onerous.

To justify this expansion, the findings from the World Bank's Ease of Doing Business 2020 report reported that South Africa dropped by two points to 84 out of 190 (World Bank, 2020a). The decline in the ease of doing business reflects the sinking growth rate and indicates that it is expensive to do business in South Africa (Republic of South Africa, 2020, pp. 4–6). This

means that the regulatory environment is highly restrictive for entrepreneurship and infers why businesses remain informal. For instance, in 2019, it was reported that the proportion of total informal SMMEs in Nelson Mandela Bay accounted for 87,4% of the total enterprises (Dobbin, 2019).

ii. Integration: Culture

After comparing the two datasets it was found that there were patterns of convergence and divergence. In order to address the divergence, a reavaluation of both datasets was performed. This was followed by determining whether a different dimension of the phenomenon existed to draw out complementary and supplementary insights for **expansion**.

Confirmation explained that there was social legitimacy of entrepreneurship in Nelson Mandela Bay. This was confirmed by analysing the variables of the construct Culture in the quantitative analysis and gleaning insights from the qualitative inquiry. Both datasets confirmed that the community supported local businesses and that local businesses supported each other. The confirmation satisfied the perspective of Institutional Theory.

To address the divergent patterns between the datasets, the perspectives of Structuration Theory and Design Thinking were applied. Structuration Theory aided to understand the choice of self-employment. Giddens (1984) Structuration Theory explains that social actions create social structures which lead to patterns of behavior. Essentially, both datasets showed that citizens were not opposed to going into self-employment, however, the reasons tend to be associated with the current economic structure. Nelson Mandela Bay has high unemployment rates and poverty levels. Thus, applying Structuration Theory reinforced the claim that self-employment is a reaction to the economic structure of the city.

Furthermore, the qualitative inquiry explicated that the entrepreneur in the city has a mindset of entitlement to transactions. This was predominantly associated with the Preferential Procurement Act and B-BBEE. Applying, Structuration Theory it was posited that with democracy, the South African government took the responsibility of integrating black businesses into the mainstream economy (Bushe, 2019). However, the government is the main procurer. This has caused a dependency on the state for contracts instead of creating an entrepreneurial environment that seeks innovation and access to new markets.

Further expansion was provided by promoting the principle of design thinking. It is postulated that design thinking is well-positioned to address divergences, through its participatory approach to improve the implementation of an entrepreneurial culture. For instance, design

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thinking has been applied in different situations, such as: (1) enhancing urban redevelopment in Srirangaptna, South India by collaborating with slum dwellers (Kumar, Lodha, Mahalingam, Prasad & Sahasranaman, 2016); (2) improving public health in New York by collaborating with public health researchers and the community (Huang, Aitken, Ferris & Cohen, 2018); and (3) for well-being interventions at the University of California, San Franciso through near-peer communities (Thomas, Nguyen, Teherani, Lucey & Harleman, 2020). There are disparate groups in Nelson Mandela Bay, which is a product of historical social exclusion. In that vein, it is argued that design thinking may act as a strategy to assist Nelson Mandela Bay in developing a culture to meet city entrepreneurial development goals.

iii.   Integration: Business Environment and Regressive City Leadership

The construct: *Business Environment* and the theme: *Regressive City Leadership* were integrated as there was an agreement between the concepts. The integration showed **confirmation** between the two datasets. Both the quantitative analysis and the qualitative inquiry explicate that political instability, corruption, bribery and unethical practices have a significant impact on the economic potential of the city. The perspective of Broken Windows Theory was used to reinforce the argument.

In 2019, the Nelson Mandela Bay Business Chamber expressed to the mayor and mayoral committee that political instability pushed out investment (Nkosi, 2019). Furthermore, the extent of political instability reduced the social contract with citizens and has had a significant effect on enterprise innovation (Shumetie & Watabaji, 2019). The 2019 Global Competitiveness Index reported a decline in South Africa's ranking on conditions, such as: trust in politicians, corruption and bribery, crime and violence, amongst others (Schwab, 2019). Similarly, in early 2020, the World Economic Forum annual meeting in Davos-Klosters, Switzerland indicated that international investors do not trust South Africa (World Economic Forum, 2020). The extent of political instability, corruption, bribery and unethical practices have filtered down to all levels and creating major disparities for entrepreneurship.

iv.   Integration: City Planning and Regressive City Planning

The integration for *City Planning* and *Regressive City Planning* shows **discordance** between the two datasets. The perspectives of Systems Theory (transformation process) and Social Network Theory was used to provide supplementary insights. The supplementary insights explicate that there are significant issues surrounding the spatial design, land use and infrastructure in Nelson Mandela Bay. Thus, businesses in Nelson Mandela Bay cannot benefit

from agglomeration economies. Agglomeration economics argue that by concentrating output and housing in particular areas, there are major cost savings and potential to network based on the density of the actors.

Furthermore, as discussed in Section 9.3.6, the underinvestment into these components creates lost opportunities, such as greater access to labour, supplier and customers. This creates a disproportionate effect on the occurrence of knowledge spillovers, which is central to an efficient entrepreneurial ecosystem. The argument was reinforced through the perspective of Social Network Theory.

v.   Integration: Business Support Services and Perception of Business Support Services

The integration for *Business Support Services* revealed **discordance** between the two datasets. An additional analysis into the quantitative analysis was performed to determine where the most concentration of responses were. The variables: *access to incubators* and *access to business consultants* showed the highest Neutral response. Neutral responses are usually indicated as ambivalent responses.

The perspective of Structural Holes Theory was used to provide complementary insights. The insights revealed that there may be a lack of structural holes causing increased information asymmetry. Herein, issues of connectivity, proximity and density may be present. Additionally, the perspective of Systems Theory was used to reinforce the need to measure the adequacy and impact of support institutions. The feedback generated from the output extends as an opportunity to better exploit resources. The **expansion** is justified by using the perspectives of Structural Holes Theory and Systems Theory.

vi.   Integration: Entrepreneurial Intention and The Entrepreneurial Mindset

The initial comparison found that there was convergence and divergence between the two datasets. To address the divergence, both complementary and supplementary insights were sought after to draw out **expansion**.

The convergence led to **confirmation**. The quantitative analysis and qualitative findings indicate that individuals from Nelson Mandela Bay seek business opportunities. Furthermore, both datasets reveal that a fear of failure exists. The frequency distribution for the measuring instrument illustrated that 79% (n=237) of the respondents agreed with the variable: *A fear of failure restricts people from starting their own business*.

To address the **discordance**, both complementary and supplementary insights were presented. Forty-one percent (41%; n=122) of the participants in the quantitative analysis indicated a Neutral attitude to the risk appetite of individuals from Nelson Mandela Bay. However, the qualitative inquiry established that the adverse risk appetite was based on the historical social exclusion of the previously disadvantaged communities. This may indicate that a low entrepreneurial legacy exists in disparate groups of Nelson Mandela Bay. According to Institutional Theory, the cultural-cognitive pillar of the informal institution explains that shared understanding or common beliefs within a society may elevate the status of entrepreneurship (Scott, 2008). However, the responses imply that the poor risk appetite may be a product of the historical exclusion. Using the perspective of Structuration Theory, it is posited that a legacy of low entrepreneurial traditions within the previously disadvantaged communities has reduced the appetite to undertake risk in terms of entrepreneurship. Furthermore, there may be a lack of visible role models to elevate the status of entrepreneurship.

A complementary insight emerged from the qualitative inquiry that underlined the potential reasons for choosing self-employment in Nelson Mandela Bay. Participants explicated that the choice of self-employment was survivalist-based because of the high unemployment rates. This may reinforce the reason why the majority of businesses that operate in the city remain informal (Dobbin, 2019). Furthermore, supplementary insights using the perspective of Structuration Theory (Giddens, 1984) reinforced that the choice of self-employment was based on the social and economic inequality in Nelson Mandela Bay.

vii. Integration: Human Capital

After performing cross-validation between the two datasets an inconsistency was determined. To address the inconsistency, revaluation of both datasets was performed to eliminate doubts. This was followed by determining whether any complementary or supplementary insights about the phenomenon existed. To support the insights, the perspective of The Absorptive Capacity Theory of Knowledge Spillover and Design Thinking was applied. This was suitable to offer an **expansion**.

It is posited that a higher supply of human capital interventions is required. For instance, more focused skills training followed by impact assessments may need to be employed. This may potentially lead to the unskilled labour pool being capacitated into a semi-skilled pool. The complementary insight was justified by explaining that the underinvestment into knowledge causes negative economic development. The product of poor investment into knowledge

reduces spillover effects which cause an advantage ecosystem to degenerate. For instance, in Coimbatore, India efforts were made into an apprenticeship scheme for economic development (Kilroy, 2014b). These efforts led to GDP growth of 3.2% for 10 years and an employment increase of 31% from 2002 to 2012.

Additionally, by applying Design Thinking, the city may improve the disparity that exists in Nelson Mandela Bay's labour market. In Porter's (1990) seminal work, *The Competitive Advantage of Nations*, he contends that competitive locations need to strategically prioritise their human capital as a way to promote innovation, start-ups and clusters towards value-added products and services. For instance, the city may follow a participatory approach to draw in human capital and build city attractiveness. This may reduce the costs of searching and recruiting, which is an advantage for a place (Porter, 1990).

As indicated by the seminal work of Adam Smith, *The Wealth of Nations*, human capital is argued as a factor of production (Hutchison, 1976). In the seminal work by the twentieth-century influential urban theorist, Jane Jacobs, she contends that talent and skilled individuals drive innovation and economic growth (Jacobs, 1969). Neck et al. (2004) state that without an experienced pool, potential entrepreneurs may move away from a location. Many "melting pots" of entrepreneurial activity have been associated with a dense concentration of talent that spills knowledge over within a given location. For instance, in Kigali located in Rwanda, a comparative advantage was achieved by attracting human capital by making the place liveable in terms of safety, cleanliness, and congestion (Kilroy, 2014b), which supports the Broken Windows Theory. This may lead back to the disparity existing in Nelson Mandela Bay's current city planning.

This chapter successfully integrated the major findings from the quantitative analysis and the qualitative findings. Thereby achieving the RO_8: *To compare and validate the results from the quantitative and qualitative findings.* In addition, this analysis answered the RQ_8: "*Do the quantitative and qualitative data show congruence in establishing the factors that influence an entrepreneurial ecosystem for Nelson Mandela Bay?*" In Chapter Eleven, RO_M : *To develop an entrepreneurial ecosystem framework that will support entrepreneurial development in Nelson Mandela Bay, South Africa* will be addressed.

CHAPTER 11: CONCLUSIONS, RECOMMENDATIONS AND FUTURE RESEARCH

11.1   INTRODUCTION

The growing population, falling per capita income, low levels of investment, unemployment, redundant sectors and systemic inequality in South Africa have placed a strain on the already resource-constrained country (Republic of South Africa, 2020). The stagnant economy, coupled with the onset of COVID-19 in March 2020, has deepened the structural inequalities and seen the closure of businesses, worldwide. Therefore, the need for market-orientated approaches are more than ever required for value creation to exploit place-based infrastructure, knowledge and capabilities to secure a competitive advantage.

For developing economies, such as South Africa, developing such market-orientated approaches are problematic. Poor data on sub-national levels have caused countries, such as South Africa, to apply generalisations of the entrepreneurial ecosystem, which are incompatible with the heterogeneous nature of each location (Isenberg, 2011; Spigel, Kitagawa & Mason, 2020a). This generalised application, following a top-down approach of the entrepreneurial ecosystem, has led to a lack of knowledge and insight of the relevant factors that influence entrepreneurship. The lack of knowledge and insight meant that governments could not adequately mobilise resources.

This research study focused on Nelson Mandela Bay, which is one of the eight metropolitan regions in South Africa. The inquiry was focused on investigating the specific factors that influence the entrepreneurial process, innovation and access to new sectors, through an entrepreneurial ecosystem within a spatial context. Thus, a granulated approach was undertaken, balanced through multiple data methods to better understand the diversity inherent to Nelson Mandela Bay.

Chapter Ten presented the triangulation of the major quantitative and qualitative findings and achieved research objective eight (RO_8), which states: *To compare and validate the results from the quantitative and qualitative findings.* Based on the findings in Chapter Ten, an entrepreneurial ecosystem framework that can be employed in the Nelson Mandela Bay metropole is proposed.

In this chapter, the main research question (RQ_M) *What framework can be used to support entrepreneurial development in Nelson Mandela Bay, South Africa?* is addressed. Thereby

achieving the main research objective (RO$_M$) *To develop an entrepreneurial ecosystem framework that will support entrepreneurial development in Nelson Mandela Bay, South Africa.*

This chapter begins by providing an overview of how the research objectives for this study were accomplished. Secondly, the theoretical, methodological, practical and managerial contributions are explained. Thirdly, the managerial recommendations followed by the limitations of the study are presented. Fourthly, suggestions for future research are discussed. Lastly, a summary is provided.

Figure 11.1 presents a structural overview of this study and Figure 11.2 illustrates the roadmap for Chapter Eleven.
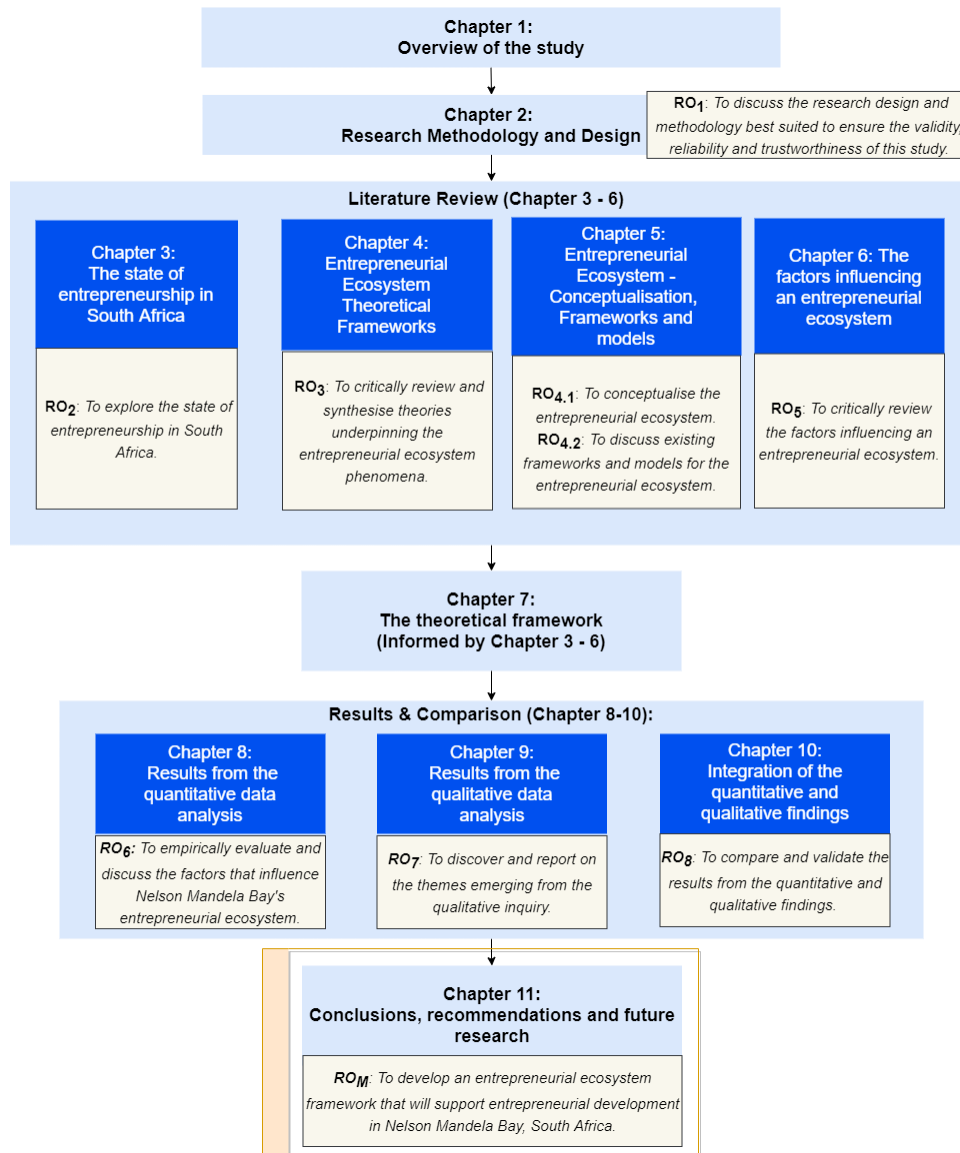
Figure 11.1 - Structural overview of the research study

Figure 11.2 - Roadmap of Chapter Eleven

11.2   ACCOMPLISHMENT OF THE RESEARCH OBJECTIVES

The main research objective (RO_M) for this study was "To develop an entrepreneurial ecosystem framework that will support entrepreneurial development in Nelson Mandela Bay, South Africa". One main objective and eight secondary objectives were identified. Table 11.1 illustrates the research question, objectives and associated Chapters. This section explains how the objectives were achieved.

Table 11.1 – Summary of the Research Questions, Objectives and associated Chapters

Research Question		Research Objective		Chapter
RQ_1	What research design and methodology will ensure this study's reliability, validity and trustworthiness?	RO_1	To discuss the research design and methodology best suited to ensure the reliability, validity and trustworthiness of this study.	2
Literature Review				
RQ_2	What is the current state of entrepreneurship in South Africa?	RO_2	To explore the state of entrepreneurship in South Africa.	3
RQ_3	What theories exist that support the entrepreneurial ecosystem?	RO_3	To critically review and synthesise theories underpinning the phenomenon of an entrepreneurial ecosystem.	4

RQ$_{4.1}$	How can the concept of an entrepreneurial ecosystem be understood?	RO$_{4.1}$	To conceptualise the entrepreneurial ecosystem	5
RQ$_{4.2}$	What are the current frameworks or models for an entrepreneurial ecosystem?	RO$_{4.2}$	To discuss the existing frameworks and models for entrepreneurial ecosystems.	
RQ$_5$	What are the factors that influence an entrepreneurial ecosystem?	RO$_5$	To critically review the factors that influence an entrepreneurial ecosystem.	6
Bridging Chapter – Conceptual Framework informed by RO$_2$ to RO$_5$				**7**
Results and Comparison				
RQ$_6$	What factors influence the entrepreneurial ecosystem in Nelson Mandela Bay?	RO$_6$	To empirically evaluate and discuss the factors that influence Nelson Mandela Bay's entrepreneurial ecosystem.	8
RQ$_7$	What are the economic development agents' perceptions of Nelson Mandela Bay's entrepreneurial ecosystem?	RO$_7$	To discover and report on the themes emerging from the qualitative inquiry.	9
RQ$_8$	Do the quantitative and qualitative data show congruence in establishing the factors that influence an entrepreneurial ecosystem?	RO$_8$	To compare and validate the results from the quantitative and qualitative findings.	10
RQ$_M$: *To develop an entrepreneurial ecosystem that will support entrepreneurial development in Nelson Mandela Bay, South Africa*				
RQ$_M$	What framework can be used to support entrepreneurial development in Nelson Mandela Bay, South Africa?	RO$_M$	To develop an entrepreneurial ecosystem framework that will support entrepreneurial development in Nelson Mandela Bay, South Africa.	11

Research Objective (RO$_1$): To discuss the research design and methodology best suited to ensure the reliability, validity and trustworthiness of this study

Chapter Two discussed the research methodology and design employed in this study. The research onion by Saunders et al. (2016) was applied as it offers a blueprint when developing the design and methodology of a research study. This study followed the research philosophy of pragmatism, abductive reasoning, a mixed-method simple comprising of quantitative surveys and semi-structured interviews, a case study strategy within a cross-sectional timeframe.

The study followed a sequential independent design where the semi-structured interviews were conducted after the survey was administered. Thus, a two-phase approach was applied. The point of integration was triangulation, by analysing the data independently and drawing a comparison of the results to determine convergence, divergence, complementary or supplementary insights of the phenomenon.

To assert the scientific quality of the quantitative research study, the aspects of reliability and validity were discussed. For the qualitative inquiry, trustworthiness was explained through the criteria of credibility, transferability, dependability and confirmability. The chapter further discussed the ethical issues for both the participants and the researcher of the study.

Research Objective (RO₂): To explore the state of entrepreneurship in South Africa

Literature and reports supported the investigation of the current state of entrepreneurship in South Africa. The literature demonstrated that the South Africa government implemented a number of measures to enable an environment suitable for entrepreneurship through the *White Paper on National Strategy for the Development and Promotion of Small Business in South Africa* (Republic of South Africa, 1995). The White Paper was translated into the National Small Enterprise Act No. 102 of 1996 followed by an amendment act in 2003 and an amendment act in 2004 respectively (South African Government, 2021). The DTI developed the *Integrated Strategy for Promotion of Entrepreneurship and Small Enterprises* (Department of Trade and Industry, 2003). There are three broad pillars that the strategies aim to achieve: (1) increased supply of financial and non-financial support services; (2) demand for small enterprise products and services; and (3) easing regulatory constraints.

Quarterly reports from the SEDA and Statistics South Africa were consulted. Relevant insights were gleaned from the: 2018 Global Entrepreneurship Index; 2019/2020 GEM South Africa report; 2019 Global Competitiveness Index; 2020 World Bank Ease of Doing Business report; and 2020 World Competitiveness Yearbook. The National Entrepreneurship Context Index (NECI) was consulted to determine the average state of South Africa's environment for entrepreneurship.

Key findings, *inter alia*, from the literature review were as follows:

Social legitimacy of entrepreneurship and constraints:

- In 2018, the Global Entrepreneurship Index indicated that South Africa's greatest strength was in its opportunity perception (Acs et al., 2018);
- The 2019/2020 GEM South Africa reported that the perception of entrepreneurial opportunities increased between 2017 (43.2%) and 2019 (60.4%) (Bowmaker-Falconer & Herrington, 2020);
- Fear of failure was notably high at 49.8%, showing an upward trend from 2017 (Bowmaker-Falconer & Herrington, 2020); and

- In 2019, NECI revealed that South Africa ranked 49 out of 54 economies on the average quality of the entrepreneurial ecosystem (Bowmaker-Falconer & Herrington, 2020). The components that require special attention were (1) the education in the primary and secondary school levels; (2) government policies; (3) research and development transfer; and (4) internal market burdens (Bowmaker-Falconer & Herrington, 2020, p. 42).

Type of entrepreneurship:

- South Africa measures entrepreneurship using the Total Entrepreneurial Activity (TEA) rate, which primarily captures self-employment. In quarter three of 2020, informal sector employment increased by 176,000 (7,7%) (Statistics South Africa, 2020d). This indicates that the businesses are not high growth, scalable and do not promote high levels of employment opportunities (Acs et al., 2018);

- In South Africa, a disproportionate relationship exists between TEA and economic performance because of the concentration of necessity entrepreneurs;

- In 2019, Statistics South Africa reported that more than a quarter of total turnover was generated in the services sector (Statistics South Africa, 2019). Small enterprises in these industries were explained as a high proportion of small players who were operating businesses such as barber shops, cafes and dry-cleaning services; and

- In late 2020, the Department of Trade, Industry and Competition (2020) explained that many black-owned companies would close down due to the effect of COVID-19 as a result of poor balance sheets and insufficient collateral as the government needed to reduce their lending rates. This may be indicative of the low innovative capacity and of inefficient businesses in South Africa.

Government efficiency and its impact on business competitiveness:

- The 2019 Global Competitiveness Index reported that both government regulations (ranked 101 out of 141) and ease of starting a business (ranked 129 out of 141) were barriers in the South African entrepreneurial ecosystem;

- The World Bank (2020a) reported that the decline in the ease of doing business reflects a sinking growth rate and that it is expensive to do business in South Africa. This means that the regulatory environment is highly restrictive for entrepreneurship and infers why businesses remain informal; and

- The 2020 World Competitiveness Yearbook, the leading survey for competitiveness, reported that the South African government efficiency dropped to 54 out of 63 countries

(Department of Employment and Labour, 2020; International Institute for Management Development, 2020).

Political instability and its effect on investor and public confidence:

- In 2019, the Global Competitiveness Index reported a decline in South Africa's ranking on conditions, such as trust in politicians, corruption and bribery, crime and violence (Schwab, 2019). This may lead to negative effects on the GDP, foreign direct investment and an increase in the cost of doing business;

- In 2020, the World Economic Forum annual meeting was held in Davos-Klosters, Switzerland. The meeting highlighted that international investors do not trust South Africa (World Economic Forum, 2020). This has a direct impact on domestic and international investment and lowers the potential to trade and access new markets; and

- In 2020, the South African Economic Reconstruction and Recovery Plan indicated worsened levels of investment and aims to improve investor and public confidence (Republic of South Africa, 2020).

The findings from the literature review assisted in the interpretation of the findings for the quantitative analysis and qualitative inquiry. Furthermore, the findings from this literature review were drawn on to provide expansion during the cross-validation (triangulation) of the datasets in Chapter Ten.

Research Objective (RO$_3$): To critically review and synthesise theories underpinning the phenomenon of an entrepreneurial ecosystem

In Chapter Four, a set of theories was integrated to facilitate a more comprehensive perspective on how entrepreneurial ecosystems emerge. Theoretical frameworks act as a pragmatic guide for mixed-method studies and frame the interpretation of the results and findings (Evans, Coon & Ume, 2011). The rich variety of perspectives from the *a priori* theories acted as a conceptual lens to guide this study. In particular, the theories supported the triangulation performed in Chapter Ten, which is a form of abduction. Perspectives from Social Network Theory, Structural Holes Theory, Institutional Theory, Systems Theory, Absorptive Capacity Theory of Knowledge Spillover, Design Thinking and Broken Windows Theory were reviewed and synthesised.

Research Objective (RO$_{4.1}$): To conceptualise the entrepreneurial ecosystem

The literature review carried out in Chapter Five sought to conceptualise the entrepreneurial ecosystem phenomenon. Broadly, entrepreneurial ecosystems were explained as communities

of interdependent actors with a limited set of resources, in a location, who share goals and behaviours towards co-operation and competition (Isenberg, 2011; Stam, 2015; Acs et al., 2017; Brown & Mason, 2017; Shwetzer et al., 2019; Stam & van de Ven, 2019).

Further analysis found that a set of preconditions were necessary to legitimise the entrepreneurial ecosystem. The World Economic Forum, OECD and the GEM are global institutions that were guided by the same set of preconditions (OECD, 2013; Bosma et al., 2019; World Economic Forum, n.d.). These preconditions included: the entrepreneur at the center; a culture that elevates entrepreneurship and fosters fast failure; social networks for connections and knowledge spillovers; a supportive regulatory environment and the geographical location explained as a system with limited resources.

Connectivity was introduced to further conceptualise the entrepreneurial ecosystem. In an environment with a set of preconditions, co-operation and competition among actors may be stimulated (Roundy & Fayard, 2020). Thus, in connected entrepreneurial ecosystems, investors' transaction and search costs decline due to the ease of information exchange. This is a key feature of the entrepreneurial ecosystem and is underpinned in the Social Network Theory.

The literature found that locations are disparate and unique and reinforced the need to understand spatial dynamics (Spigel et al., 2020a). Herein, a granulated examination was encouraged to determine the set of institutional arrangements and resource endowments in a place. Granulated approaches follow a bottom-up approach and inform policymakers and practitioners on how to adequately allocate resources for their ecosystems.

Research Objective (RO$_{4.2}$): To discuss existing frameworks and models for the entrepreneurial ecosystem

A review of existing literature was performed to evaluate the existing frameworks and models for entrepreneurial ecosystems. The review focused on models and frameworks from 2010 to date and a summary was illustrated in Table 5.2. The literature explicated that there was no unified understanding of the exact dimensions or factors affecting an entrepreneurial ecosystem (Bruns, Bosma, Sanders & Schramm, 2017; Acs, Estrin, Mickiewicz & Szerb, 2018; Vedula & Kim, 2019). Despite the lack of consensus, more focus was placed on the interdependent relationships between the actors and the place-based resources as it spurred co-operation and competition. The study investigated dimensions in line with Daniel Isenberg's six domain model for entrepreneurial ecosystem growth with a few caveats (Isenberg, 2011). The factors

focused on in this study excluded markets, however they were explored in the qualitative inquiry.

Research Objective (RO₅): To critically discuss the factors that influence an entrepreneurial ecosystem

In Chapter Six, a literature review was performed on the various factors of the entrepreneurial ecosystem. The factors critically evaluated were as follows: the regulatory framework; culture tied in with social legitimacy and local demand; networks and knowledge; human capital; business support services; city planning explained through spatial design, land use and infrastructure and finance. Networks and knowledge were expanded on by discussing, connections, knowledge spillover, knowledge ecosystems and businesses ecosystems.

The factors were used as constructs for both Phase One and Phase Two data collection and interpretation. Most of the factors were verified by the triangulation performed in Chapter Ten. The only factor not showing statistical significance and lacking rich insights was *Finance*.

Research Objective (RO₆): To empirically evaluate and discuss the factors that influence Nelson Mandela Bay's entrepreneurial ecosystem

In Chapter Eight, the empirical results, which formed part of Phase One of this mixed-methods study were presented and discussed. The results were based on the perceptions of three hundred (n=300) respondents who fell into the category of start-ups, micro-enterprises, SMEs, big business, corporates or MNEs. The demographic characteristics were described based on the descriptive analysis. The distribution of the respondents was as follows: start-ups (35%, n=104), micro-enterprises (16%, n=49), SMEs (32%, n=95) and big business, corporate or MNE (17%, n=52). Due to the small sample of micro-enterprises (16%, n=49), the research study's results indicate a bias. The bias is explained as the majority of enterprises in Nelson Mandela Bay operate within the micro-enterprise category (Dobbin, 2019).

An Exploratory Factor Analysis was conducted to explore the relationships between the factors and determine the minimum number of items to be used in this study (Section 8.5). The Cronbach Alpha Coefficient was performed to measure the internal consistency of the measuring instrument and indicated that the quantitative survey met the conditions for fair to excellent reliability. The analysis in Chapter Eight indicated differing responses (Negative, Neutral and Positive frequencies) for the factors that were measured. The factors with Negative responses were the *Business Environment* (75%), *Regulatory Framework* (43%) and *City Planning* (49%). Factors showing a Positive response were *Entrepreneurial Culture* (54%),

Entrepreneurial Intention (62%) and *Human Capital to Employment Equity* (47%). The factors showing a Neutral response were the *Entrepreneurial Ecosystem* (39%), *Finance* (48%), *Business Support Services* (52%) and *Human Capital to Skilled Labour* (54%).

The correlation coefficients indicated that all the predictor variables (*EE* to *HCEE*) have positive correlations with the outcome variables (*EE* to *HCEE*). Most of the factors indicated a low positive correlations (+0.01 to +0.39) with each other, followed by medium positive correlations (+0.40 to +0.69). Four of the predictor variables: *Entrepreneurial Culture (CUL)*; *Regulatory Framework Obstacles (RFO)*; *Finance (FIN)*; and *City Planning (CP)* show mostly medium positive correlations (+0.40 to +0.69) with the outcome variables, which were statistically and practically significant where |r| >= .300. The balance of the correlations with the outcome variables were positive but lacked practical significance (0.113 < |r| < 0.300). *Business Support Services* (*BSS*) showed mostly positive correlations, which were both statistically and practically significant with most of the outcome variables. *Entrepreneurial Intention (EI)*, *Human Capital - Skilled Labour (HCSL)* and *Human Capital-Employment Equity (HCEE)* had predominantly low positive correlations (+0.01 to +0.39) with the outcome variables.

The relationship between the demographic information and the perception towards the factors, age and race were observed to influence the respondents' perceptions across most factors. As this study endeavoured to determine the predominant factors which influence Nelson Mandela Bay's entrepreneurial ecosystem, the major quantitative findings as explicated were triangulated in Chapter Ten, which addressed research objective eight (RO$_8$).

Research Objective (RO$_7$): To discover and report on the themes emerging from the qualitative inquiry

In Chapter Nine, the results from the qualitative inquiry, which formed part of Phase Two of this study were presented and discussed. The findings were based on the views and opinions of a sample of fifteen influential economic development role players. To promote the scientific quality, Braun and Clarke's (2006) six-phase method for thematic analysis was applied. Once the theoretical saturation was achieved, eight major themes were developed. The themes were: *Regressive city leadership*; *The institution as a barrier or enabler*; *Culture and Norms*; *Connections*; *Perceptions of business support services*; *Regressive city planning*; *The Entrepreneurial Mindset* and *Human capital as a competitive edge*.

In addition, the theoretical perspectives served as a framework in the context of the interpretation of the results and findings. In this regard, Braun and Clarke's (2006) six-phase method alongside the theoretical perspectives provided an organised structure (Evans, Coon & Ume, 2011). Within a qualitative inquiry, an organised structure serves as a guide to the researcher by highlighting the characteristics of the perspectives as they pertain to the data collected. Furthermore, the integrative nature of using both themes and theoretical perspectives aligned with the world view of pragmatism (Creswell & Tashakkori, 2007; Greene, 2007; Evans et al., 2011; Clark & Plano Clark, 2019).

Research Objective (RO$_8$): To compare and validate the results from the quantitative and qualitative findings

In Chapter Ten, triangulation was performed using a side-by-side comparison. Joint displays were the technique adopted for the triangulation as they satisfied the criteria of representation and interpretation. The datasets from Phase One and Phase Two were merged followed by cross-validation. The theoretical perspectives were used as a lens to frame the interpretation of the findings, which is a form of abduction.

Cross-validation of the findings led to patterns of convergence, complementary, supplementary and divergent insights. Confirmation was observed between four of the comparable constructs and themes (Sections 10.4.2-10.4.3; Section 10.4.6). Divergent insights were found between five of the comparable constructs and themes (Sections 10.4.1-10.4.2; Sections 10.4.4-10.4.7). These themes found in the literature related to the regulatory framework, culture, business support services, entrepreneurial intention and human capital. The discordance in the datasets led to a review to ensure the inferences were correct.

The divergent insights led to the identification of new dimensions of the phenomenon being investigated and provided a more complete understanding of the integrated data. The theoretical frameworks (Chapter Four) were used to structure the analysis and explored emerging findings for expansion. An additional theory, Structuration Theory was applied to the themes of *Culture* and *Entrepreneurial Intention* for complementary and supplementary insights.

11.3   CONTRIBUTIONS OF THE STUDY

This study contributes to the field of entrepreneurship by integrating theories and proposing an entrepreneurial ecosystem framework for Nelson Mandela Bay, one of the eight metropolitan regions in South Africa, a developing economy. The contributions of this study's proposed

framework can be used to identify the main factors that influence Nelson Mandela Bay's entrepreneurial development. These factors may guide policymakers and practitioners to identify where strategic investments may be needed to reduce wasteful expenditure. This is essential as each region has distinct development pathways and resources available, indicating that each place would respond or co-ordinate themselves differently. The following sections explain the theoretical contributions, methodological contribution and practical contributions of the study.

11.3.1 Theoretical Contributions

The following sections aim to explain the how the existing constructs from the theories were used in this study. Social Network Theory, Structural Holes Theory, Institutional Theory, Systems Theory and the Absorptive Capacity Theory of Knowledge have been applied in entrepreneurial ecosystem literature. In this study the constructs were be applied to contextualise the presented factors. Thus, this study contributes to the literature on the constructs from the sets of theories in terms of their interrelationships in the entrepreneurial ecosystem in a new context. The constructs from these theories may clarify to city leaders where opportunities lie and the type of activities that may be required.

Lastly, applying theoretical concepts from the two *a priori* theories, such as the Broken Windows Theory and Design Thinking, which have been used in different contexts. There is no evidence of a previous study that has tested the constructs from these two theories on the topic of entrepreneurial ecosystems. Adopting the constructs of the Broken Windows Theory and Design Thinking spurs new avenues of thinking on the topic of entrepreneurial ecosystems. The constructs from Design Thinking view the entrepreneur, investors, human capital and citizens as the customers. Essentially its participatory user-centred approach may induce the desirability, feasibility and viability of a location. The Broken Windows Theory focuses on the environment that is both conducive and attractive to live in. The constructs of theory were used to explain the importance of the quality of life of a place and strong governance to attract entrepreneurs, investors, human capital and promote the social contract with citizens.

i.   Regulatory Environment

The regulative pillar of Institutional Theory includes government policies, laws and regulations (Scott, 2008). The regulatory framework was examined by determining how the constructs from the regulatory pillar structure and shape agencies for Nelson Mandela Bay's entrepreneurial development. The findings explicated that the regulatory environment is highly

restrictive for entrepreneurship and infers why businesses in Nelson Mandela Bay remain informal. The power exerted by the regulative pillar has constrained economic potential, which has created a disproportionate effect on small businesses.

ii.   Entrepreneurial Culture

The cultural-cognitive pillar in Institutional Theory was used to determine whether a social legitimacy towards entrepreneurship existed. Participants from both datasets indicated that both residents and local businesses show a shared understanding in terms of local demand. This satisfied the assertion that social legitimacy of entrepreneurship in a location creates a demand for local goods and services (Porter, 1990; Kibler, Kautonen & Fink, 2014; Spigel, 2015; Fritsch & Wyrwich, 2017).

Structuration Theory was used to explain the divergence for Culture and Culture and societal norms. Structuration theory explains that social actions lead to certain patterns of behaviour (Giddens, 1984). First, participants in both phases indicated that citizens in Nelson Mandela Bay were in favour of self-employment. However, Phase Two participants qualified their views by underlining self-employment as a response to unemployment and poverty. Second, participants in Phase Two underlined that Nelson Mandela Bay created a culture of dependency and entitlement. The findings, such as the pattern of dependency are consistent with the constructs of social actions and shared behavioural patterns.

Additional supplementary insights were provided through the lens of Design Thinking. The benefits of the participatory approach embedded in Design Thinking were argued to implement an entrepreneurial culture. Essentially, co-creation may be used to include disparate groups and meet city entrepreneurial development goals.

iii.   City Leadership

The Broken Windows Theory acknowledged that a positive quality of life leads to the migration of entrepreneurs, skilled human capital and foreign direct investment into a spatial location. The Broken Windows Theory is applied as participants illuminated that the persistence of corruption and political expediency has regressed Nelson Mandela Bay's economic growth. Participants in Phase Two highlighted that the low accountability and implementation from the city leadership has retracted on service delivery imperatives, which has reduced the trust of the citizens. The poor service delivery cascades to social progress, which is consistent with the low level of development as per the Human Development Index

and Gini Coefficient of 0.63 of Nelson Mandela Bay (Department of Cooperative Governance and Traditional Affairs, 2020).

iv.   City Planning

Systems Theory and Social Network Theory were used to explain that an efficient spatial design, land use and infrastructure allow firms to benefit from external economies of scale. Businesses located in a specific geography make choices on how much to innovate and can trade based on a city's design and structure. In Phase Two, participants highlighted that Nelson Mandela Bay has underinvested in various aspects of the city infrastructure, which has led to lost opportunities in terms of labour, suppliers and customers. Efficient city planning reduces business transaction costs and allows for knowledge spillovers to occur. In effect, the businesses may gain access to various sectors, *inter alia*, localised and urbanisation economies.

v.   Support institutions

Structural Holes Theory addressed the connections and information symmetry within Nelson Mandela Bay's entrepreneurial ecosystem. Participants in the qualitative inquiry emphasised that weak connections are present. The pattern of poor connections seemed to be a product of supply and demand information asymmetry, indicating a lack of structural holes. Thereby, inferring that the entrepreneurs in Nelson Mandela Bay may have insufficient knowledge about the accessibility, resources and benefits of support institutions. From a supply side, business support services may need to improve their visibility between disparate groups, conduct a needs analysis to determine training needs to provide relevant support.

Systems Theory acknowledges that activities in the entrepreneurial ecosystem follow a process of transforming inputs within the city's structure that create outputs for the stakeholders in that ecosystem (Leendertse, Schrijvers & Stam, 2020). The theory further explains that feedback strengthens the ties in the ecosystem. A supplementary insight was drawn from the qualitative inquiry where participants highlighted that a lack of transparent measures regarding support institutions existed. Thus, applying measures using the lens of Systems Theory may strengthen ties in Nelson Mandela Bay's ecosystem.

vi.   The entrepreneurial mindset

Institutional Theory was used to explain the convergence and divergence between the datasets as it pertained to the entrepreneurial mindset. Participants from both phases indicated that citizens from Nelson Mandela Bay seek business opportunities. On the other hand, the data analysis showed that fast failure was not promoted and a poor risk appetite was present. The

cultural-cognitive pillar of Institutional Theory supported that a poor entrepreneurial legacy existed, which demoted the status of entrepreneurship. Furthermore, Structuration Theory acknowledged that (1) self-employment was a shared response as a result of high unemployment rates and a shared understanding to survive and (2) a shared understanding existed insofar that there is a social system that reveals an attitude of entitlement to transactions because of governments initial socialist ideologies with democracy.

vii.   Human Capital

The Absorptive Capacity Theory of Knowledge Spillovers was used to confirm that a higher supply of human capital interventions in Nelson Mandela Bay may promote an advantage ecosystem, spurring spillover effects and economic development. This was confirmed by participants from both phases. For instance, more focused skills training followed by impact assessments may need to be employed. Nelson Mandela Bay could potentially capacitate both the unskilled and semi-skilled labour pool.

Design Thinking was acknowledged as an implementing mechanism to improve the labour market in Nelson Mandela Bay. Competitive locations strategically prioritise their labour market to spur innovation, knowledge spillovers and attract investment. Essentially, adopting this user-centered thinking approach may assist Nelson Mandela Bay by reducing searching and recruiting expenditure.

11.3.2 Methodological Contributions

The main methodological contributions of the research have been the (1) combination and application of concepts from *a priori* theories, namely Social Network Theory, Structural Holes Theory, Systems Theory, Institutional Theory, Broken Windows Theory and Design Thinking; and (2) use of contextual approaches from contemporary frameworks and models associated with the entrepreneurial ecosystem, albeit the predominant framework that was applied focused on the six domains of the entrepreneurial ecosystem.

The design of the framework was guided by the literature and theories using an abductive approach. For mixed methods studies, the use of theories guides any deviations between datasets, which is a form of abduction (Erzberger & Prein, 1997; Schoonenboom & Johnson, 2017).

To show integrity of the triangulation, the perspectives from Social Network Theory, Structural Holes Theory, Institutional Theory, Systems Theory, Absorptive Capacity Theory of Knowledge Spillover, Design Thinking and Broken Windows Theory served to frame the study

of entrepreneurial ecosystems. During the triangulation, Structuration Theory was added to structure the analysis for the discordance between two of the contextualised factors, namely: (1) *Culture* compared with *Culture and societal norms*; and (2) *Entrepreneurial Intention* compared with *The Entrepreneurial Mindset*. Table 11.2 provides a high-level outcome of the triangulation performed and shows that abduction was performed throughout the process.

Table 11.2 – High-level outcome of the triangulation performed

Construct	Theme	Comparison	Second comparison	Theoretical frame
The Regulatory Framework	The Institution as A Barrier or Enabler	Divergence	Expansion through complementary and supplementary insights	Institutional Theory (regulative pillar)
Culture	Culture and societal norms	Convergence Divergence	Confirmation Expansion through supplementary insights	Institutional Theory (cultural-cognitive pillar) Structuration Theory; Design Thinking
Business Environment	Regressive City Leadership	Convergence	Confirmation	Broken Windows Theory
City Planning	Regressive City Planning	Divergence	Expansion through supplementary insights	Systems Theory and Social Network Theory
Business Support Services	Perception of Business Support Services	Divergence	Expansion through complementary and supplementary insights	Structural Holes Theory; Systems Theory
Entrepreneurial Intention	The Entrepreneurial Mindset	Convergence Divergence	Confirmation Expansion through complementary insights	Institutional Theory Structuration Theory
Human Capital	Human Capital as a competitive advantage	Divergence	Expansion through complementary and supplementary insights	The Absorptive Capacity Theory of Knowledge Spillover; Design Thinking
Finance – No rich insights from the qualitative inquiry, not statistically significant from the quantitative analysis				
Connections – Embedded in the entrepreneurial ecosystem framework.				

Another methodological contribution is based on the experience obtained from applying a case study strategy on a sub-national level, in particular Nelson Mandela Bay in South Africa. The case followed an abductive approach and used multiple data collection techniques. The sequential independent design and the choices in terms of timing, dependence and integration may support the replication for future studies on their entrepreneurial ecosystem in the context of developing countries. Furthermore, the analytical integration tool, such as the joint display that was used in this research may support future mixed method studies on the topic through its focus on addressing fit and inconsistency between datasets.

The relevance of research theories and models applied in developed economies to studies in developing economies are questioned owing to the disparities that exist in a social, cultural and institutional context. The effective use of these theories in this study contributes towards providing examples of the interpretation of case studies, using a mixed method design on sub-national levels in developing economies.

11.3.3 Practical/Managerial Contributions

The proposed entrepreneurial ecosystem framework presents the factors that influence the entrepreneurial development of Nelson Mandela Bay. To this extent, the study provided a more granulated understanding, considering the diversity of actors and the unique characteristics of Nelson Mandela Bay. Notably, ecosystems function at the sub-national scale (Spigel, Kitagawa & Mason, 2020b) and this study contributes to the gap in research by addressing a real-world context. Before introducing the entrepreneurial ecosystem framework, the main findings from the empirical investigation and its associated possible economic effect are provided.

i.   **Empirical evidence based on the quantitative and qualitative findings**

Empirical evidence from Phase One and Phase Two were integrated in Chapter Ten. Major findings from the methodological integration are reinforced in Table 11.3 before introducing the proposed entrepreneurial ecosystem framework. The reinforcement of the findings from the cross-validation aims to contextualise the current situation and its economic effect and support the proposed entrepreneurial ecosystem framework.

Table 11.3 - Reinforcement of findings from the methodological triangulation (author's construct)

Case: Nelson Mandela Bay (sub-national)		
Mixed method study (Phase One - quantitative; Phase Two - qualitative)		
Factors	**Integration findings - High level**	**Economic effect**
Regulatory environment	• The regulatory environment restricts the city economic potential and has a disproportionate effect on nascent businesses; • Too much red tape; • Cost of business is high making it undesirable for foreign direct investors; • Cost of business high for small businesses and they cannot carry over costs to clients - effects their survival; and • Preferential Procurement and B-BBEE led to contracts being surrendered to outside companies.	• Negative spillover effects; • Lost benefit from agglomeration economies; • Lost tax revenue; and • Lost employment opportunities.
Entrepreneurial culture	• There is support for local businesses and local business-to-business; • High self-employment, but based on unemployment rate, which is reported at 40,4% in September 2020;	• Low levels of innovation and ability to scale or access sectors; and • Lost tax revenue where businesses remain unregistered.

	• Disproportionate concentration of employment in the informal sector (87,4%); • Mindset of dependency on the state for tenders and government is the largest procurer; • Disparate groups, for instance the Coloured community has insufficient role models and mentors; and • More elevation of the status of entrepreneurship is required.	
City leadership and prevailing business environment	• Lack of trust in city leadership; • High levels of corruption; • Political expediency present; • Lack of appropriate skills and capabilities among some city leaders; and • Fiscal mismanagement and maladministration where Treasury regulations not adhered to, such as spending only 2% on infrastructure instead of the allocated 8%. This indicates that there is a lack of compliance with the Public Finance Management Act and Municipal Finance Management Act.	• Lost tax revenue; • Lost foreign investment; • Lost human capital for the knowledge spillover; • Negative spillover on GDP; • Increased cost of doing business; • Reduction of social contract with citizens - lack of trust; and • Widens structural inequalities - effect on Gini coefficient.
City planning	• Spatial design promotes social exclusion; • Poor focus on improving land use, which has a disproportionate effect on entrepreneurial development; • Long waiting times of rezoning of land; • Poor maintenance of city infrastructure caused businesses to move out of industrial areas; • Spatial design impacts supplies and consumer market; and • Poor transport infrastructure increases the logistic costs and forces businesses to undergo trade-offs.	• Lost opportunities from localisation economies; • Unattractive and infeasible to do business for foreign investors; • Loss of potential employment; • Trade-offs are undertaken because of logistical costs in the supply chain; • Spatial design affects access to markets - disproportionate effect on frequency and volume of purchases; and • The city cannot maximise the return from land use.
Support institutions	• Support services are well prioritised; • Lack of monitoring or evaluation of the impact of support institutions are present; and • Support services potentially struggle with demand and supply information asymmetry.	• Improved networks allow for collaboration, which lead to access to markets.
Entrepreneurial Intention	• This factor connects with the Entrepreneurial Culture; • Citizens in Nelson Mandela Bay seek business opportunities; • Citizens may suffer from fear of failure, which creates a poor risk appetite; and • Poor legacy of entrepreneurship in disparate groups, such as the Black and Coloured community reduces their norms and shared understanding of the returns from productive entrepreneurship.	• Poor elevation of the status of entrepreneurship has an effect on innovation capacity and keeps businesses informal; and • Fear of failure and poor risk appetite reduces opportunity to scale.
Human Capital	• There is agreement that human capital develops competitive advantage;	• Lost knowledge spillover opportunities;

	• In Nelson Mandela Bay, human capital is not strategically prioritised; • There is underinvestment in attraction and retention strategies; • Current labour market is growing slowly compared to other metropoles; and • Underinvestment from Department of Social Development to support community development initiatives in high poverty areas. For instance, the lack of social workers who are deployed to support development initiatives.	• Increased searching and recruiting costs; • Lost potential investment due to lack of dense knowledge workers with skills; and • Decline in business survival, innovation and access to markets or new sectors.

ii.   **The proposed entrepreneurial ecosystem framework for Nelson Mandela Bay**

The proposed entrepreneurial ecosystem framework is based on findings from the integration of the quantitative and qualitative findings. As mentioned, a process of abduction was performed using theoretical perspectives as a broad lens to frame insights about the phenomenon. Figure 11.3 illustrates the proposed entrepreneurial ecosystem framework for Nelson Mandela Bay, South Africa. The framework includes the identified factors required to achieve the success of an entrepreneurial ecosystem within the Nelson Mandela Bay metropole. The proposed framework may inform private and public agents how to better exploit its place-based infrastructure, knowledge, capabilities and specialisms to promote competitive advantage based on their region.

The entrepreneurial ecosystem framework has the following main conceptualised factors developed from the triangulation in Chapter Ten:

- The regulatory framework (Section 10.4.1);
- Entrepreneurial culture (Section 10.4.2);
- City leadership (Section 10.4.3);
- City planning (Section 10.4.4);
- Business support services (Section 10.4.5);
- The entrepreneurial mindset (Section 10.4.6); and
- Human Capital (10.4.7).

The proposed framework includes a supplementary component, at the center of the framework (two double-lined blue circles), which places focus on the stakeholders. Some of the stakeholders are presented in Table 11.4, which is described as the Stakeholder Classification (working document). The stakeholders are based on the stakeholders from the Nelson Mandela Bay Municipality IDP (Nelson Mandela Bay Municipality, 2021, p.83). Key stakeholders are represented by the private and public sector followed by the mayor's wedge (indicated by the

red pentagon). This table can be applied in practice and researched to classify the relevant stakeholders for entrepreneurial ecosystem building. An additional supplementary component in the proposed framework is the implementing strategy featured at the base, which is a participatory user-centered strategy underpinned by the Design Thinking methodology that follows the Design Council (2008) standards.
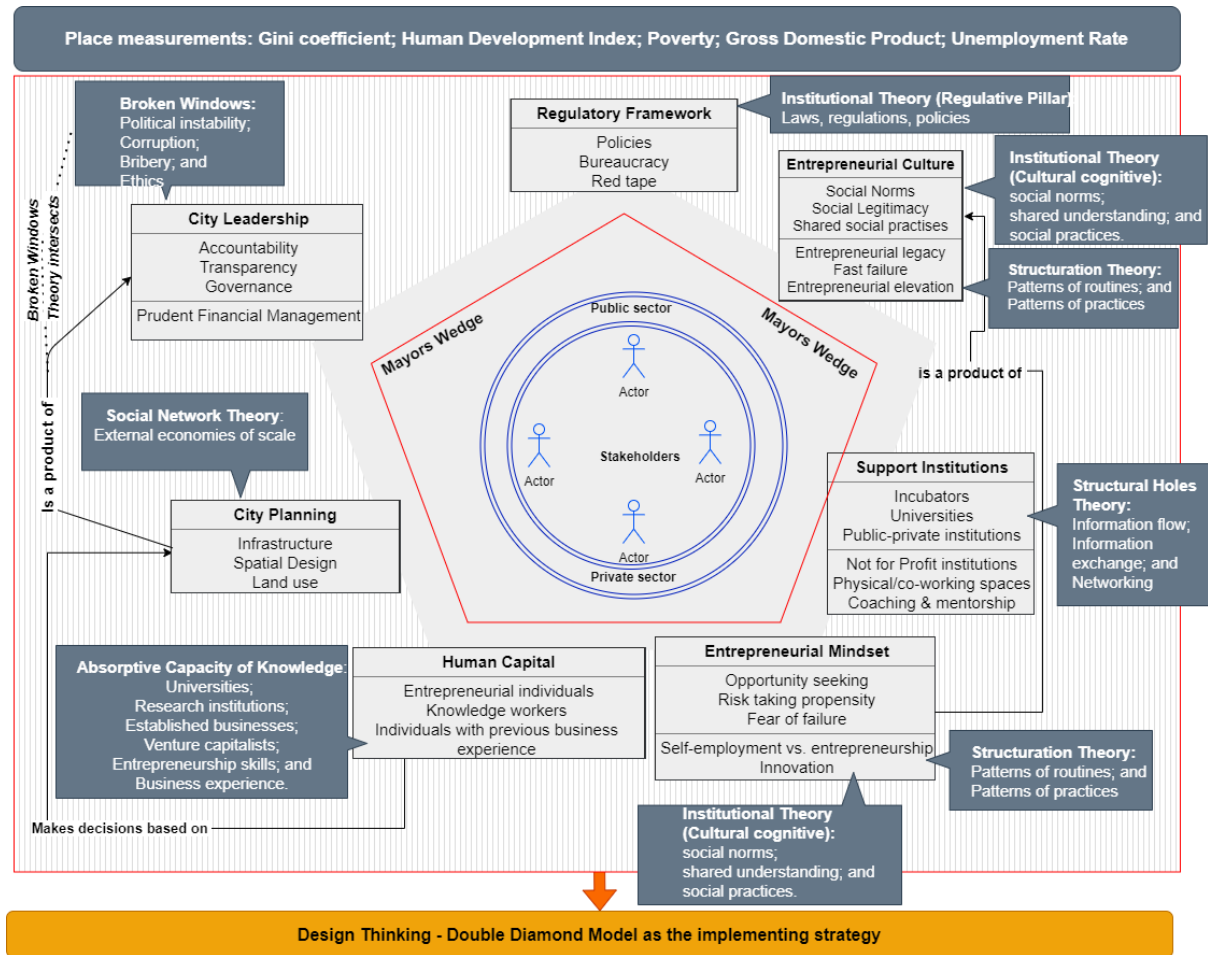
Figure 11.3 - The proposed entrepreneurial ecosystem framework for Nelson Mandela Bay (author's construction)

The factors presented in the entrepreneurial ecosystem framework are highly dependent on the use of collective action and cross-sector co-ordination. This study contributes to this gap in research through the supplementary component of the participatory approach that focuses on an iterative phased approach using collaborative efforts by a set of institutional actors to transfer value to the city (Owen, 2007; Dam & Siang, 2020; Hasso-Plattner-Institut, 2021). The stakeholder classification table is illustrated below.

Table 11.4 - Nelson Mandela Bay Stakeholder Classification (Working document)

Classification	Description
Entrepreneurs - dealmakers	High potential entrepreneurs or investors Prerequisites: (Profiled according to success parameters: cash flow position, financial position, paying employees on time and fairly, transparent policies)
Public sector (mayor's wedge)	Executive Mayor; Council
Special Sector	Traditional leaders and elderly people
Organised Stakeholder Grouping	Nelson Mandela Bay Business Chamber
Tertiary institution	Nelson Mandela University (Family Business Unit; Business School; Entrepreneurship Development in Higher Education)
State entity	Small Enterprise Development Agency
	Transnet
	Mandela Bay Development Agency
	Coega Special Economic Zone
Private sector	Financial institutions, such as Absa, Standard Bank
Communities of Nelson Mandela Bay	Residents from disparate groups from Nelson Mandela Bay (civic groupings)
	Ward Councillors
	Unions and ratepayers' associations

Entrepreneurial ecosystems do not offer extant literature as to the development of the entrepreneurial process. Thus, the national and sub-national government struggle to allocate resources optimally. The next step, following the identified factors of the ecosystem and classification of relevant stakeholders, would be an implementation strategy.

iii.   **The Design Thinking approach – Implementing Strategy**

The following Figure 11.4 illustrates the contemporary design thinking model that is applied in business and marketing towards strategy development (Design Council, 2008). Design Thinking has been applied in discourses, such as urban planning to promote social benefits to citizens. Furthermore, in Section 4.2.6, Table 4.2 presents a set of case studies (in disparate situations) that justifies the usefulness of the approach.

The methodology follows four stages and is focused on the problem definition. The methodology is user-driven, participatory and applies convergent and divergent thinking to solve complex problems. The two diamonds in the center of the diagram represent a process of exploring an issue more widely or deeply (divergent thinking) and then taking focused action (convergent thinking). The blue arrows indicate feedback loops showing that the process is iterative, so there will be a state of re-assessment and improvement.
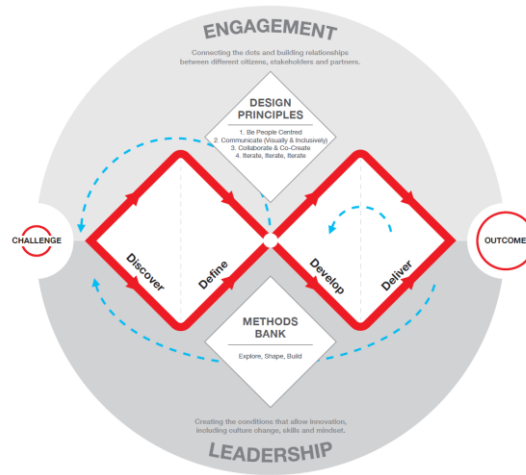
Figure 11.4 - The Double diamond design thinking model adapted for Nelson Mandela Bay (Design Council, 2008)

Design thinking is well-positioned to address issues, such as entrepreneurial opportunities or problems. The following four phases of the Double diamond design thinking model are as follows:

- **Discover**: In this step, stakeholders need to canvas the issues and problems. This is a process of discovery. Conversations and focus groups are employed to map out the leading problems or barriers. Other decision making inputs, from a qualitative view are public opinion (Kilroy, 2014a) ;

- **Define**: From the insights gathered in the discovery phase, a definition of the problems is developed within a given scope. The scope may consider the following evaluation criteria (Table 11.5) as set out by Kilroy (2014a, p.27) in which he investigated competitive cities compared to Nelson Mandela Bay;

Table 11.5 - Evaluation criteria when prioritising for a competitive city (Kilroy, 2014a, p. 27)

Evaluation criteria	
Criteria	**Criteria indicators**
Social returns	Jobs, Wages, Poverty
Economic returns	Productivity, exports
Environment impact	Externalities
Financial feasibility	Internal Rate of Return
Political interference	Ease/barrier
Time	Short, medium or long term returns calculated through the Net Present Value, Growth Projections.

- **Develop**: After the problem definition, the second part of the diamond seeks different solutions. The diversity of relevant stakeholders promotes the development of clear

conceptual solutions. Herein, the ideation with stakeholders follows brainstorming techniques, visual models and animations from the multi-disciplinary group;

- **Deliver**: The delivery phase follows the piloting (small-scale) of different solutions to determine those presenting value and a reliable return on investment. The implementation focuses on leveraging the multi-disciplinary group of stakeholders to evaluate the solution.

The design thinking methodology follows abductive reasoning and attempts to deconstruct intractable problems to derive meaningful insights (Baty, 2010; Milkowska, 2018). Furthermore, the methodology and variations of the method have been applied in different situations. In light of this, it is argued as a method for co-creation and stimulates social progress for complex problems.

11.4 MANAGERIAL RECOMMENDATIONS

Mayors, municipalities, councillors and economic development agents need to be careful when undertaking generic strategies to stimulate entrepreneurship in a region. The economic structures of each location are unique with specific developmental pathways. Nelson Mandela Bay, the focus of this study has the onus of aligning its initiatives to national strategic policies to ensure that a unified vision is met (Nelson Mandela Bay Municipality, 2021). However, ecosystems are built on a sub-national scale, which means that strategic investments need to be carefully evaluated to reduce wasteful expenditure. Wasteful expenditure harms the city, from a National Treasury regulatory point of view and has multiplier effects on the taxpayers (National Treasury, 2020).

The proposed entrepreneurial ecosystem framework for Nelson Mandela Bay seeks to inform the decisions of the city leadership. The mayor's wedge in the framework is adapted from the work undertaken by Austin Kilroy, where he performed a study on the key success factors of competitive cities using Nelson Mandela Bay as the base comparison (Kilroy, 2014b). The mayor's wedge was explained as the underlying factor for success. In the context of this study, the mayor's wedge may apply the following activities, however, not exhaustive:

- Build connections (reduce fragmentation in networks) – building the networks to reduce isolated efforts and promote cross-sector partnerships to reposition the local government;

- Facilitate ease of doing business – Currently, the National Treasury is providing oversight as the cost of doing business in Nelson Mandela Bay is higher compared to other metropoles;

- Expedite on infrastructure commitments – in previous financial years, the budget on infrastructure has been underspent at 2% instead of 8% as per the Treasury Regulations, which lends itself to poor fiscal sustainability;

- Expedite on infrastructure commitments – this may reduce logistic costs and reduce the trade-offs experienced by entrepreneurs between activities in the supply chain;

- Invest in infrastructure – the returns from infrastructural investment may improve connection, such as access to markets of consumers, suppliers and distributors. It further raises labour mobility;

- Focus on maximizing the returns from land use – single use or segregated development create negative externalities, such as traffic congestion, which hinder entrepreneurial opportunities;

- Focus on mixed-use nodes that support business and community services – strategic development areas for commercial activity;

- Existing industrial areas should be maintained as employment nodes, which filter opportunities to the surrounding community;

- Expedite on access to finance – The city budget for SME financing is targeting specific sectors, such as manufacturing, tourism and the green economy. Thus, additional efforts to attract investment are required;

- Promote support institutions – nascent entrepreneurs in the development stage primarily require infrastructure such as space, information and access to contacts to make connections;

- Focusing on the labour market to attract and retain skilled labour, however, levers such as the city quality and liveability, spatial design and infrastructure need to be addressed. This is essential to attract innovative entrepreneurs and investors;

- Utilise the Memorandum of Understanding with the University – stimulating a dense connection with knowledge institutions induce labour mobility and generate positive spillover effect in learning and innovation. For instance:
  - Accelerating the Memorandum of Understanding between the University and the municipality to build knowledge capacity and build innovative business models. The Preferential Procurement Act and B-BBEE have caused a

> disproportionate impact on the city's progress. Many companies do not meet the minimum requirements and contracts are surrendered to outside (more competitive) companies, which is a loss of tax revenue and job opportunities; and

- o Accelerating the Memorandum of Understanding between the University and the municipality to improve the efficiency of local producers to satisfy (1) the industrialisation through localisation commitments; (2) improve the efficiency of the SMMEs operating in the tourism sector; (3) improve the efficiency of SMMEs operating in the green economy; and (4) improve the efficiency of SMMEs operating in the blue oceans economy.

- Ensuring compliance of paying local business within the 30 days or agreed upon period as per the Public Finance Management Act and Municipal Finance Management Act;

- Expediting a growth coalition through organised private sector, the business chamber and university; and

- Reinforcing the Batho Phele principles among the city political leadership (city council) – A robust plan is needed to reduce the political infighting as it has negative spillover effects on city attractiveness and service delivery (Nkosi, 2019; Nelson Mandela Bay Municipality, 2021). Political instability reduces foreign direct investment inflows, which correlate with reduced economic integration, technology transfer and knowledge spillover.

11.5   LIMITATIONS OF THE STUDY

The study was conducted in one of the eight metropolitan regions in South Africa and followed the case study strategy. Thus, the study and the proposed framework are limited to Nelson Mandela Bay. Three hundred responses were received from the quantitative surveys and fifteen semi-structured interviews were conducted with economic development role players. The thematic analysis based on the interview data was time-consuming but allowed for rich insights to be gathered.

The sample characteristics in the quantitative surveys underrepresented micro-enterprises. This was deemed as a bias as most of the enterprises in Nelson Mandela Bay are informal. Furthermore, the quantitative component followed a cross-sectional timeframe, which means that only the strength of the relationships between predictor and outcome variables were analysed. However, the thematic findings in the qualitative phase may be considered as a

predictor variable to balance the bias. Even though the sample size of the interviews was limited to fifteen, theoretical saturation of the findings was evident in the final steps of the thematic analysis.

Despite the opportunities presented by entrepreneurial ecosystems, most of the knowledge generated is dominated by the voices of developed economies. This meant that research from an African and sub-Saharan African context remains in its infancy. The limited research within resource-constrained countries, such as South Africa was challenging to determine the underlying factors influencing entrepreneurial development. However, this study acknowledged this gap and undertook a critical inquiry through a sub-national lens by focusing on Nelson Mandela Bay, South Africa, a developing economy.

The use of joint displays for mixed methods should not be considered as illustrating the full extent of analytic procedures available for triangulation. However, the detailed description and novel approach for addressing the fit and inconsistency between datasets showcases the utility of the method to perform abduction and promote the study's integrity.

11.6 SUGGESTIONS FOR FUTURE RESEARCH

To arrive at more robust findings, the analysis should be repeated in different metropolitan regions in South Africa. By replicating the study, the efficacy of the contextualised factors described in the proposed entrepreneurial ecosystem framework may be validated. Such validation may inform how resources in different spatial contexts should be utilised to match capital with opportunities for economic and social progress.

The replication, using a similar research design in other metropolitan regions may highlight how many of the findings are unique to Nelson Mandela Bay. Notwithstanding, that a granular examination may reveal differences in social, economic and institutional contexts for various sub-national locations in South Africa. This granulation may serve to identify whether sub-national (metropolitan regions) locations have a unique set of factors associated with their entrepreneurial ecosystem.

Future research should expand on the number of interviews conducted with economic development role players to create a more generalisable basis to determine how entrepreneurs draw on place-based resources. It may be worthwhile to repeat the survey with a larger sample size and control certain demographic variables to determine whether any statistical or practical significant differences are evident. To support a more rigorous quantitative analysis, researchers may adopt a multistage purposeful sampling technique to select participants on the

basis that many cities within South Africa suffer from segregated spatial designs. Following, a multistage purpose sampling technique may improve the generalisability of the quantitative findings.

Furthermore, a longitudinal study may examine changes in the dimensions identified in the framework to determine whether any uneven temporal developments are present. Such a timeframe may determine whether there are changing patterns in the way entrepreneurs engage with their ecosystem and its effect on their growth. Additionally, working in a research team for mixed methods research, by sharing tasks of data collection and analysis may support a more comprehensive understanding of the topic.

During the latter part of this research study, the COVID-19 pandemic negatively impacted entrepreneurial activity, worldwide. Companies have experienced slow sales, a decline in export revenue, poor cash flow and supply chain constraints (Rosiello & Greene, 2020). According to Mason and Hruskova (2021) the pandemic widened disparities of less developed ecosystems. It is suggested that research be conducted to determine the effect of the pandemic on the entrepreneurial ecosystems. In particular, first, the effects of knowledge spillover because of social distancing regulations. Second, the extent of less capital available to support start-up businesses in especially non-prioritised sectors. Third, the effect of reduced demand from customers and businesses.

Future research may explore the implications associated with the insurgence of the virtual scenius on the entrepreneurial ecosystem. Scenius is a term that was coined by the British musician, Brian Eno, which refers to a communal genius that is characterised by the extreme creativity that groups, places or scenes generate (Eno, 1996). New avenues of thinking are emerging as there is a polarisation of debates on the future of work in terms of the physical and virtual space. The potential insurgence of virtual scenius has implications for clusters, such as Silicon Valley and other ecosystems. According to Mattin (2021) the online scenia will decouple collaboration and physical presence making the remote scenia possible, which creates new debates on how people will work together in a physical location and how this will affect entrepreneurial ecosystems.

11.7   SUMMARY

The topic of entrepreneurial ecosystems is under-researched and lacks data on a sub-national scale from a developing economies perspective. In this line, the study followed a bottom-up approach to understand the micro-foundations of Nelson Mandela Bay's entrepreneurial

ecosystem. The use of the conceptualised factors, which influence entrepreneurial activity can aid policymakers and practitioners in how they allocate their resources within a place to reduce wasteful expenditure. Although Nelson Mandela Bay aligns its activities with national priorities, it is established that national policies do not account for differences on the sub-national level. Therefore, place-based interventions using collaborative efforts by a set of institutional actors are essential to reduce the disproportionate allocation of funds and transfer value to the city.

LIST OF REFERENCES

Aaalto University. (2016). Executive programs. Design Thinking for Business. Retrieved 13 January 2021, from https://www.aaltoee.com/programs/design-thinking-for-business-innovation

Abraham, F., & Schmukler, S. L. (2017). Financial Globalization: A Glass Half Empty? [SSRN Scholarly Paper]. Retrieved from https://papers.ssrn.com/abstract=3036711

Acs, Z. J., Åstebro, T., Audretsch, D., & Robinson, D. T. (2016). Public policy to promote entrepreneurship: A call to arms. *Small Business Economics*, *47*(1), 35–51. https://doi.org/10.1007/s11187-016-9712-2

Acs, Z. J., Audretsch, D. B., & Lehmann, E. E. (2013). The knowledge spillover theory of entrepreneurship. *Small Business Economics*, *41*(4), 757–774. https://doi.org/10.1007/s11187-013-9505-9

Acs, Z. J., Braunerhjelm, P., Audretsch, D. B., & Carlsson, B. (2009). The knowledge spillover theory of entrepreneurship. *Small Business Economics*, *32*(1), 15–30. https://doi.org/10.1007/s11187-008-9157-3

Acs, Z. J., Estrin, S., Mickiewicz, T., & Szerb, L. (2018). Entrepreneurship, institutional economics, and economic growth: An ecosystem perspective. *Small Business Economics*, *51*(2), 501–514. https://doi.org/10.1007/s11187-018-0013-9

Acs, Z. J., Glaeser, E., Litan, R., Fleming, L., Goetz, S., Kerr, W. R., … Strange, W. (2008). Entrepreneurship and Urban Success: Toward a Policy Consensus. Retrieved from https://www.hbs.edu/faculty/Publication%20Files/Entrepreneurship%20and%20Urban%20Success_Kauffman_foundation_e6a76acb-532b-46ee-a29e-3642e0e45aca.pdf

Acs, Z. J., Stam, E., Audretsch, D. B., & O'Connor, A. (2017). The lineages of the entrepreneurial ecosystem approach. *Small Business Economics*, *49*(1), 1–10. https://doi.org/10.1007/s11187-017-9864-8

Acs, Z. J., Szerb, L., & Lloyd, A. (2018a). Global Entrepreneurship Index. Retrieved from https://thegedi.org/global-entrepreneurship-and-development-index/

Acs, Z. J., Szerb, L., & Lloyd, A. (2018b). *Global Entrepreneurship Index*. Washington, D.C.: The Global Entrepreneurship and Development Institute. Retrieved from The

Global Entrepreneurship and Development Institute website: https://thegedi.org/global-entrepreneurship-and-development-index/

Adams, M., Makramalla, M., & Miron, W. (2014). Down the Rabbit Hole: How Structural Holes in Entrepreneurs & Social Networks Impact Early Venture Growth. *Technology Innovation Management Review*, *4*(9), 19–27.

Agarwal, R., Audretsch, D., & Sarkar, M. (2008). The Process of Creative Construction: Knowledge Spillovers Entrepreneurship and Economic Growth. *Strategic Entrepreneurship Journal*, *1*(3–4), 263–286.

Agarwal, R., Audretsch, D., & Sarkar, M. (2010). Knowledge spillovers and strategic entrepreneurship: Knowledge Spillovers and Strategic Entrepreneurship. *Strategic Entrepreneurship Journal*, *4*(4), 271–283. https://doi.org/10.1002/sej.96

Alford, R. (2012). *A Broken Windows Theory of International Corruption*. Retrieved from https://scholarship.law.nd.edu/law_faculty_scholarship/572

Almanza, L. (2020). About complex systems and innovation-entrepreneurship ecosystems. Retrieved from Medium website: https://medium.com/@lmalmanza/about-complex-systems-and-innovation-entrepreneurship-ecosystems-a1c4a8eaa0db

Almodóvar-González, M., Fernández-Portillo, A., & Díaz-Casero, J. C. (2020). Entrepreneurial activity and economic growth. A multi-country analysis. *European Research on Management and Business Economics*, *26*(1), 9–17. https://doi.org/10.1016/j.iedeen.2019.12.004

Alvedalen, J., & Boschma, R. (2017). A critical review of entrepreneurial ecosystems research: Towards a future research agenda. *European Planning Studies*, *25*(6), 887–903. https://doi.org/10.1080/09654313.2017.1299694

Arezzo Innovazione. (2017). *Business Support Ecosystem* [TRINNO Business Support Ecosystem Components report]. Retrieved from https://www.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/TRINNO-D.01-BusinessSupportEcosystemReport_FIN.pdf

Assenova, V. A., & Sorenson, O. (2017). Legitimacy and the Benefits of Firm Formalization. *Organsiation Science*, *28*(5), 804–818. https://doi.org/10.1287/orsc.2017.1146

Atkinson, T. M., Rosenfeld, B. D., Sit, L., Mendoza, T. R., Fruscione, M., Lavene, D., … Basch, E. (2011). Using Confirmatory Factor Analysis to Evaluate Construct Validity

of the Brief Pain Inventory (BPI). *Journal of Pain and Symptom Management*, *41*(3), 558–565. https://doi.org/10.1016/j.jpainsymman.2010.05.008

Attour, A., & Lazaric, N. (2020). From knowledge to business ecosystems: Emergence of an entrepreneurial activity during knowledge replication. *Small Business Economics*, *2*, 575–587. https://doi.org/10.1007/s11187-018-0035-3

Audretsch, D. B. (2019). Have we oversold the Silicon Valley model of entrepreneurship? *Small Business Economics*. https://doi.org/10.1007/s11187-019-00272-4

Audretsch, D. B., & Belitski, M. (2017). Entrepreneurial ecosystems in cities: Establishing the framework conditions. *The Journal of Technology Transfer*, *42*(5), 1030–1051. https://doi.org/10.1007/s10961-016-9473-8

Audretsch, D. B., Heger, D., & Veith, T. (2015). Infrastructure and entrepreneurship. *Small Business Economics*, *44*(2), 219–230. https://doi.org/10.1007/s11187-014-9600-6

Auerswald, P. E. (2015). Enabling Entrepreneurial Ecosystems: Insights from Ecology to Inform Effective Entrepreneurship Policy. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2673843

Autio, E. (2015). Entrepreneurial and business ecosystems: What's different? | Global Entrepreneurship Development Institute. Retrieved from https://thegedi.org/entrepreneurial-and-business-ecosystems-whats-different/

Autio, E., & Fu, K. (2015). Economic and political institutions and entry into formal and informal entrepreneurship. *Asia Pacific Journal of Management*, *32*(1), 67–94. https://doi.org/10.1007/s10490-014-9381-0

Autio, E., Nambisan, S., Thomas, L. D. W., & Wright, M. (2018). Digital affordances, spatial affordances, and the genesis of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, *12*(1), 72–95. https://doi.org/10.1002/sej.1266

Babcock, M. W., & Davalos, J. A. (2010). Case Studies of the Economic Impact of Highway Bypasses in Kansas. *Journal of the Transportation Research Forum*, *43*(1). https://doi.org/10.5399/osu/jtrf.43.1.721

Bailey, D., Pitelis, C., & Tomlinson, P. R. (2018). A place-based developmental regional industrial strategy for sustainable capture of co-created value. *Cambridge Journal of Economics*, *42*(6), 1521–1542. https://doi.org/10.1093/cje/bey019

Barriball, K. L., & While, A. (1994). Collecting data using a semi-structured interview: A discussion paper. *Journal of Advanced Nursing*, *19*(2), 328–335. https://doi.org/10.1111/j.1365-2648.1994.tb01088.x

Barrow, J. M., Brannan, G. D., & Khandhar, P. B. (2020). Research Ethics. In *StatPearls*. Treasure Island (FL): StatPearls Publishing.

Baty, S. (2010). Solving complex problems through design. *Interactions*, *17*(5), 70–73. https://doi.org/10.1145/1836216.1836235

Baumbusch, J. (2010). Semi-structured interviewing in practice-close research. *Journal for Specialists in Paediatric Nursing: JSPN*, *15*(3), 255–258. https://doi.org/10.1111/j.1744-6155.2010.00243.x

Beckman, S. L., & Barry, M. (2007). Innovation as a Learning Process: Embedding Design Thinking. *California Management Review*, *50*(1), 25–56. https://doi.org/10.2307/41166415

Beers, B. (2020). What P-Value Tells Us. Retrieved from Investopedia website: https://www.investopedia.com/terms/p/p-value.asp

Beers, C. V., & Zand, F. (2014). R&D Cooperation, Partner Diversity, and Innovation Performance: An Empirical Analysis. *Journal of Product Innovation Management*, *31*(2), 292–312. https://doi.org/10.1111/jpim.12096

Belitski, M., & Desai, S. (2016). What drives ICT clustering in European cities? *The Journal of Technology Transfer*, *41*(3), 430–450. https://doi.org/10.1007/s10961-015-9422-y

Bellamy, N. (2015). 2—Principles of clinical outcome assessment. In M. C. Hochberg, A. J. Silman, J. S. Smolen, M. E. Weinblatt & M. H. Weisman (Eds.), *Rheumatology* (6th ed., pp. 9–19). Philadelphia: Mosby. https://doi.org/10.1016/B978-0-323-09138-1.00002-4

Bell-Masterson, J., & Stangler, D. (2015). *Measuring an Entrepreneurial Ecosystem* (SSRN Scholarly Paper No. ID 2580336). Rochester, NY: Social Science Research Network. https://doi.org/10.2139/ssrn.2580336

Bennett, D. L. (2019). Infrastructure investments and entrepreneurial dynamism in the U.S. *Journal of Business Venturing*, *34*(5), 105907. https://doi.org/10.1016/j.jbusvent.2018.10.005

Berger, S. (2013). *Making in America: From Innovation to Market*. MIT Press.

BIAC, B20 China, World SME Forum, SME Finance Forum. (2016). *Financing Growth; SMEs in Global Value Chains*. Retrieved from https://biac.org/wp-content/uploads/2016/06/Financing-Growth-SMEs-in-Global-Value-Chains.pdf

Blumberg, B., Cooper, D. R., & Schindler, P. S. (2005). *Business research methods*. Berkshire, UK: McGraw-Hill.

Bogetz, A., Haftel, H., Klein, M., Li, S., Michelson, K., & Simpkin, A. (2017). *Codes, concepts and categories, oh my! Building your skills in qualitative data analysis*. Presented at the Association of pediatric program directors, Anaheim. Retrieved from https://appd.s3.amazonaws.com/docs/meetings/2017SpringPresentations/WS10Slides.pdf

Bolarinwa, O. A. (2015). Principles and methods of validity and reliability testing of questionnaires used in social and health science research. *Niger Postgraduate Medical Journal*, *22*, 195–201.

Borgatti, S. P., & Halgin, D. S. (2011). On Network Theory. *Organization Science*, *22*(5), 1168–1181. https://doi.org/10.1287/orsc.1100.0641

Borgatti, S. P., Mehra, A., Brass, D. J., & Labianca, G. (2009). Network Analysis in the Social Sciences. *Science*, *323*(5916), 892–895. https://doi.org/10.1126/science.1165821

Borissenko, Y., & Boschma, R. (2016). A critical review of entrepreneurial ecosystems: Towards a future research agenda. In *Papers in Evolutionary Economic Geography (PEEG)* (No. 1630). Utrecht University, Department of Human Geography and Spatial Planning, Group Economic Geography. Retrieved from Utrecht University, Department of Human Geography and Spatial Planning, Group Economic Geography website: https://ideas.repec.org/p/egu/wpaper/1630.html

Boschma, R. (2015). Towards an Evolutionary Perspective on Regional Resilience. *Regional Studies*, *49*(5), 733–751. https://doi.org/10.1080/00343404.2014.959481

Bosma, N., Content, J., Sanders, M., & Stam, E. (2018). Institutions, entrepreneurship, and economic growth in Europe. *Small Business Economics*, *51*(2), 483–499. https://doi.org/10.1007/s11187-018-0012-x

Bosma, N., Hill, S., Ionescu-Somers, A., Kelley, D., Levie, J., & Tarnawa, A. (2019). *GEM Global Report 2019/2020* (p. 232). London NW1 4SA, UK: Global Entrepreneurship Research Association, London Business School.

Bowmaker-Falconer, A., & Herrington, M. (2020). *Global Entrepreneurship Monitor South Africa (GEM SA) 2019/2020 report*. South Africa: University of Stellenbosch Business School. Retrieved from University of Stellenbosch Business School website: https://www.usb.ac.za/usb_reports/south-africas-gem-report/

Boyatzis, R. E. (1998). *Transforming Qualitative Information: Thematic analysis and code development*. Thousand Oakes, California: SAGE Publications, Ltd.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braunerhjelm, P., Ding, D., & Thulin, P. (2018). The knowledge spillover theory of intrapreneurship. *Small Business Economics*, *51*(1), 1–30. https://doi.org/10.1007/s11187-017-9928-9

Brierley, J. A. (2017). The role of a pragmatist paradigm when adopting mixed methods in behavioural accounting research. *International Journal of Behavioural Accounting and Finance*, *6*(2), 140–154.

Brinkmann, S., & Kvale, S. (1996). *InterViews* (3rd ed.). Thousand Oakes, California: SAGE Publications, Ltd.

Brooks, C., Vorley, T., & Gherhes, C. (2019). Entrepreneurial ecosystems in Poland: Panacea, paper tiger or Pandora's box? *Journal of Entrepreneurship and Public Policy*, *8*(3), 319–338. https://doi.org/10.1108/JEPP-04-2019-0036

Brown, R., & Mason, C. (2017). Looking inside the spiky bits: A critical review and conceptualisation of entrepreneurial ecosystems. *Small Business Economics*, *49*(1), 11–30. https://doi.org/10.1007/s11187-017-9865-7

Brown, R., & Mawson, S. (2019). Entrepreneurial ecosystems and public policy in action: A critique of the latest industrial policy blockbuster. *Cambridge Journal of Regions, Economy and Society*, *12*(3), 347–368. https://doi.org/10.1093/cjres/rsz011

Brown, T. (2008). Design Thinking. *Harvard Business Review*, *86*(6). Retrieved from https://readings.design/PDF/Tim%20Brown,%20Design%20Thinking.pdf

Bruns, K., Bosma, N., Sanders, M., & Schramm, M. (2017). Searching for the existence of entrepreneurial ecosystems: A regional cross-section growth regression approach. *Small Business Economics*, *49*(1), 31–54. https://doi.org/10.1007/s11187-017-9866-6

Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research*, *6*(1), 97–113.

Bryman, A. (2020). Triangulation. Retrieved from http://www.referenceworld.com/sage/socialscience/triangulation.pdf

Burrell, G., & Morgan, G. (2016). *Sociological Paradigms and Organisational Analysis*. Abingdon: Routledge (originally published by Heinemann 1979).

Burt, R. S. (1992). *Structural Holes: The Social Structure of Competition* (SSRN Scholarly Paper No. ID 1496205). Rochester, NY: Social Science Research Network. Retrieved from Social Science Research Network website: https://papers.ssrn.com/abstract=1496205

Bushe, B. (2019). The causes and impact of business failure among small to micro and medium enterprises in South Africa. *Africa's Public Service Delivery & Performance Review*, *7*(1), 26. https://doi.org/10.4102/apsdpr.v7i1.210

Business Insider South Africa. (2020, December 8). Only two sectors in South Africa's economy grew this year. Retrieved from Business Insider South Africa website: https://www.businessinsider.co.za/these-sectors-of-the-economy-grew-in-2020-2020-12

Businesstech. (2015a, October 14). Corruption in South Africa is scaring global businesses away. Retrieved from https://businesstech.co.za/news/government/101070/corruption-in-south-africa-is-scaring-global-businesses-away/

Businesstech. (2015b, July 28). How many black South Africans benefit from BEE. Retrieved from https://businesstech.co.za/news/business/94401/how-many-black-south-africans-benefit-from-bee/

Businesstech. (2020, November 18). Government paying millions of rands to South Africans for damage caused by potholes. Retrieved from https://businesstech.co.za/news/motoring/449637/government-paying-millions-of-rands-to-south-africans-for-damage-caused-by-potholes/

Businesstech. (2021, June 22). Alarming number of South Africa's municipalities are on the brink of failure. Retrieved from https://businesstech.co.za/news/government/500115/alarming-number-of-south-africas-municipalities-are-on-the-brink-of-failure/

Cabrera, D., Colosi, L., & Lobdell, C. (2008). Systems thinking. *Evaluation and Program Planning*, *31*(3), 299–310. https://doi.org/10.1016/j.evalprogplan.2007.12.001

Calculator.net. (2021). Sample Size Calculator. Retrieved from https://www.calculator.net/sample-size-calculator.html?type=1&cl=95&ci=5&pp=50&ps=55348&x=76&y=21

Cantner, U., Cunningham, J. A., Lehmann, E. E., & Menter, M. (2020). Entrepreneurial ecosystems: A dynamic lifecycle model. *Small Business Economics*. https://doi.org/10.1007/s11187-020-00316-0

Carolan, C. M., Forbat, L., & Smith, A. (2016). Developing the DESCARTE Model: The Design of Case Study Research in Health Care. *Qualitative Health Research*, *26*(5), 626–639. https://doi.org/10.1177/1049732315602488

Carvalho, L. C. (Ed.). (2017). *Handbook of Research on Entrepreneurial Development and Innovation Within Smart Cities:* IGI Global. https://doi.org/10.4018/978-1-5225-1978-2

Carvalho, S., & White, H. (1997). *Combining the quantitative and qualitative approaches to poverty measurement and analysis: The practice and the potential* (World Bank Technical Paper No. 366). Washington, D.C.: World Bank.

Case, S., & Harris, D. (2012). The Start Uprising: Eighteen Months of the Startup America Partnership. *Ewing Marion Kauffman Foundation*, 1–49. https://doi.org/10.2139/ssrn.2186472

Chandra, A., & Thompson, E. (2000). Does public infrastructure affect economic activity?: Evidence from the rural interstate highway system. *Regional Science and Urban Economics*, *30*(4), 457–490. https://doi.org/10.1016/S0166-0462(00)00040-5

Change Factory. (2014). Broken windows, broken business. Retrieved from Change Factory website: https://www.changefactory.com.au/our-thinking/articles/broken-windows-broken-business/

Chinitz, B. (1961). Contrasts in agglomeration: New York and Pittsburgh. *The American Economic Review*, *51*(2), 279–289.

Chong, H. Y. (1994). *Abduction? Deduction? Induction? Is there a Logic of Exploratory Data Analysis?* Presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

Churchman, C. W. (1967). Guest Editorial: Wicked Problems. *Management Science*, *14*(4,), B141–B142.

Clark, R. S., & Plano Clark, V. L. (2019). Grit within the Context of Career Success: A Mixed Methods Study. *International Journal of Applied Positive Psychology*, *4*, 91–111. https://doi.org/10.1007/s41042-019-00020-9

Clarysse, B., Wright, M., Bruneel, J., & Mahajan, A. (2014). Creating value in ecosystems: Crossing the chasm between knowledge and business ecosystems. *Research Policy*, *43*(7), 1164–1176. https://doi.org/10.1016/j.respol.2014.04.014

Clayton, P., Feldman, M., & Lowe, N. (2018). Behind the Scenes: Intermediary Organizations that Facilitate Science Commercialization Through Entrepreneurship. *Academy of Management Perspectives*, *32*(1), 104–124. https://doi.org/10.5465/amp.2016.0133

Cohen, L., Manion, L., & Morrison, K. (2000). Research methods in education. *British Journal of Education Studies*, *48*, 446.

Cohen, S. (2013). What Do Accelerators Do? Insights from Incubators and Angels. *Innovations: Technology, Governance, Globalization*, *8*(3–4), 19–25. https://doi.org/10.1162/INOV_a_00184

Collis, J., & Hussey, R. (2014). *Business Research: A Practical Guide for Undergraduate and Postgraduate Students* (4th ed.). London, UK: Palgrave Macmillan UK.

Combes, P., & Duranton, G. (2006). Labour pooling, labour poaching, and spatial clustering. *Regional Science and Urban Economics*, *36*(1), 1–28. https://doi.org/10.1016/j.regsciurbeco.2005.06.003

Compton, M., & Barrett, S. (2016). A Brush with Research: Teaching Grounded Theory in the Art and Design Classroom. *Universal Journal of Educational Research*, *4*(2), 335–348. https://doi.org/10.13189/ujer.2016.040204

Comrey, L. A., & Lee, H. B. (1992). *A first course in factor analysis* (2nd ed.). Hillside, New Jersey: Lawrence Erlbaum Associates.

Cook, L. D., & Kamalodeen, V. J. (2019). *Mixed Methods Case Study Research*. Retrieved from https://www.ualberta.ca/international-institute-for-qualitative-methodology/media-library/international-institute-of-qualitative-methods/webinars/mixed-methods/2019/cook-kamalodeen-webinar-final.pdf

Corbin, J., & Strauss, A. (2008). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (3rd ed.). Thousand Oakes, California: SAGE Publications.

Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research and Evaluation*, *10*(7). https://doi.org/10.7275/jyj1-4868

Cox Pahnke, E., McDonald, R., Wang, D., & Hallen, B. (2015). Exposed: Venture Capital, Competitor Ties, and Entrepreneurial Innovation. *Academy of Management Journal*, *58*(5), 1334–1360. https://doi.org/10.5465/amj.2012.0777

Crabtree, B. F., & Miller, W. L. (1999). *Doing Qualitative Research* (2nd ed.). SAGE Publications, Ltd. Retrieved from https://us.sagepub.com/en-us/nam/doing-qualitative-research/book9279

Cravo, T. A., & Piza, C. (2016). *The Impact of Business Support Services for Small and Medium Enterprises on Firm Performance in Low- and Middle-Income Countries: A Meta-Analysis* (Research Working Paper No. 7664). World Bank Group. Retrieved from World Bank Group website: https://openknowledge.worldbank.org/bitstream/handle/10986/24501/The0impact0of00es000a0meta0analysis.pdf?sequence=1&isAllowed=y

Crespo, J., Suire, R., & Vicente, J. (2014). Lock-in or lock-out? How structural properties of knowledge networks affect regional resilience. *Journal of Economic Geography*, *14*(1), 199–219. https://doi.org/10.1093/jeg/lbt006

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Thousand Oakes, California: SAGE Publications, Ltd.

Creswell, J. W. (2009a). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed). Thousand Oakes, Calif: Sage Publications.

Creswell, J. W. (2009b). Writing Strategies and Ethical Considerations. In *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). SAGE Publications, Ltd. Retrieved from https://gato-docs.its.txstate.edu/jcr:6eb9d9ad-cebd-440e-b2bc-626b4b00135f/Punch%20-%20Writing%20Strategies%20_%20Ethical%20Considerations.pdf

Creswell, J. W. (2014). *A Concise Introduction to Mixed Methods Research*. SAGE Publications.

Creswell, J. W. (2015). Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research, Enhanced Pearson eText with Loose-Leaf Version--Access Card Package. Fifth Edition. In *Pearson Education, Inc.* (5th ed.). New Jersey: Pearson Education, Inc.

Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed). Los Angeles, Calif: SAGE Publications.

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and Conducting Mixed Methods Research* (3rd ed.). Thousand Oakes, California: SAGE Publications. Retrieved from https://us.sagepub.com/en-us/nam/designing-and-conducting-mixed-methods-research/book241842

Creswell, J. W., & Tashakkori, A. (2007). Editorial: Differing Perspectives on Mixed Methods Research. *Journal of Mixed Methods Research*, *1*(4), 303–308. https://doi.org/10.1177/1558689807306132

Cuddihy, M. (2016). White South Africans say affirmative action policy is causing discrimination. Retrieved from https://www.abc.net.au/news/2016-08-01/white-south-africans-complain-of-a-reverse-apartheid/7676764

Dam, R. F., & Siang, T. Y. (2020). 5 Stages in the Design Thinking Process. Retrieved from The Interaction Design Foundation website: https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process

Danish, R. Q., Asghar, J., Ahmad, Z., & Ali, H. F. (2019). Factors affecting "entrepreneurial culture": The mediating role of creativity. *Journal of Innovation and Entrepreneurship*, *8*(1), 14. https://doi.org/10.1186/s13731-019-0108-9

Davidsson, P. (2015). Entrepreneurial opportunities and the entrepreneurship nexus: A re-conceptualization. *Journal of Business Venturing*, *30*(5), 674–695. https://doi.org/10.1016/j.jbusvent.2015.01.002

DeJonckheere, M., & Vaughn, L. M. (2019). Semistructured interviewing in primary care research: A balance of relationship and rigour. *Family Medicine and Community Health*, *7*(2). https://doi.org/10.1136/fmch-2018-000057

Denzin, N. K. (1970). *The research act: A theoretical introduction to sociological methods*. New Jersey: Transaction Publishers.

Department of Cooperative Governance and Traditional Affairs. (2020). *Nelson Mandela Bay Metro EC*. Republic of South Africa: Department of Cooperative Governance and Traditional Affairs. Retrieved from Department of Cooperative Governance and Traditional Affairs website: https://www.cogta.gov.za/ddm/wp-content/uploads/2020/07/District_Profile_NELSONMANDELABAY-1.pdf

Department of Employment and Labour. (2020). South Africa hits all time low in competitiveness ranking. Retrieved from http://www.labour.gov.za/south-africa-hits-all-time-low-in-competitiveness-ranking

Department of Small Business Development. (2019). *Revised Schedule 1 of the National Definition of Small Enterprise in South Africa* [Government Gazette]. Retrieved from https://www.gov.za/sites/default/files/gcis_document/201903/423041gon399.pdf

Department of Social Development. (2021). Batho Pele. Retrieved from https://www.dsd.gov.za/index.php/about/batho-pele

Department of Trade and Industry. (2003). *The Integrated Small Business Development Strategy in South Africa 2004-2014*. South Africa. Retrieved from https://www.dws.gov.za/WAR/documents/IntegratedSmallBusinessStrategyOct03.pdf

Department of Trade and Industry. (2018). *Industrial Policy Action Plan 2018/19—2020/21*. South Africa: Department of Trade and Industry. Retrieved from Department of Trade and Industry website: https://www.gov.za/sites/default/files/gcis_document/201805/industrial-policy-action-plan.pdf

Department of Trade and Industry. (2020). *Local Content Policy and Designation: Measures to ensure compliance and verification* [PowerPoint Slides]. Department of Trade and

Industry. Retrieved from http://www.thedtic.gov.za/wp-content/uploads/the-dti-Local_Content.pdf

Department of Trade Industry and Competition. (2020). Government Concerned that Black-Owned Companies Will Shut Down Due to Covid-19 Pandemic – The Department of Trade Industry and Competition. Retrieved from http://www.thedtic.gov.za/government-concerned-that-black-owned-companies-will-shut-down-due-to-covid-19-pandemic/

Department of Trade Industry and Competition. (2021). Fronting. Retrieved from http://www.thedtic.gov.za/financial-and-non-financial-support/b-bbee/fronting/

Design Council. (2008). A study of the design process. Retrieved from https://www.designcouncil.org.uk/sites/default/files/asset/document/ElevenLessons_Design_Council%20(2).pdf

Detotto, C., & Otranto, E. (2010). Does crime affect economic growth? *KYKLOS*, *63*, 330–345.

Dicicco-Bloom, B., & Crabtree, B. F. (2006). The qualitative research interview. *Medical Education*, *40*(4), 314–321. https://doi.org/10.1111/j.1365-2929.2006.02418.x

DiMaggio, P. (1997). Culture and Cognition. *Annual Review of Sociology*, *23*(1), 263–287. https://doi.org/10.1146/annurev.soc.23.1.263

DiStefano, C., & Hess, B. (2005). Using Confirmatory Factor Analysis for Construct Validation: An Empirical Review. *Journal of Psychoeducational Assessment*, *23*(3), 225–241. https://doi.org/10.1177/073428290502300303

Dobbin, J. (2019). *How many businesses are there in Nelson Mandela Bay?* Port Elizabeth, South Africa: Nelson Mandela Bay Business Chamber. Retrieved from Nelson Mandela Bay Business Chamber website: https://www.nmbbusinesschamber.co.za/assets/baygrow/p8.pdf

Doran, B., & Lees, B. G. (2005). Investigating the spatiotemporal links between disorder, crime, and the fear of crime. *The Professional Geographer*, *57*(1), 1–12.

DPME/Department X. (2017). *Evaluation of the Integrated Strategy for the Promotion of Entrepreneurship and Small Enterprises (ISPESE)—Full Report*. Pretoria: Department of Planning, Monitoring and Evaluation/Department of Small Business Development. Retrieved from Department of Planning, Monitoring and

Evaluation/Department of Small Business Development website: https://edse.org.za/wp-content/uploads/2020/10/SMME-Strategy-Full-Report-V05-13112017-STC-1.pdf

Du Plooy-Cilliers, F., Davis, C., & Bezuidenhout, R. (2014). *Research Matters*. Cape Town, South Africa: Juta and Company Ltd.

Eckardt, R., Skaggs, B. C., & Lepak, D. P. (2017). An Examination of the Firm-level Performance Impact of Cluster Hiring in Knowledge-intensive Firms. *Academy of Management Journal*, *61*(3), 919–944. https://doi.org/10.5465/amj.2016.0601

Eisenhardt, K. M., & Galunic, C. (2000, January 1). Coevolving: At Last, a Way to Make Synergies Work. Retrieved from Harvard Business Review website: https://hbr.org/2000/01/coevolving-at-last-a-way-to-make-synergies-work

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, *21*(10–11), 1105–1121. https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E

Eno, B. (1996). *HotWired Imagination Conference*.

Entrepreneur. (2008a, October 9). Steve Jobs: An Extraordinary Career. Retrieved from Entrepreneur website: https://www.entrepreneur.com/article/197538

Entrepreneur. (2008b, October 10). Jeff Bezos. Retrieved from Entrepreneur website: https://www.entrepreneur.com/article/197608

Erzberger, C., & Kelle, U. (2003). Making inferences in mixed methods: The rules of integration. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioural research* (1st ed., pp. 457–490). SAGE Publications.

Erzberger, C., & Prein, G. (1997). Triangulation: Validity and empirically-based hypothesis construction. *Quality and Quantity*, *31*, 141–154.

European Commission. (2016). SME definition. Retrieved from Internal Market, Industry, Entrepreneurship and SMEs—European Commission website: https://ec.europa.eu/growth/smes/sme-definition_en

European Digital City Index. (2016). Entrepreneurial Culture · EDCI. Retrieved from EDCI website: https://digitalcityindex.eu

Evans, B. C., Coon, D. W., & Ume, E. (2011). Use of Theoretical Frameworks as a Pragmatic Guide for Mixed Methods Studies: A Methodological Necessity? *Journal of Mixed Methods Research*, *5*(4), 276–292. https://doi.org/10.1177/1558689811412972

Evans, D., & Boguchwal, L. (2014). *Network Models of Entrepreneurial Ecosystems in Developing Economies:* Fort Belvoir, VA: Defense Technical Information Center. https://doi.org/10.21236/ADA623532

Eveleens, C. P., van Rijnsoever, F. J., & Niesten, E. M. M. I. (2017). How network-based incubation helps start-up performance: A systematic review against the background of management theories. *The Journal of Technology Transfer*, *42*, 676–713. https://doi.org/10.1007/s10961-016-9510-7

Feld, B. (2012). *Startup Communities: Building an Entrepreneurial Ecosystem in Your City*. Hoboken, NJ: John Wiley & Sons.

Feldman, M. P. (2014). The character of innovative places: Entrepreneurial strategy, economic development, and prosperity. *Small Business Economics*, *43*(1), 9–20. https://doi.org/10.1007/s11187-014-9574-4

Feldman, M., & Zoller, T. D. (2012). Dealmakers in Place: Social Capital Connections in Regional Entrepreneurial Economies. *Regional Studies*, *46*(1), 23–37. https://doi.org/10.1080/00343404.2011.607808

Ferreira, F. H. G. (1995). *Roads to Equality: Wealth Distribution Dynamics with Public-Private Capital Complementarity* (LSE STICERD Research Paper No. TE286). Rochester, NY: Social Science Research Network.

Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving Integration in Mixed Methods Designs—Principles and Practices. *Health Services Research*, *48*(6pt2), 2134–2156. https://doi.org/10.1111/1475-6773.12117

Fink, A. (2010). Survey Research Methods. In P. Peterson, E. Baker, & B. McGaw (Eds.), *International Encyclopedia of Education* (3rd ed., pp. 152–160). Oxford: Elsevier. https://doi.org/10.1016/B978-0-08-044894-7.00296-7

Flick, U. (2019). Triangulation. In P. Atkinson, S. Delamont, A. Cernat, J. W. Sakshaug & R. A. Williams (Eds.), *SAGE Research Methods Foundations*. London, UK: SAGE Publications Ltd. https://doi.org/10.4135/9781526421036826100

Frey, B. B. (2018). Scree Plot. In *The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation*. Thousand Oakes, California: SAGE Publications, Inc. https://doi.org/10.4135/9781506326139

Friese, S. (2016, March 13). Theme and Category Development in ATLAS.ti. Retrieved from ATLAS.ti website: https://atlasti.com/2016/03/13/theme-and-category-development-in-atlas-ti/

Fritsch, M., & Kauffeld-Monz, M. (2008). The impact of network structure on knowledge transfer: An application of social network analysis in the context of regional innovation networks. *The Annals of Regional Science*, *44*(1), 21. https://doi.org/10.1007/s00168-008-0245-8

Fritsch, M., Obschonka, M., & Wyrwich, M. (2019). Historical roots of entrepreneurship-facilitating culture and innovation activity: An analysis for German regions. *Regional Studies*, *53*(9), 1296–1307. https://doi.org/10.1080/00343404.2019.1580357

Fritsch, M., Pylak, K., & Wyrwich, M. (2019). *Persistence of Entrepreneurship in Different Historical Contexts* (No. 2019–003). Jena: Friedrich Schiller University Jena.

Fritsch, M., & Schilder, D. (2008). Does Venture Capital Investment Really Require Spatial Proximity? An Empirical Investigation. *Environment and Planning A: Economy and Space*, *40*(9), 2114–2131. https://doi.org/10.1068/a39353

Fritsch, M., & Wyrwich, M. (2014). *The Effect of Regional Entrepreneurship Culture on Economic Development – Evidence for Germany* (No. 2014–014). Jena: Friedrich Schiller University Jena and Max Planck Institute of Economics, Jena.

Fritsch, M., & Wyrwich, M. (2017). *Persistence of Regional Entrepreneurship: Causes, Effects, and Directions for Future Research* (No. 2017–003). Jena: Friedrich Schiller University Jena.

Fritsch, M., & Wyrwich, M. (2018). Regional knowledge, entrepreneurial culture, and innovative start-ups over time and space—an empirical investigation. *Small Business Economics*, *51*(2), 337–353. https://doi.org/10.1007/s11187-018-0016-6

Froy, F. (2019). *The city as incubator: The role played by urban morphology at different scales*. Presented at the The OECD Conference on SMEs and the Urban Fabric, OCED Trento Centre, Italy. Retrieved from

https://www.slideshare.net/OECDLEED/the-city-as-incubator-the-role-played-by-urban-morphology-at-different-scales-francesca-froy

Fuentelsaz, L., González, C., & Maicas, J. P. (2019). Formal institutions and opportunity entrepreneurship. The contingent role of informal institutions. *BRQ Business Research Quarterly*, *22*(1), 5–24. https://doi.org/10.1016/j.brq.2018.06.002

Ganti, A. (2021). What Is the Central Limit Theorem (CLT)? Retrieved from Investopedia website: https://www.investopedia.com/terms/c/central_limit_theorem.asp

Giddens, A. (1984). *The Constitution of Society: Outline of the Theory of Structuration*. Berkeley and Los Angeles: University of California Press.

Gladwell, M. (2003). *The Tipping Point: How Little Things Can Make a Big Difference*. Rockland, MA: Wheeler Pub.

Glaeser, E. (2011). Cities, Productivity, and Quality of Life. *Science*, *333*(6042), 592–594. https://doi.org/10.1126/science.1209264

Glaeser, E. L., & Gottlieb, J. D. (2006). Urban Resurgence and the Consumer City. *Urban Studies*, *43*(8), 1275–1299. https://doi.org/10.1080/00420980600775683

Glaeser, E. L., & Hausman, N. (2019). *The Spatial Mismatch Between Innovation and Joblessness* (Working Paper No. 25913). National Bureau of Economic Research. https://doi.org/10.3386/w25913

Glaeser, E. L., Kolko, J., & Saiz, A. (2001). Consumer city. *Journal of Economic Geography*, *1*(1), 27–50. https://doi.org/10.1093/jeg/1.1.27

Global Sustainable Development Report. (2016). The infrastructure—Inequality—Resilience nexus. Retrieved from https://sustainabledevelopment.un.org/content/documents/10786Chapter2_GSDR2016.pdf

Goedhuys, M., & Sleuwaegen, L. (2010). High-growth entrepreneurial firms in Africa: A quantile regression approach. *Small Business Economics*, *34*(1), 31–51. https://doi.org/10.1007/s11187-009-9193-7

Granovetter, M. (1992). *Problems of Explanation in Economic Sociology* (N. Nohria and R. Eccles). Boston, MA: Harvard Business School Press.

Gravetter, F., & Wallnau, L. (2009). *Statistics for the Behavioral Sciences* (8th ed., Vol. 36). Belmont, CA: Wadsworth/Cengage Learning.

Greene, J. C. (2006). Toward a Methodology of Mixed Methods Social Inquiry. *Research in the Schools*, *13*(1), 93–99.

Greene, J. C. (2007). *Mixed Methods in Social Inquiry*. John Wiley & Sons.

Greene, J. C., & Caracelli, V. J. (1997). Advances in Mixed-Method Evaluation: The Challenges and Benefits of Integrating Diverse Paradigms. *New Directions for Evaluation*, (74).

Guetterman, T. C., Fetters, M. D., & Creswell, J. W. (2015). Integrating Quantitative and Qualitative Results in Health Science Mixed Methods Research Through Joint Displays. *The Annals of Family Medicine*, *13*(6), 554–561. https://doi.org/10.1370/afm.1865

Gura, T. (2015). Got a startup? Rent a bench. *Science*, *348*(6240), 1196–1199. https://doi.org/10.1126/science.348.6240.1196

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate Data Analysis* (7th ed.). Upper Saddle River, New Jersey: Pearson Education, Inc.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis*. Upper Saddle River, New Jersey: Pearson Education, Inc.

Handy, S., Kubly, S., Larsen, D., Sralla, J., Vanka, S., & Oden, M. (2000). *Economic Effects of Highway Relief Routes on Small and Medium-Size Communities: Literature Review and Identification Issues*. Austin, TX. Retrieved from https://rosap.ntl.bts.gov/view/dot/33953

Hannah, D. P., & Eisenhardt, K. M. (2018). How firms navigate cooperation and competition in nascent ecosystems. *Strategic Management Journal*, *39*(12), 3163–3192. https://doi.org/10.1002/smj.2750

Harcourt, B. (2001). *Illusion of Order: The False Promise of Broken Windows Policing*. Cambridge, MA: Harvard University Press.

Harcourt, B. E. (1998). Reflecting on the Subject: A Critique of the Social Influence Conception of Deterrence, the Broken Windows Theory, and Order-Maintenance

Policing New York Style. *Michigan Law Review*, *97*(2), 291–389. https://doi.org/10.2307/1290289

Hasso-Plattner-Institut. (2021). What is design thinking? - Design Thinking—Hasso Plattner Institute. Retrieved from https://hpi.de/school-of-design-thinking/design-thinking/was-ist-design-thinking.html

Haynes-Brown, T. K., & Fetters, M. D. (2021). Using Joint Display as an Analytic Process: An Illustration Using Bar Graphs Joint Displays From a Mixed Methods Study of How Beliefs Shape Secondary School Teachers' Use of Technology. *International Journal of Qualitative Methods*, *20*, 1609406921993286. https://doi.org/10.1177/1609406921993286

Heale, R., & Forbes, D. (2013). Understanding triangulation in research. *Evidence-Based Nursing*, *16*(4), 98. https://doi.org/10.1136/eb-2013-101494

Hechavarría, D. M., & Ingram, A. E. (2019). Entrepreneurial ecosystem conditions and gendered national-level entrepreneurial activity: A 14-year panel study of GEM. *Small Business Economics*, *53*(2), 431–458. https://doi.org/10.1007/s11187-018-9994-7

Herrington, M., & Coduras, A. (2019). The national entrepreneurship framework conditions in sub-Saharan Africa: A comparative study of GEM data/National Expert Surveys for South Africa, Angola, Mozambique and Madagascar. *Journal of Global Entrepreneurship Research*, *9*(1), 60. https://doi.org/10.1186/s40497-019-0183-1

Hilary, A., & Hoover, M. (2016). *The cooperative growth ecosystem*. Retrieved from https://institute.coop/

Hirsch, J., & Walz, U. (2016). The Financing Dynamics of Newly Founded Firms. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2865558

Hoeffler, A., & Fearon, J. (2014). *Benefits and costs of the conflicts and violence targets for the post-2015 Development Agenda*. Copenhagen consensus center. Retrieved from Copenhagen consensus center website: https://www.copenhagenconsensus.com/sites/default/files/conflict_assessment_-_hoeffler_and_fearon.pdf

Hofmann, A. (n.d.). Why Silicon Valley Is Still 'Worth It' – 3 Advantages for German Startups That Mark Zuckerberg Doesn't Mention. Retrieved from German

Accelerator website: https://www.germanaccelerator.com/blog/why-silicon-valley-is-still-worth-it/

Hofstede, G., & McCrae, R. R. (2004). Personality and Culture Revisited: Linking Traits and Dimensions of Culture. *Cross Cultural Research*, *38*, 52–87. https://doi.org/10.1177%2F1069397103259443

Holloway, I., & Todres, L. (2003). The Status of Method: Flexibility, Consistency and Coherence. *Qualitative Research*, *3*(3), 345–357. https://doi.org/10.1177/1468794103033004

Horst, S. J., & Pyburn, E. M. (2018). Likert Scaling. In B. Frey (Ed.), *The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation*. Thousand Oaks, California: SAGE Publications, Inc. https://doi.org/10.4135/9781506326139.n396

Huang, T. T.-K., Aitken, J., Ferris, E., & Cohen, N. (2018). Design Thinking to Improve Implementation of Public Health Interventions: An Exploratory Case Study on Enhancing Park Use. *Design Health (Abingdon)*, *2*(2), 236–252. https://doi.org/10.1080/24735132.2018.1541047

Huggins, R., Johnston, A., & Stride, C. (2012). Knowledge networks and universities: Locational and organisational aspects of knowledge transfer interactions. *Entrepreneurship & Regional Development*, *24*(7–8), 475–502. https://doi.org/10.1080/08985626.2011.618192

Hutchison, T. (1976). Adam Smith and The Wealth of Nations. *The Journal of Law & Economics*, *19*(3), 507–528.

Hwang, V., Desai, S., & Baird, R. (2019). *Access to Capital for Entrepreneurs: Removing Barriers*. Kansas City: Ewing Marion Kauffman Foundation. Retrieved from Ewing Marion Kauffman Foundation website: https://www.kauffman.org/wp-content/uploads/2019/12/CapitalReport_042519.pdf

IDEO. (2021). Expertise. Retrieved from https://www.ideo.com/about

Iftikhar, M. N., Justice, J. B., & Audretsch, D. B. (2020). Introduction: Cities and Entrepreneurship. In M. N. Iftikhar, J. B. Justice & D. B. Audretsch (Eds.), *Urban Studies and Entrepreneurship* (pp. 1–16). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-15164-5_1

Inclusive Business. (2018). Gaps and solutions in the entrepreneurial ecosystem in Rwanda. Retrieved from IBAN website: https://www.inclusivebusiness.net/ib-voices/gaps-and-solutions-entrepreneurial-ecosystem-rwanda

International Institute for Management Development. (2020). *World Competitiveness Yearbook 2020*. Switzerland: International Institute for Management Development. Retrieved from International Institute for Management Development website: /research-knowledge/books/world-competitiveness-yearbook-2020/

International Labour Organisation. (2015, June 23). Recommendation No. 204 concerning the Transition from the Informal to the Formal Economy [Meeting document]. Retrieved from http://www.ilo.org/ilc/ILCSessions/previous-sessions/104/texts-adopted/WCMS_377774/lang--en/index.htm

International Labour Organisation. (2019). *Small Matters: Global evidence on the contribution to employment by the self-employed, micro-enterprises and SMEs*. International Labour Organisation. Retrieved from International Labour Organisation website: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_723282.pdf

International Labour Organisation. (2020). International Standard Industrial Classification of All Economic Activities (ISIC Rev.4). Retrieved from ILOSTAT website: https://ilostat.ilo.org/resources/concepts-and-definitions/classification-economic-activities/

Irbīte, A., & Strode, A. (2016). Design Thinking Models in Design Research and Education. *Proceedings of the International Scientific Conference*, *4*, 488–500. https://doi.org/10.17770/sie2016vol4.1584

Isenberg, D. (2010). How to Start an Entrepreneurial Revolution. *Harvard Business Review*, *88*(6), 40–50.

Isenberg, D. (2011). *The Entrepreneurship Ecosystem Strategy as a New Paradigm for Economic Policy: Principles for Cultivating Entrepreneurship*. The Babson Entrepreneurship Ecosystem Project. Retrieved from http://www.innovationamerica.us/images/stories/2011/The-entrepreneurship-ecosystem-strategy-for-economic-growth-policy-20110620183915.pdf

Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2006). Using Mixed-Methods Sequential Explanatory Design: From Theory to Practice. *Field Methods*, *18*(1), 3–20. https://doi.org/10.1177/1525822X05282260

Jacobs, J. (1969). *The economy of cities*. New York: Random House. Retrieved from http://books.google.com/books?id=pQuxAAAAIAAJ

Jamshed, S. (2014). Qualitative research method-interviewing and observation. *Journal of Basic and Clinical Pharmacy*, *5*(4), 87–88. https://doi.org/10.4103/0976-0105.141942

Johansson-Sköldberg, U., Woodilla, J., & Çetinkaya, M. (2013). Design Thinking: Past, Present and Possible Futures. *Creativity and Innovation Management*, *22*(2), 121–146. https://doi.org/10.1111/caim.12023

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher*, *33*(7), 14–26. https://doi.org/10.3102/0013189X033007014

Joppe, M. (2000). *The research process*.

Kallio, H., Pietila, A., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: Developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing*, *72*(12), 2954–2965.

Kalpokaite, N., & Radivojevic, I. (2020, January 31). Using the Quotation Manager in ATLAS.ti Cloud to Answer your Research Questions. Retrieved from ATLAS.ti website: https://atlasti.com/2020/01/31/using-the-quotation-manager-in-atlas-ti-cloud-to-answer-your-research-questions/

Kalpokaite, Neringa, & Radivojevic, I. (2019, January 11). Analyzing Code Frequencies with ATLAS.ti 8 Windows & Mac: The Code-Document Table. Retrieved from ATLAS.ti website: https://atlasti.com/2019/01/11/analyzing-code-frequencies-with-atlas-ti-8-windows-mac-the-code-document-table/

Kautonen, T. (2013). *Senior entrepreneurship*. OECD Publishing. Retrieved from OECD Publishing website: https://www.oecd.org/cfe/leed/senior_bp_final.pdf

Kelemen, M. L., & Rumens, N. (2008). *An Introduction to Critical Management Research*. London, UK: SAGE Publications, Ltd. Retrieved from https://uk.sagepub.com/en-gb/eur/an-introduction-to-critical-management-research/book226849

Kelling, G. L., & Sousa Jr., W. H. (2001). *Do police matter? : An analysis of the impact of New York City's police reforms* (Civic Report No. 22). New York: NY: CCI Center for Civic Innovaction at the Manhattan Institute.

Kent State University. (2021). LibGuides: SPSS Tutorials: One Sample t Test. Retrieved from https://libguides.library.kent.edu/SPSS/OneSampletTest

Kenton, W. (2020a). Introduction to Deal Flow. Retrieved from Investopedia website: https://www.investopedia.com/terms/d/dealflow.asp

Kenton, W. (2020b). T-Test Definition. Retrieved from Investopedia website: https://www.investopedia.com/terms/t/t-test.asp

Kibler, E., Kautonen, T., & Fink, M. (2014). Regional Social Legitimacy of Entrepreneurship: Implications for Entrepreneurial Intention and Start-up Behaviour. *Regional Studies*, *48*(6), 995–1015. https://doi.org/10.1080/00343404.2013.851373

Kiebel, S. J., Kherif, A. P., & Holmes, C. (2007). CHAPTER 8—The General Linear Model. In K. Friston, J. Ashburner, S. Kiebel, T. Nichols & W. Penny (Eds.), *Statistical Parametric Mapping* (pp. 101–125). London: Academic Press. https://doi.org/10.1016/B978-012372560-8/50008-5

Kilroy, A. (2014a). *Competitiveness Cities Snapshot*. Nelson Mandela Bay, South Africa: The World Bank.

Kilroy, A. (2014b). *Key Success Factors What can we learn from successful cities?* The World Bank.

Kimberley, M., Kimberley, K., & Donnelly, L. (2020, September 30). Surge in Nelson Mandela Bay's jobless. *HeraldLIVE*. Retrieved from https://www.heraldlive.co.za/news/2020-09-30-surge-in-bays-jobless/

King, N. (2004). Using templates in the thematic analysis of text. In C. Cassell & G. Symon (Eds.), *Essential guide to qualitative methods in organisational research* (pp. 257–270). London, UK: SAGE Publications, Ltd.

Kirchhoff, B. A., Newbert, S. L., Hasan, I., & Armington, C. (2007). The Influence of University R & D Expenditures on New Business Formations and Employment Growth. *Entrepreneurship Theory and Practice*, *31*(4), 543–559.

Ključnikov, A., Belás, J., Kozubíková, L., & Paseková, P. (2016). *The entrepreneurial perception of SME business environment quality in the Czech Republic*. https://doi.org/10.7441/joc.2016.01.05

Koch, T. (1994). Establishing rigour in qualitative research: The decision trail. *Journal of Advanced Nursing*, *19*(5), 976–986. https://doi.org/10.1111/j.1365-2648.1994.tb01177.x

Krauss, S., Hamzah, A., Omar, Z., Suandi, T., Ismail, I., Zahari, M., & Nor, Z. (2009). Preliminary Investigation and Interview Guide Development for Studying how Malaysian Farmers Form their Mental Models of Farming. *The Qualitative Report*, *14*(2), 245–260.

Krosnick, J. A. (2018). Questionnaire Design. In D. Vannette & J. Krosnick (Eds.), *The Palgrave Handbook of Survey Research*. United Kingdom: Palgrave Macmillan.

Kumar, A., Lodha, D., Mahalingam, A., Prasad, V., & Sahasranaman, A. (2016). Using 'design thinking' to enhance urban re-development: A case study from India. *Engineering Project Organization Journal*, 1–11. https://doi.org/10.1080/21573727.2016.1155445

Kvale, S., & Brinkmann, S. (2009). *InterViews: Learning the craft of qualitative research interviewing* (2nd ed.). Los Angeles: Sage Publications.

Laerd Statistics. (2020). Pearson Product-Moment Correlation. Retrieved from https://statistics.laerd.com/statistical-guides/pearson-correlation-coefficient-statistical-guide-2.php

Lavena, C. (2013). What Determines Permissiveness Toward Corruption? *Public Integrity*, *15*(4), 345–366. https://doi.org/10.2753/PIN1099-9922150402

Leedy, P. D., & Ormrod, J. E. (2005). *Practical research: Planning and design* (8th ed.). Upper Saddle River, New Jersey: Prentice Hall.

Leendertse, J., Schrijvers, M., & Stam, E. (2020). Measure Twice, Cut Once. Entrepreneurial Ecosystem Metrics. *Research Policy*. https://doi.org/10.1016/j.respol.2021.104336.

Lewis, P. (2019). Why Malcolm Gladwell's 'Broken Windows' Theory Is Key For Building A Better Business. Retrieved from Forbes website: https://www.forbes.com/sites/phillewis1/2019/10/08/small-issues--big-problems/

Liberto, D. (2020). Small and Mid-size Enterprise (SME) Definition. Retrieved from Investopedia website: https://www.investopedia.com/terms/s/smallandmidsizeenterprises.asp

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, Calif.: Sage Publications.

Link, A. N., & Scott, J. T. (2019). The economic benefits of technology transfer from U.S. federal laboratories. *The Journal of Technology Transfer*, *44*(5), 1416–1426. https://doi.org/10.1007/s10961-019-09734-z

Lourens, N. (2015). *A critique of design thinking: An interrogation into the value and values of design thinking* (Masters Thesis, University of Pretoria). University of Pretoria, South Africa. Retrieved from https://repository.up.ac.za/bitstream/handle/2263/53427/Lourens_Critique_2016.pdf?sequence=1

Lowe, N. J., & Feldman, M. P. (2017). Institutional life within an entrepreneurial region. *Geography Compass*, *11*(3), e12306. https://doi.org/10.1111/gec3.12306

Luhman, J. T., & Cunliffe, A. L. (2013). *Systems Theory*. SAGE Publications Ltd. http://dx.doi.org/10.4135/9781473914643.n33

Luvhengo, N. E., & Thomas, A. (2019). Labour Legislation Compliance within the Small-Enterprise Sector. *African Journal of Employee Relations*, *43*(1), 1–24. https://doi.org/10.25159/2520-3223/5293

Ma, J. (2018). *Why Silicon Valley? An 'Entrepreneurial Ecosystem' perspective on regional venture creation and new venture fundraising, evidence from China* (Graduate School-Newark Rutgers). Graduate School-Newark Rutgers, The State University of New Jersey. Retrieved from https://rucore.libraries.rutgers.edu/rutgers-lib/57748/PDF/1/play/

Mack, E., & Mayer, H. (2016). The evolutionary dynamics of entrepreneurial ecosystems. *Urban Studies*, *53*(10), 2118–2133. https://doi.org/10.1177/0042098015586547

Madureira, A. M., & Baeten, G. (2016). By invitation only: Uses and users of the 'entrepreneurial city'. *International Planning Studies*, *21*(4), 362–376. https://doi.org/10.1080/13563475.2016.1157015

Maguire, M., & Delahunt, B. (2017). Doing a thematic analysis: A practical, step-by-step guide for learning and teaching scholars. *All Ireland Journal of Higher Education*, *9*(3), 3351-33514.

Mahofa, G., Sundaram, A., & Edwards, L. (2016). *Impact of crime on firm entry: Evidence from South Africa* [Working Paper 652]. Economic Research Southern Africa. Retrieved from Economic Research Southern Africa website: https://www.econrsa.org/system/files/publications/working_papers/working_paper_652.pdf

Malecki, E. J. (2018). Entrepreneurship and entrepreneurial ecosystems. *Geography Compass*, *12*(3), e12359. https://doi.org/10.1111/gec3.12359

Malterud, K., Siersma, V. D., & Guassora, A. D. (2015). Sample Size in Qualitative Interview Studies: Guided by Information Power. *Qualitative Health Research*, *26(13)*, 1753–1760.

Mason, C., & Brown, R. (2014). Entrepreneurial ecosystems and growth orientated entrepreneurship. *Final Report to OECD, Paris*, *30*(1), 77–102.

Mason, C., & Hruskova, M. (2021). The impact of Covid-19 on entrepreneurial ecosystems. In P. McCann & T. Vorley (Eds.), *Productivity and the Pandemic: Challenges and Insights from Covid-19* (pp. 59–72). Cheltenham, UK: Edward Elgar Publishing. https://doi.org/10.4337/9781800374607.00011

Mattin, D. (2021). Our Collective Genius: Humanity's greatest advances depended on shared physical location. So what happens when life moves online? *Substack*. Retrieved from New World Same Humans website: https://nwsh.substack.com/p/our-collective-genius

McClelland, D. C. (1961). *The Achieving Society*. Princeton, N.J: Van Nostrand.

McLaughlin, J. E., Bush, A. A., & Zeeman, J. M. (2016). Mixed methods: Expanding research methodologies in pharmacy education. *Currents in Pharmacy Teaching and Learning*, *8*(5), 715–721. https://doi.org/10.1016/j.cptl.2016.06.015

McNamara, C. (2009). General Guidelines for Conducting Research Interviews. Retrieved from https://managementhelp.org/businessresearch/interviews.htm

Meier, B., Batamuliza, A., & Ross, D. L. (2020). *Connecting the Kigali entrepreneurial ecosystem*. Retrieved from

https://www.swisscontact.org/_Resources/Persistent/f/f/e/5/ffe5e9a8371b706766fc5ba
e389f8ddbeb226e30/CSSC_Connecting_the_Kigali_Entrepreneurial_Ecosystem_Fina
l.pdf

Meyers, M. (2018, November 1). Rethinking Entrepreneurship: Ecosystem + Infrastructure.
Retrieved from SourceLink website: https://www.joinsourcelink.com/best-
practices/best-practices/2018/11/01/rethinking-entrepreneurship-ecosystems-and-
infrastructure

Miles, S. (2012). The neoliberal city and the pro-active complicity of the citizen consumer.
Journal of Consumer Culture, *12*(2), 216–230.
https://doi.org/10.1177/1469540512446881

Milkowska, M. (2018). Design Thinking for Better Government Services | Government
Innovators Network [Blog post]. Retrieved 1 July 2021, from Harvard Kennedy
School website: https://www.innovations.harvard.edu/blog/design-thinking-better-
government-services-human-centered

Mitchell, A. (2018). A Review of Mixed Methods, Pragmatism and Abduction Techniques.
The Electronic Journal of Business Research Methods, *16*(3), 103–116.

Modell, S. (2009). In defence of triangulation: A critical realist approach to mixed methods
research in management accounting. *Management Accounting Research*, *20*(3), 208–
221. https://doi.org/10.1016/j.mar.2009.04.001

Moseholm, E., & Fetters, M. D. (2017). Conceptual models to guide integration during
analysis in convergent mixed methods studies. *Methodological Innovations*, *10*(2),
2059799117703118. https://doi.org/10.1177/2059799117703118

Motoyama, Y., & Knowlton, K. (2017). Examining the connections within the startup
ecosystem: A case study of St. Louis. *Entrepreneurship Research Journal*, *7*(1), 1–32.

Motoyama, Y., & Watkins, K. (2014). *Examining the Connections within the Startup
Ecosystem: A Case Study of St. Louis*. Retrieved from
https://core.ac.uk/download/pdf/75780609.pdf

Mtshali, M., Mtapuri, O., & Shamase, S. (2017). Experiences of black-owned Small Medium
and Micro Enterprises in the accommodation tourism sub sector in selected Durban
townships, Kwazulu-Natal. *African Journal of Hospitality, Tourism and Leisure*, *6*(3),

1-15. Retrieved from
http://www.ajhtl.com/uploads/7/1/6/3/7163688/article_24_vol_6__3__2017.pdf

Municipal Money. (2020). Nelson Mandela Bay. Retrieved 29 May 2021, from
https://municipalmoney.gov.za/profiles/municipality-NMA-nelson-mandela-bay/

Munir, K. A. (2020). Challenging Institutional Theory's Critical Credentials. *Organization Theory*, *1*(1), 1-10. https://doi.org/10.1177/2631787719887975

Mustafa, M. J., Hernandez, E., Mahon, C., & Chee, L. K. (2016). Entrepreneurial intentions of university students in an emerging economy: The influence of university support and proactive personality on students' entrepreneurial intention. *Journal of Entrepreneurship in Emerging Economies*, *8*(2), 162–179. https://doi.org/10.1108/JEEE-10-2015-0058

National Treasury. (2015). *Annexure A - Standard for Infrastructure Procurement and Delivery Management*. National Treasury, Republic of South Africa. Retrieved from http://www.treasury.gov.za/legislation/pfma/TreasuryInstruction/Annexure%20A%20-%20Standard%20for%20Infrastructure%20Procurement%20and%20Delivery%20Management.pdf

National Treasury. (2020). *Budget Review 2020*. Republic of South Africa: The National Treasury. Retrieved from The National Treasury website: http://www.treasury.gov.za/documents/national%20budget/2020/review/FullBR.pdf

National Treasury. (2021). *Public-sector infrastructure update*. National Treasury. Retrieved from http://www.treasury.gov.za/documents/national%20budget/2019/review/Annexure%20D.pdf

Neck, H. M., Meyer, G. D., Cohen, B., & Corbett, A. C. (2004). An Entrepreneurial System View of New Venture Creation. *Journal of Small Business Management*, *42*(2), 190–208. https://doi.org/10.1111/j.1540-627X.2004.00105.x

Nelson Mandela Bay Municipality. (2020). *2020/21 Mid-Term Report: Mid-Term Budget and Performance Report*. Retrieved from https://www.nelsonmandelabay.gov.za/DataRepository/Documents/nmbm-adopted-2020-21-mid-term-performance-report_YB953.pdf

Nelson Mandela Bay Municipality. (2021). *Integrated Development Plan 2021/22*. Nelson Mandela Bay Municipality. Retrieved from https://www.nelsonmandelabay.gov.za/DataRepository/Documents/nmbm-2020-21-idp-adopted_DWs8k.pdf

Neumeyer, X., Santos, S. C., Caetano, A., & Kalbfleisch, P. (2019). Entrepreneurship ecosystems and women entrepreneurs: A social capital and network approach. *Small Business Economics*, *53*(2), 475–489. https://doi.org/10.1007/s11187-018-9996-5

Nicol, M. (2021, February 10). Black economic empowerment: Government is undermining its own policy on BBE deals that have a 'broad base'. Retrieved from Daily Maverick website: https://www.dailymaverick.co.za/article/2021-02-10-black-economic-empowerment-government-is-undermining-its-own-policy-on-bbe-deals-that-have-a-broad-base/

Nicotra, M., Romano, M., Del Giudice, M., & Schillaci, C. E. (2018). The causal relation between entrepreneurial ecosystem and productive entrepreneurship: A measurement framework. *The Journal of Technology Transfer*, *43*(3), 640–673. https://doi.org/10.1007/s10961-017-9628-2

Nieuwenhuizen, C. (2019). The effect of regulations and legislation on small, micro and medium enterprises in South Africa. *Development Southern Africa*, *36*(5), 666–677. https://doi.org/10.1080/0376835X.2019.1581053

Nkosi, N. (2019, September 12). NMBay's political instability driving away investment—Business Chamber. *HeraldLIVE*. Retrieved from https://www.heraldlive.co.za/news/2019-09-12-nmbays-political-instability-driving-away-investment-business-chamber/

North, D. C. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press. http://doi.org/10.1017/CBO9780511808678

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic Analysis: Striving to Meet the Trustworthiness Criteria. *International Journal of Qualitative Methods*, *16*, 1–13. https://doi.org/10.1177/1609406917733847

Nunnally, J. C. (1978). *Psychometric Theory* (2nd ed.). New York: McGraw-Hill.

Oates, B. J. (2006). *Researching Information Systems and Computing* (1st ed.). United Kingdom: SAGE Publications, Ltd. Retrieved from https://uk.sagepub.com/en-gb/eur/researching-information-systems-and-computing/book226898

Obschonka, M., & Audretsch, D. B. (2019). Artificial intelligence and big data in entrepreneurship: A new era has begun. *Small Business Economics, 55,* 529-539. https://doi.org/10.1007/s11187-019-00202-4

O'Connor, A., Stam, E., Sussan, F., & Audretsch, D. B. (2018). Entrepreneurial Ecosystems: The Foundations of Place-based Renewal. In A. O'Connor, E. Stam, F. Sussan & D. B. Audretsch (Eds.), *Entrepreneurial Ecosystems* (pp. 1–21). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-63531-6_1

OECD. (2007). *Competitive Cities: A New Entrepreneurial Paradigm in Spatial Development*. OECD. https://doi.org/10.1787/9789264022591-en

OECD. (2013). *Summary report of an international workshop organised by the OECD and the Netherlands Ministry of Economic Affairs* [Summary Report]. The Hague, Netherlands. Retrieved from https://www.oecd.org/employment/leed/INTERNATIONAL%20ECOSYSTEM%20WORKSHOP_SUMMARY%20REPORT.pdf

OECD. (2016). *The Productivity-Inclusiveness Nexus*. Presented at the Meeting of the OECD Council at Ministerial Level, Paris, France. Retrieved from https://one.oecd.org/document/C/MIN(2016)3/en/pdf

OECD. (2018a). *Enabling SMEs to scale up: Plenary session 1*. Presented at the OECD Ministerial Conference on Small and Medium-sized Enterprises, Mexico City. Retrieved from https://www.oecd.org/cfe/smes/ministerial/documents/2018-SME-Ministerial-Conference-Plenary-Session-1.pdf

OECD. (2018b). *Monitoring and evaluation of SME and entrepreneurship programmes*. Presented at the SME Ministerial Conference, Mexico City. Retrieved from https://www.oecd.org/cfe/smes/ministerial/documents/2018-SME-Ministerial-Conference-Parallel-Session-6.pdf

OECD. (2019a). *OECD SME and Entrepreneurship Outlook 2019*. Paris, France: OECD Publishing. https://doi.org/10.1787/34907e9c-en

OECD. (2019b). *SMEs and the Urban Fabric*. Presented at the Trento, Italy. Trento, Italy. Retrieved from https://www.oecd.org/cfe/SMEs-Cities-Trento-summary.pdf

OECD. (2020a). OECD Economic Surveys: South Africa 2020. Retrieved from https://www.oecd-ilibrary.org/sites/24766a8c-en/index.html?itemId=/content/component/24766a8c-en

OECD. (2020b). *South Africa | Financing SMEs and Entrepreneurs 2020: An OECD Scoreboard* [OECD iLibrary]. OECD Publishing. Retrieved from OECD Publishing website: https://www.oecd-ilibrary.org/sites/37b75ad0-en/index.html?itemId=/content/component/37b75ad0-en

OECD, European Union, European Training Foundation, & European Bank for Reconstruction and Development. (2015). *Support services for SMEs and start-ups and public procurement (Dimensions 5a and 5b) in Eastern partner countries*. Paris: OECD Publishing. https://doi.org/10.1787/9789264178847-12-en

Ofem, B., Arya, B., & Borgatti, S. P. (2018). The Drivers of Collaborative Success Between Rural Economic Development Organizations. *Nonprofit and Voluntary Sector Quarterly*, 1–22. https://doi.org/10.1177/0899764018783084

Owen, C. (2007). Design Thinking: Notes on Its Nature and Use. *Design Research Quarterly*, *2*(1), 16–27.

Paré, G., & Kitsiou, S. (2017). Chapter 9 Methods for Literature Reviews. In F. Lau & C. Kuziemsky (Eds.), *Handbook of eHealth Evaluation: An Evidence-Based Approach [Internet]*. University of Victoria. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK481583/

Paré, G., Trudel, M.-C., Jaana, M., & Kitsiou, S. (2015). Synthesizing information systems knowledge: A typology of literature reviews. *Information & Management*, *52*(2), 183–199. https://doi.org/10.1016/j.im.2014.08.008

Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed., p. 532). Thousand Oaks, CA, US: Sage Publications, Inc.

Patton, M. Q. (2002). *Qualitative Research & Evaluation Methods* (4th ed.). Thousand Oakes, California: SAGE Publications, Ltd. Retrieved from https://us.sagepub.com/en-us/nam/qualitative-research-evaluation-methods/book232962

Pavlovich, K., & Kearins, K. (2004). Structural Embeddedness and Community-Building through Collaborative Network Relationships. *Management*, *7*(3), 195–214. https://doi.org/10.3917/mana.073.0195

Pita, M., Costa, J., & Moreira, A. (2021). Entrepreneurial Ecosystems and Entrepreneurial Initiative: Building a Multi-Country Taxonomy. *Sustainability*, *13*(4065). https://doi.org/10.3390/su13074065

Pittz, T. G., White, R., & Zoller, T. (2019). Entrepreneurial ecosystems and social network centrality: The power of regional dealmakers. *Small Business Economics*, *56*, 1273-1286. https://doi.org/10.1007/s11187-019-00228-8

Plano Clark, V. L., Foote, L. A., & Walton, J. B. (2018). Intersecting Mixed Methods and Case Study Research: Design Possibilities and Challenges. *International Journal of Multiple Research Approaches*, *10*(1), 14–29. https://doi.org/10.29034/ijmra.v10n1a1

Porter, M. E. (1990, March 1). The Competitive Advantage of Nations. *Harvard Business Review*, (March–April 1990). Retrieved from https://hbr.org/1990/03/the-competitive-advantage-of-nations

Porter, M. E. (1998, November 1). Clusters and the New Economics of Competition. *Harvard Business Review*, (November-December 1998). Retrieved from https://hbr.org/1998/11/clusters-and-the-new-economics-of-competition

Powell, W. W. (1990). Neither Market nor Hierarchy: Network Forms of Organization. In: B. Holzer & C. Stegbauer (Eds.)*, Schlüsselwerke der Netzwerkforschung. Netzwerkforschung.* Springer VS: Wiesbaden. https://doi.org/10.1007/978-3-658-21742-6_108

Purbasari, R., Ch, Wijaya, R., & Rahayu, N. (2019). The Entrepreneurial Ecosystem as A Network Rich System A Systematic Mapping Study. *Academy of Entrepreneurship Journal, 25*(2), 1-17. Retrieved from https://www.abacademies.org/abstract/the-entrepreneurial-ecosystem-as-a-network-rich-system-a-systematic-mapping-study-8122.html

PWC. (2018). What foreign investors want: South African insights from a global perspective on factors influencing FDI inflows since 2010. Retrieved from https://www.pwc.co.za/en/assets/pdf/strategyand-what-foreign-investors-want.pdf

Qian, H., Acs, Z., & Stough, R. R. (2013). Regional systems of entrepreneurship: The nexus of human capital, knowledge and new firm formation. *Journal of Economic Geography*, *13*(4), 559–587.

Rakovic, M., Marzouk, Z., Chang, D., & Winne, P. H. (2019). Towards knowledge-transforming in writing argumentative essays from multiple sources: a methodological approach. In C. Brooks, R. Ferguson & U. Hoppe (Eds.), *Companion Proceeding of the 9th International Conference on Learning Analytics & Knowledge (LAK'19)* (pp. 267-272). Society for Learning Analytics Research. Retrieved from http://wa.utscic.edu.au/wp-content/uploads/2019/03/Raković-Marzouk-Chang-Winne-2019-Towards-knowledge-transforming-in-writing-argumentative-essays-from-multiple-sources-A-methodological-approach.pdf

Read, S. (2016). Organic or Deliberate: A Comment on "Applying the Ecosystem Metaphor to Entrepreneurship: Uses and Abuses". *The Antitrust Bulletin*, *61*(4), 574–579. https://doi.org/10.1177/0003603X16673944

Real Statistics. (2021). Determining the Number of Factors to Retain | Real Statistics Using Excel. Retrieved from https://www.real-statistics.com/multivariate-statistics/factor-analysis/determining-number-of-factors/

Republic of South Africa. (1995). *White Paper on National Strategy for the Development and Promotion of small businesses in South Africa* [White Paper]. Cape Town, South Africa: Department of Trade and Industry. Retrieved from Department of Trade and Industry website: https://www.gov.za/sites/default/files/gcis_document/201409/163170.pdf

Republic of South Africa. (2020). *The South African Economic Reconstruction and Recovery Plan*. Retrieved from https://www.gov.za/sites/default/files/gcis_document/202010/south-african-economic-reconstruction-and-recovery-plan.pdf

Riel, J. (2009). Wicked problems. In R. Martin (Ed.), *The Design of Business: Why Design Thinking is the Next Competitive Advantage* (pp. 94–95). Massachusetts: Harvard Business Press.

Roberts, E. B., & Eesley, C. E. (2012). *Entrepreneurial Impact: The Role of MIT - An Updated Report* (SSRN Scholarly Paper No. 2013399). Rochester, NY: Social

Science Research Network. Retrieved from Social Science Research Network website: https://papers.ssrn.com/abstract=2013399

Roberts, K., Dowell, A., & Nie, J. (2019). Attempting rigour and replicability in thematic analysis of qualitative research data; a case study of codebook development. *BMC Medical Research Methodology*, *19*(1), 66. https://doi.org/10.1186/s12874-019-0707-y

Rodrigues, I. B., Adachi, J. D., Beattie, K. A., Lau, A., & MacDermid, J. C. (2019). Determining known-group validity and test-retest reliability in the PEQ (Personalized Exercise Questionnaire). *BMC Musculoskeletal Disorders*, *20*, 373. https://doi.org/10.1186/s12891-019-2761-3

Rosiello, A., & Greene, F. (2020). *The Early Impact of COVID-19 on UK Entrepreneurial Firms*. University of Edinburgh Business School. Retrieved from University of Edinburgh Business School website: https://www.research.ed.ac.uk/en/publications/the-early-impact-of-covid-19-on-uk-entrepreneurial-firms

Roundy, P., Bradshaw, M., & Brockman, B. (2018). *The Emergence of Entrepreneurial Ecosystems: A Complex Adaptive Systems Approach* (SSRN Scholarly Paper No. ID 3106061). Rochester, NY: Social Science Research Network. Retrieved from Social Science Research Network website: https://papers.ssrn.com/abstract=3106061

Roundy, P. T. (2017). "Small town" entrepreneurial ecosystems: Implications for developed and emerging economies. *Journal of Entrepreneurship in Emerging Economies*, *9*(3), 238–262. https://doi.org/10.1108/JEEE-09-2016-0040

Roundy, P. T., Bradshaw, M., & Brockman, B. K. (2018). The emergence of entrepreneurial ecosystems: A complex adaptive systems approach. *Journal of Business Research*, *86*, 1–10. https://doi.org/10.1016/j.jbusres.2018.01.032

Roundy, P. T., Brockman, B. K., & Bradshaw, M. (2017). The resilience of entrepreneurial ecosystems. *Journal of Business Venturing Insights*, *8*, 99–104. https://doi.org/10.1016/j.jbvi.2017.08.002

Roundy, P. T., & Fayard, D. (2018). Dynamic Capabilities and Entrepreneurial Ecosystems: The Micro-Foundations of Regional Entrepreneurship. *The Journal of Entrepreneurship*, *28*(1), 94–120. https://doi.org/10.1177/0971355718810296

Roundy, P. T., & Fayard, D. (2020). Place-Based Advantages in Entrepreneurship: How Entrepreneurial Ecosystem Coordination Reduces Transaction Costs. *Place-Based Advantages in Entrepreneurship*, *20*(2), 115–136.

Rousseau, M. (2009). Re-imaging the City Centre for the Middle Classes: Regeneration, Gentrification and Symbolic Policies in 'Loser Cities'. *International Journal of Urban and Regional Research*, *33*(3), 770–788.

Salkind, N. (2010). Scheffé Test. In *Encyclopedia of Research Design*. Thousand Oakes, California: SAGE Publications, Inc. https://doi.org/10.4135/9781412961288.n404

Saunders, M. N. K., & Lewis, P. (2012). *Doing Research in Business & Management: An Essential Guide to Planning Your Project*. Harlow: Pearson. Retrieved from https://epubs.surrey.ac.uk/817620/

Saunders, M. N. K., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson.

Saunders, M. N. K., Lewis, P., Thornhill, A., & Bristow, A. (2016). Understanding research philosophy and approaches to theory development. In M. Saunders, P. Lewis & A. Thornhill (Eds.), *Research Methods for Business Students* (7th ed., pp. 122–161). Harlow, UK: Pearson.

Saunders, M. N. K., & Tosey, P. (2012). *The Layers of Research Design* (pp. 58–59). Retrieved from https://www.csd.uoc.gr/~hy109/resources/layers.pdf

Saxenian, A. (1994). *Regional Advantage: Culture and competition in Silicon Valley and Route 128*. Cambridge, MA: Harvard University Press.

Schoonenboom, J., & Johnson, R. B. (2017). How to Construct a Mixed Methods Research Design. *Kolner Zeitschrift Fur Soziologie Und Sozialpsychologie*, *69*, 107–131. https://doi.org/10.1007/s11577-017-0454-1

Schreiber, J. B., Stage, F. K., King, J., Nora, A., & Barlow, E. A. (2006). Reporting Structural Equation Modeling and Confirmatory Factor Analysis Results: A Review. *The Journal of Educational Research*, *99*(6), 323–338. https://doi.org/10.3200/JOER.99.6.323-338

Schryen, G., Wagner, G., & Benlian, A. (2015). Theory of Knowledge for Literature Reviews: An Epistemological Model, Taxonomy and Empirical Analysis of IS Literature. *Theory of Knowledge for Literature Reviews*. Presented at the Thirty Sixth

International Conference on Information Systems, Fort Worth. Retrieved from
https://core.ac.uk/download/pdf/33181095.pdf

Schwab, K. (2019). *The Global Competitiveness Report* [Insights report]. World Economic
Forum. Retrieved from World Economic Forum website:
http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf

Scott, K., Gharai, D., Sharma, M., Choudhury, N., Mishra, B., Chamberlain, S., & LeFevre,
A. (2019). Yes, no, maybe so: The importance of cognitive interviewing to enhance
structured surveys on respectful maternity care in northern India. *Health Policy and
Planning*, *35*(1), 67–77. https://doi.org/10.1093/heapol/czz141

Scott, W. R. (2008). *Institutions and Organizations: Ideas and interests* (3rd ed.). Thousand
Oakes, California: SAGE Publications Ltd. Retrieved from https://us.sagepub.com/en-
us/nam/institutions-and-organizations/book237665

Scott, W. R. (2014). Institutions and Organizations. Ideas, Interests and Identities.
M@n@gement, *17*(2), 136–140.

Senge, P. M., & Fulmer, R. M. (1993). Simulations, Systems Thinking and Anticipatory
Learning. *Journal of Management Development*, *12*(6), 21–33.
https://doi.org/10.1108/02621719410050228

Shanks, G., & Bekmamedova, N. (2018). Chapter 7—Case study research in information
systems. In K. Williamson & G. Johanson (Eds.), *Research Methods* (2nd ed., pp.
193–208). Chandos Publishing. https://doi.org/10.1016/b978-0-08-102220-7.00007-8

Shumetie, A., & Watabaji, M. D. (2019). Effect of corruption and political instability on
enterprises' innovativeness in Ethiopia: Pooled data based. *Journal of Innovation and
Entrepreneurship*, *8*(1), 11. https://doi.org/10.1186/s13731-019-0107-x

Shwetzer, C., Maritz, A., & Nguyen, Q. (2019). Entrepreneurial ecosystems: A holistic and
dynamic approach. *Journal of Industry-University Collaboration*, *1*(2), 79–95.
https://doi.org/10.1108/JIUC-03-2019-0007

Simon, H. A. (1996). *The sciences of the artificial* (3rd ed.). Cambridge, Mass.: MIT Press.

Simons, H. (2009). *Case Study Research in Practice*. London: SAGE.

Sine, W. D., & David, R. J. (2010). *Institutions and Entrepreneurship*. Emerald Group
Publishing.

Singapore Polytechnic. (2021). Design Thinking. Retrieved 13 January 2021, from
https://www.sp.edu.sg/engineering/space/teaching-methods

Skilton, P. F., Bernardes, E. S., Li, M., & Creek, S. (2015). Cooperation And Competition
Networks. *Academy of Management Proceedings*, *2015*(1), 13750.
https://doi.org/10.5465/ambpp.2015.13750abstract

Skinner, C., & Watson, V. (2017). The informal economy in cities of the global South. In G.
Bhan, S. Srinivas & V. Watson (Eds.), *Companion to Planning in the Global South*.
London: Routledge. https://doi.org/10.4324/9781315678993.ch11

Skogan, W. G. (1990). *Disorder and Decline: Crime and the Spiral of Decay in American
Neighborhoods* (1st ed., Vol. 66). New York: Free Press.

Skogan, W. G. (2012). Disorder and Crime. In B.C. Welsh & D.P. Farrington (Eds.), *The
Oxford Handbook of Crime Prevention*. *Community Crime Prevention*. Oxford
University Press. Retrieved from
http://skogan.org/files/Disorder_and_Crime.in_Welsh_and_Farrington_2012.pdf

Small Business Institute. (2021a). *New perspectives on informality: A focus on the South
African context*. Retrieved from https://www.smallbusinessinstitute.co.za/wp-
content/uploads/2019/02/NewPerspectivesOnInformality.pdf

Small Business Institute. (2021b). *Tackling the "Disabling Environment" to boost Economic
Growth, Small Business and Jobs*. Retrieved from
https://www.smallbusinessinstitute.co.za/wp-
content/uploads/2019/02/TacklingTheDisenablingEnvironmentToBoostEconomicGro
wthSmallBusinessAndJobs.pdf

Small Business Institute and the Small Business Project. (2019). *The number of formal micro,
small and medium businesses in South Africa* [Preliminary findings of stage 1 of the
baseline study of small businesses in South Africa]. Retrieved from
https://www.smallbusinessinstitute.co.za/wp-
content/uploads/2019/01/SBIbaselineStudyAlertfinal.pdf

SME South Africa. (2020). Women & Funding Round Table Part 1 – Challenges: 'The
System Just Wasn't Built for Women' – SME South Africa. Retrieved from
https://smesouthafrica.co.za/women-funding-round-table-challenges/

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, *104*, 333–339. https://doi.org/10.1016/j.jbusres.2019.07.039

South African Government. (1999). Public Finance Management Act 1 of 1999. Retrieved from https://www.gov.za/documents/public-finance-management-act

South African Government. (2001). Spatial Planning and Land Use Management White Paper. Retrieved from https://www.gov.za/documents/spatial-planning-and-land-use-management-white-paper

South African Government. (2012). *The National Development Plan 2030*. Retrieved from https://www.gov.za/issues/national-development-plan-2030#

South African Government. (2018). President Cyril Ramaphosa: 2018 State of the Nation Address. Retrieved from https://www.gov.za/speeches/president-cyril-ramaphosa-2018-state-nation-address-16-feb-2018-0000

South African Government. (2020). National spatial development framework: Draft. Retrieved from https://www.gov.za/documents/national-spatial-development-framework-draft-30-apr-2019-0000

South African Government. (2021). National Small Business Act 102 of 1996. Retrieved from South African Government website: https://www.gov.za/documents/national-small-business-act

South African Market Insights. (2020). South Africa's Unemployent. Retrieved 24 July 2021, from South African Market Insights website: https://www.SouthAfricanMI.com/south-africas-unemployment.html

Spencer, L., Ritchie, J., Lewis, J., & Dillon, L. (2003). *Quality in qualitative evaluation: A framework for assessing research evidence*. National Centre for Social Research. Retrieved from https://www.heacademy.ac.uk/system/files/166_policy_hub_a_quality_framework.pdf

Spigel, B. (2015). The Relational Organization of Entrepreneurial Ecosystems. *Entrepreneurship Theory and Practice*, *41*(1), 49–72. https://doi.org/10.1111/etap.12167

Spigel, B. (2017). Resource Acquisition and Co-Production in Entrepreneurial Ecosystems. *Academy of Management Proceedings*, *2017*(1), 11545. https://doi.org/10.5465/AMBPP.2017.11545abstract

Spigel, B. (2018). Envisioning a New Research Agenda for Entrepreneurial Ecosystems: Top-down and Bottom-up Approaches. In J. A. Katz & A. C. Corbett (Eds.), *Reflections and Extensions on Key Papers of the First Twenty-Five Years of Advances* (pp. 127–147). Emerald Publishing Limited. https://doi.org/10.1108/S1074-754020180000020004

Spigel, B., & Harrison, R. (2018). Toward a process theory of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, *12*(1), 151–168. https://doi.org/10.1002/sej.1268

Spigel, B., Kitagawa, F., & Mason, C. (2020a). A manifesto for researching entrepreneurial ecosystems. *Local Economy*, *35*(5), 482–495. https://doi.org/10.1177/0269094220959052

Spigel, B., Kitagawa, F., & Mason, C. (2020b). A manifesto for researching entrepreneurial ecosystems. *Local Economy*, *35*(5), 482–495. https://doi.org/10.1177/0269094220959052

Spigel, B., & Vinodrai, T. (2020). Meeting its Waterloo? Recycling in entrepreneurial ecosystems after anchor firm collapse. *Entrepreneurship & Regional Development*, 1–22. https://doi.org/10.1080/08985626.2020.1734262

Stam, E. (2014). The Dutch Entrepreneurial Ecosystem. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2473475

Stam, E. (2015). Entrepreneurial Ecosystems and Regional Policy: A Sympathetic Critique. *European Planning Studies*, *23*(9), 1759–1769. https://doi.org/10.1080/09654313.2015.1061484

Stam, E. (2018). Measuring Entrepreneurial Ecosystems. In A. O'Connor, E. Stam, F. Sussan & D. B. Audretsch (Eds.), *Entrepreneurial Ecosystems: Place-Based Transformations and Transitions* (pp. 173–197). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-63531-6_9

Stam, E., & Spigel, B. (2018). Entrepreneurial Ecosystems1. In R. Blackburn, D. De Clercq & J. Heinonen (Eds.), *The SAGE Handbook of Small Business and Entrepreneurship*

(pp. 407–421). 55 City Road: SAGE Publications Ltd. https://doi.org/10.4135/9781473984080

Stam, E., & van de Ven, A. (2019). Entrepreneurial ecosystem elements. *Small Business Economics*, *56*, 809–832. https://doi.org/10.1007/s11187-019-00270-6

Statistics South Africa. (2019). How large is the small business footprint? Retrieved from http://www.statssa.gov.za/?p=12264

Statistics South Africa. (2020a). GDP: Quantifying SA's economic performance in 2020. Retrieved from Department: Statistics of South Africa website: http://www.statssa.gov.za/?p=14074

Statistics South Africa. (2020b). How unequal is south africa. Retrieved from Statistics South Africa website: http://www.statssa.gov.za/?p=12930

Statistics South Africa. (2020c). Public-sector infrastructure investment falls for a third year. Retrieved from http://www.statssa.gov.za/?p=13729

Statistics South Africa. (2020d). *Quarterly Labour Force Survey (QLFS) – Q3:2020*. Republic of South Africa: Department: Statistics South Africa. Retrieved from Department: Statistics South Africa website: http://www.statssa.gov.za/?p=13765

Statistics South Africa. (2020e). *Quarterly Labour Force Survey (QLFS) Q1:2020*. Presented at the Republic of South Africa. Republic of South Africa. Retrieved from http://www.statssa.gov.za/publications/P0211/Presentation%20QLFS%20Q1_2020.pdf

Statistics South Africa. (2020f). *Quarterly Labour Force Survey Quarter 4: 2020* [Statistical Release P0211]. Republic of South Africa: Department: Statistics South Africa. Retrieved from Department: Statistics South Africa website: http://www.statssa.gov.za/publications/P0211/P02114thQuarter2020.pdf

Statistics South Africa. (2021). *Quarterly Labour Force Survey (QLFS) – Q1:2021*. Republic of South Africa: Department: Statistics South Africa. Retrieved from Department: Statistics South Africa website: http://www.statssa.gov.za/publications/P0211/Media%20release%20QLFS%20Q1%202021.pdf

Steenkamp, F., & Bhorat, H. (2016). *The Role of Skills and Education in predicting micro-enterprise performance*. Pretoria, South Africa: Human Sciences Research Council.

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Retrieved from Human Sciences Research Council website:
http://www.psetresearchrepository.dhet.gov.za/sites/default/files/documentfiles//The
%20Role%20of%20Skills%20and%20Education%20Steenkamp.pdf

Stimson, R., Stough, R. R., & Salazar, M. (2009). *Leadership and Institutions in Regional Endogenous Development*. Cheltenham, UK: Edward Elgar Publishing.
https://doi.org/10.4337/9781848449435

Stone, D. H. (1993). Design a questionnaire. *BMJ : British Medical Journal*, *307*(6914), 1264–1266.

Stuetzer, M., Audretsch, D. B., Obschonka, M., Gosling, S. D., Rentfrow, P. J., & Potter, J. (2018). Entrepreneurship culture, knowledge spillovers and the growth of regions. *Regional Studies*, *52*(5), 608–618. https://doi.org/10.1080/00343404.2017.1294251

Suddaby, R. (2006). From the editors: What grounded theory is not. *Academy of Management Journal*, *49*(4), 633–642. https://doi.org/10.5465/AMJ.2006.22083020

Sylvester, A., Tate, M., & Johnstone, D. (2013). Beyond synthesis: Re-presenting heterogeneous research literature. *Behaviour & Information Technology*, *32*(12), 1199–1215. https://doi.org/10.1080/0144929X.2011.624633

Tashakkori, A., & Teddle, C. (2003). *Handbook of mixed methods in social and behavioural research*. Thousand Oakes, California: SAGE Publications, Ltd.

Tashakkori, A., & Teddlie, C. (2008). Quality of inferences in mixed methods research: Calling for an integrative framework. In M.M. Bergman (Ed.), *Advances in Mixed Methods Research: Theories and Applications* (pp. 101–119). SAGE Publications.

Ter Wal, A. L. J., Alexy, O., Block, J., & Sandner, P. G. (2016). The Best of Both Worlds: The Benefits of Open-specialized and Closed-diverse Syndication Networks for New Ventures' Success. *Administrative Science Quarterly*, *61*(3), 393–432.
https://doi.org/10.1177/0001839216637849

The Small Enterprise Development Agency. (2020). *SMME Quarterly Update 1st Quarter Update 2020*. Republic of South Africa: The Small Enterprise Development Agency.

The Small Enterprise Development Agency. (2021). *SMME Quarterly Update 3rd Quarter 2020*. Republic of South Africa: The Small Enterprise Development Agency.
Retrieved from The Small Enterprise Development Agency website:

https://edse.org.za/wp-content/uploads/2021/04/SMME-Quarterly-2020-Q3_08032021.pdf

The World Bank. (2018). *Overcoming poverty and inequality in South Africa: An assessment of drivers, constraints and opportunities*. Retrieved from https://openknowledge.worldbank.org/handle/10986/29614 License: CC BY 3.0 IGO.

The World Bank. (2019a). Doing Business 2019: Training for Reform—Rwanda (English). Retrieved from Doing Business 2019 Washington, D.C. : World Bank Group website: http://documents.worldbank.org/curated/en/606921541165353422/Doing-Business-2019-Training-for-Reform-Rwanda

The World Bank. (2019b). *Typology of Small and Medium Enterprise Needs and Interventions*. World Bank Group. Retrieved from https://edse.org.za/wp-content/uploads/2020/07/Typology-of-Small-and-Medium-Enterprise-Needs-and-Interventions.pdf

The World Bank. (2019c). Urban Development. Retrieved from World Bank website: https://www.worldbank.org/en/topic/urbandevelopment/overview

The World Bank. (2020). GDP per capita growth (annual %)—South Africa. Retrieved from https://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG?locations=ZA

The World Bank. (2021). Total Early-Stage Entrepreneurial Activity (TEA), % Of 18-64 Population. Retrieved from TCdata360 website: https://tcdata360.worldbank.org/indicators/aps.ea.total?country=ZAF&indicator=3116&viz=line_chart&years=2005,2019&indicators=944&compareBy=region

Thomas, L. R., Nguyen, R., Teherani, A., Lucey, C. R., & Harleman, E. (2020). Designing Well-Being: Using Design Thinking to Engage Residents in Developing Well-Being Interventions. *Academic Medicine: Journal of the Association of American Medical Colleges*, *95*(7), 1038–1042. https://doi.org/10.1097/ACM.0000000000003243

Tian, L., Yu Yang, J., & Li, J. (2021). Does legal registration help or hurt? The effect of government corruption on resource acquisition by nascent ventures in an emerging economy. *Asia Pacific Journal of Management*, *38*, 547–572. https://doi.org/10.1007/s10490-019-09673-1

Tobin, G. A., & Begley, C. M. (2004). Methodological rigour within a qualitative framework. *Journal of Advanced Nursing*, *48*(4), 388–396. https://doi.org/10.1111/j.1365-2648.2004.03207.x

Tonelli, M., & Dalglish, C. (2012). *The Role of Transport Infrastructure in Facilitating the Survival and Growth of Micro Enterprises in Developing Economies*. Perth: ACERE International Entrepreneurship Research Exchange.

Torraco, R. J. (2016). Writing Integrative Reviews of the Literature: Methods and Purposes. *International Journal of Adult Vocational Education and Technology*, *7*(3), 62–70. https://doi.org/10.4018/IJAVET.2016070106

Trading Economics. (2019). Ease of Doing Business in Rwanda | 2008-2019 Data | 2020-2022 Forecast | Historical. Retrieved 22 September 2020, from https://tradingeconomics.com/rwanda/ease-of-doing-business

Trochim, W. M. K. (2020). Research Methods Knowledge Base. Retrieved 11 July 2021, from https://conjointly.com/kb/

Tülüce, N. S., & Doğan, İ. (2014). The Impact of Foreign Direct Investments on SMEs' Development. *Procedia - Social and Behavioral Sciences*, *150*, 107–115. https://doi.org/10.1016/j.sbspro.2014.09.012

Turner, D. (2010). Qualitative Interview Design: A Practical Guide for Novice Investigators. *The Qualitative Report*, *15*(3), 754–760. https://doi.org/10.46743/2160-3715/2010.1178

Unit for Statistical Consulation. (2020). *Introduction to Quantitative Research Methodology [Course Notes]*. Nelson Mandela University.

United Nations. (2015). Economic Growth. Retrieved 25 July 2021, from United Nations Sustainable Development website: https://www.un.org/sustainabledevelopment/economic-growth/

United Nations. (2018). *World urbanisation prospects 2018*. UN Department of economic and social affairs: population dynamics. Retrieved from UN Department of economic and social affairs: population dynamics. website: https://population.un.org/wup/

Vaismoradi, M., Jones, J., Turunen, H., & Snelgrove, S. (2016). Theme development in qualitative content analysis and thematic analysis. *Journal of Nursing Education and Practice*, *6*(5). https://doi.org/10.5430/jnep.v6n5p100

Van de Ven, A. H., & Garud, R. (1989). A framework for understanding the emergence of new industries. *Research on Technological Innovation, Management and Policy : A Research Annual*, *4*, 195–225.

Van De Ven, H. (1993). The development of an infrastructure for entrepreneurship. *Journal of Business Venturing*, *8*(3), 211–230. https://doi.org/10.1016/0883-9026(93)90028-4

van Rijnsoever, F. J. (2020). Meeting, mating, and intermediating: How incubators can overcome weak network problems in entrepreneurial ecosystems. *Research Policy*, *49*(1), 103884. https://doi.org/10.1016/j.respol.2019.103884

Vansteenkiste, J. (2020). *Introduction to qualitative research methodology*.

Vasileiou, K., Barnett, J., Thorpe, S., & Young, T. (2018). Characterising and justifying sample size sufficiency in interview-based studies: Systematic analysis of qualitative health research over a 15-year period. *BMC Medical Research Methodology*, *18*(1), 148. https://doi.org/10.1186/s12874-018-0594-7

Vedula, S., & Kim, P. H. (2019). Gimme shelter or fade away: The impact of regional entrepreneurial ecosystem quality on venture survival. *Industrial and Corporate Change*, *28*(4), 827–854. https://doi.org/10.1093/icc/dtz032

Venkataraman, S. (2004). Regional transformation through technological entrepreneurship. *Journal of Business Venturing*, *19*(1), 153–167. https://doi.org/10.1016/j.jbusvent.2003.04.001

Wegner, T. (2012). *Applied Business Statistics: Methods and Excel-Based Applications* (3rd ed.). Cape Town: Juta Academic.

Weiss, A., & Adams, M. J. (2010). Personality, Temperament, and Behavioral Syndromes. In G. F. Koob, M. L. Moal & R. F. Thompson (Eds.), *Encyclopedia of Behavioral Neuroscience* (pp. 47–53). Oxford: Academic Press. https://doi.org/10.1016/B978-0-08-045396-5.00117-2

Welter, F., Baker, T., & Wirsching, K. (2019). Three waves and counting: The rising tide of contextualization in entrepreneurship research. *Small Business Economics*, *52*(2), 319–330. https://doi.org/10.1007/s11187-018-0094-5

Western Libraries. (2021). Benefits of Using Citation Management Tools. Retrieved 26 February 2021, from http://www.lib.uwo.ca/tutorials/benefitsofusingcitationmanagementtools/index.html

Williamson, G. R. (2005). Illustrating triangulation in mixed-methods nursing research. *Nurse Research*, *12*, 7–18.

Williamson, O. (2000). The New Institutional Economics: Taking Stock, Looking Ahead. *Journal of Economic Literature*, *38*(3), 595–613.

Wilmot, K. (2019). *Enacting knowledge in dissertations: An exploratory analysis of doctoral writing using Legitimation Code Theory* (Unpublished PhD thesis, University of Sydney). University of Sydney, Australia. Retrieved from https://ses.library.usyd.edu.au/bitstream/handle/2123/20498/2019_Kirstin_Wilmot_Thesis.pdf?sequence=2&isAllowed=y

Wilson, C. (2014). Chapter 2—Semi-Structured Interviews. In C. Wilson (Ed.), *Interview Techniques for UX Practitioners* (pp. 23–41). Boston: Morgan Kaufmann. https://doi.org/10.1016/B978-0-12-410393-1.00002-8

Wilson, J. Q., & Kelling, G. L. (1982). Broken Windows. *Atlantic Monthly*, *249*(3), 29–38.

Wood, M. S., & McKinley, W. (2017). After the Venture: The Reproduction and Destruction of Entrepreneurial Opportunity. *Strategic Entrepreneurship Journal*, *11*(1), 18–35. https://doi.org/10.1002/sej.1238

Woolley, J. (2017). Infrastructure for Entrepreneurship. In J. Woolley (Ed.), *Oxford Research Encyclopedia of Business and Management*. Oxford University Press. https://doi.org/10.1093/acrefore/9780190224851.013.33

World Bank. (2020a). *Doing Business 2020: Comparing Business Regulation in 190 Economies*. Washington, DC: World Bank. https://doi.org/10.1596/978-1-4648-1440-2

World Bank. (2020b). World Bank SME Finance. Retrieved from World Bank website: https://www.worldbank.org/en/topic/smefinance

World Economic Forum. (2014). *Entrepreneurial Ecosystems and Around the Globe and Early-Stage Company Growth Dynamics – An Entrepreneurs Perspective*. Davos, Switzerland: World Economic Forum. Retrieved from World Economic Forum website: http://www3.weforum.org/docs/WEF_II_EntrepreneurialEcosystemsEarlyStageCompany_Report_2014.pdf

World Economic Forum. (2020). World Economic Forum Annual Meeting Davos 2020. Retrieved from World Economic Forum website: https://www.weforum.org/events/world-economic-forum-annual-meeting-2020/

World Economic Forum. (2021). *Global Gender Gap Report 2021*. Geneva, Switzerland: The World Economic Forum. Retrieved from The World Economic Forum website: http://www3.weforum.org/docs/WEF_GGGR_2021.pdf

World Economic Forum. (n.d.). *Section 2: Entrepreneurial Ecosystems: Similarities and Differences around the Globe*. The World Economic Forum. Retrieved from The World Economic Forum website: http://reports.weforum.org/entrepreneurial-ecosystems-around-the-globe-and-early-stage-company-growth-dynamics/section-2-entrepreneurial-ecosystems-similarities-and-differences-around-the-globe/?doing_wp_cron=1591431996.9045400619506835937500#read

World Population Review. (2021). Gini Coefficient By Country 2021. Retrieved 8 July 2021, from https://worldpopulationreview.com/country-rankings/gini-coefficient-by-country

Wu, L., Jin, F., & Hitt, L. M. (2017). Are All Spillovers Created Equal? A Network Perspective on Information Technology Labor Movements. *Management Science*, *64*(7), 3168–3186. https://doi.org/10.1287/mnsc.2017.2778

Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). Thousand Oakes, California: SAGE Publications.

Yong, A. G., & Pearce, S. (2013). A Beginner's Guide to Factor Analysis: Focusing on Exploratory Factor Analysis. *Tutorials in Quantitative Methods for Psychology*, *9*(2), 79–94.

Younas, A., Pedersen, M., & Durante, A. (2019). Characteristics of joint displays illustrating data integration in mixed-methods nursing studies. *Journal of Advanced Nursing*, *76*(2), 676–686. https://doi.org/10.1111/jan.14264

Zakaria, P. (2018). *To Tolerate or not Tolerate Bribery: Can a Lack of Control over Corruption Determine Tolerance Levels?* 2018 OECD Global anti-corruption and integrity forum. Retrieved from https://www.oecd.org/corruption/integrity-forum/academic-papers/Zakaria.pdf

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2012). *Business research methods* (9th ed.). Australia : South-Western: Cengage Learning.

Zlotin, B., & Zusman, A. (2013). Inventive Problem Solving (TRIZ), Theory. In E. G. Carayannis (Ed.), *Encyclopedia of Creativity, Invention, Innovation and Entrepreneurship* (pp. 1146–1160). New York, NY: Springer. https://doi.org/10.1007/978-1-4614-3858-8_36

APPENDIX A: Ethics Clearance

NELSON MANDELA
UNIVERSITY

Chairperson: Faculty R&E Committee
Faculty of Business and Economic Sciences
Tel. +27 (0)41 504 2906

Date: 1 November 2018
Ref: **H-18-BES-BS-039 [Approved]**
Contact person: Dr M Van Eyk

To: Prof M Cullen
                   Nelson Mandela University
                   Graduate School
                   Second Avenue Campus

Dear Prof Cullen,

PROJECT PROPOSAL: A MULTI-DIMENTIONAL ENTREPRENEURIAL ECOSYSTEM MODEL FOR NELSON MANDELA BAY (DBA)

PRP: Prof M Cullen
PI: Ms S Boucher

Your above-entitled application for ethics approval served at Fac R&E Committee.

We take pleasure in informing you that the application was approved by the Committee. However, please note that the approval is on condition that permission to conduct the study is also obtained from the other relevant individuals, parties, organisations and/or role players to which the study pertains.

The ethics clearance reference number is **H-18-BES-BS-039**, and is valid for three years. Please inform the Faculty R & E Committee, via the faculty representative, if any changes (particularly in the methodology) occur during this time.

Please inform your co-investigators of the outcome.

Yours sincerely

Dr M van Eyk
Faculty of Business and Economic Sciences

Change the World   PO Box 77000, Nelson Mandela University, Port Elizabeth, 6031, South Africa

APPENDIX B: Questionnaire

Informed Consent

Dear Participant,

You are invited to participate in a survey that aims to propose and evaluate a model for entrepreneurial ecosystems that may encourage entrepreneurship on a local level in a developing economy. The questions pertain to *Culture, Business Environment, Regulatory Framework, Finance, City Planning, Business Support, Entrepreneurial Intention* and *Human Capital*.

You must be over the age of 18 to participate and need to either

- Own a business, manage a business, work for a business (e.g., work for corporate, big business or multinational), or do business in Nelson Mandela Bay; and
- Fall into the following category: Start-up; Small, Medium and Micro-Enterprise (SMME); Corporate, Big Business or Multinational Enterprise (MNE).

It is very important for us to learn your opinions and it will take approximately 15 minutes to complete the questionnaire.

Please note that:

- Your participation is completely voluntary.
- You have the right to withdraw from the study at any stage.
- There are no foreseeable risks associated with this project.
- Your survey responses will be strictly anonymous and confidential.
- This information as well as the results of the survey will remain strictly confidential.
- Data from this research will be reported only in the aggregate.
- Your information will be coded and will remain confidential and will only be viewed by myself and my research supervisor.
- The information from this questionnaire may be used for conference presentations and publication in academic journals.

Thank you for taking time to consider participating in this study. If you have questions at any time about the survey or the procedures, you may contact Professor Margaret Cullen at margaret.cullen@mandela.ac.za. If you are interested in the results, you are more than welcome to contact Ms. Sasha Boucher by email at s203008529@mandela.ac.za. Thank you very much for your time and support.

Enterprises can be classified into different categories according to their size, for this purpose, different criteria may be used, but the most common is **number of people employed**, with the caveat of a start-up.

- **Start-up's** are simply businesses in the initial business stage. These companies are often initially financed by their founders as they attempt to capitalise on developing a product or service for which they believe there is a demand.
- **SMMEs** employ fewer than 250 people and are subdivided as follows:
  - small enterprises - 10 to 49 employees
  - medium enterprises - 50 to 249 employees
  - micro enterprises - fewer than 10 employees

- **Large (big business and MNEs)** enterprises employ 250 or more people. Albeit, MNEs conducts business in various countries with its subsidiaries and affiliates. MNEs possess considerable and wide human resources, finance, expertise and technology as well as enjoy substantial competitive advantage.

Do you own a business, manage a business, work for a business (e.g., work for corporate, big business or multinational), or do business in Nelson Mandela Bay?
1. Yes
2. No

Please indicate the category that best describes you.
1. Start-up
2. Micro-enterprise e.g., hawker
3. SME
4. Big Business, Corporate or MNE

What statement(s) best describes you before becoming an entrepreneur or small business owner?
1. I was a student
2. I worked full time at another company
3. I worked part-time at another company
4. I was retrenched
5. I was unemployed
6. I am still working

When did you start your business?
1. Underway
2. Within the last year
3. Within the last five years
4. More than five years ago

Please indicate the number of employees in your current business (including yourself).
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6-10
7. 10-15
8. 16-25
9. 26-50
10. 51-100
11. 101-200
12. 201+

Has your business scaled/grown in the past five years?
1. Yes, we have increased our number of employees
2. Yes, we have increased our revenue
3. Yes, we have expanded e.g. franchises
4. No

What sector does your business operate in?
1. Agriculture, hunting, forestry and fishing [A]
2. Mining and quarrying [B]
3. Manufacturing [C]
4. Electricity, gas, steam and air conditioning supply [D]
5. Water supply; sewerage, waste management and remediation activities [E]
6. Construction [F]
7. Wholesale and retail trade, repair of motor vehicles and motorcycles [G]
8. Transportation and storage [H]
9. Accommodation and food service activities [I]
10. Information and communication [J]
11. Financial and insurance activities [K]
12. Real estate activities [L]
13. Professional, scientific and technical activities [M]

14. Administrative and support service activities [N]
15. Public administration and defence; compulsory social security [O]
16. Education [P]
17. Human health and social work activities [Q]
18. Arts, entertainment and recreation [R]
19. Other service activities [S]
20. Activities of households as employers; undifferentiated activities of households for own use [T]
21. Activities of extraterritorial organizations and bodies [U]

Please indicate your gender.
1. Male
2. Female
3. N/A

Please indicate your age.
1. 18-25
2. 26-35
3. 36-45
4. 46-55
5. 56-65
6. 66+

Please indicate your race.
1. Asian
2. Black
3. Coloured
4. White
5. Indian
6. Other-Please indicate _____

Country of Birth
1. South Africa
2. Other: Please specify _____

Please indicate your level of education.
1. Less than matric
2. Matric
3. Diploma
4. Degree
5. Post Graduate Degree

In your opinion, to what degree has NMB developed an entrepreneurial ecosystem (EE)?

	Totally Disagree	Disagree	Neutral	Agree	Totally Agree
NMB has a flourishing EE.	❏	❏	❏	❏	❏
The EE in NMB works efficiently	❏	❏	❏	❏	❏
The EE in NMB encourages foreign direct investment.	❏	❏	❏	❏	❏
Entrepreneurs are connected with the EE	❏	❏	❏	❏	❏
The resources in NMB connect with the entrepreneurs. Resources include economic agencies that have a mandate to promote entrepreneurship.	❏	❏	❏	❏	❏

To what extent do you agree with the following statements. This question pertains to Culture:

	Totally Disagree	Disagree	Neutral	Agree	Totally Agree
The community supports entrepreneurship	❏	❏	❏	❏	❏
Businesses in the city support each other.	❏	❏	❏	❏	❏
The city supports female entrepreneurship.	❏	❏	❏	❏	❏
Entrepreneurship is seen as a good career choice.	❏	❏	❏	❏	❏
The city encourages and supports innovation.	❏	❏	❏	❏	❏
The city supports migrant entrepreneurs.	❏	❏	❏	❏	❏

Successful business owners act as mentors.	❏	❏	❏	❏	❏

In your opinion, to what degree are the following elements of the Business Environment an obstacle to the development of Entrepreneurship and the growth of SMMEs in the city?

	Very Severe Obstacle	Major Obstacle	Neutral	Minor Obstacle	No Obstacle
Political instability	❏	❏	❏	❏	❏
Bribery hinders the growth of business	❏	❏	❏	❏	❏
Corruption hinders the growth of businesses	❏	❏	❏	❏	❏
Crime hinders the growth of businesses	❏	❏	❏	❏	❏
Disorder hinders the growth of businesses e.g., strikes	❏	❏	❏	❏	❏
Professionals that act unethically affect the growth of businesses e.g., tax consultants that act unethically	❏	❏	❏	❏	❏

In your opinion, to what degree are the following elements of the Regulatory Framework an obstacle to the development of Entrepreneurship and the growth of SMMEs in the city?

	Very Severe Obstacle	Major Obstacle	Neutral	Minor Obstacle	No Obstacle
Government-generated red tape.	❏	❏	❏	❏	❏
B-BBEE codes	❏	❏	❏	❏	❏
Labour Laws	❏	❏	❏	❏	❏
Supply Chain requirements	❏	❏	❏	❏	❏
Procedure to open a business	❏	❏	❏	❏	❏
Dealing with the local municipality	❏	❏	❏	❏	❏
Cost of doing business e.g., cost of complying with tax requirements, regulatory burdens, electricity and fuel costs.	❏	❏	❏	❏	❏

To what extent do you agree with the following statements. This question pertains to Finance:

	Totally Disagree	Disagree	Neutral	Agree	Totally Agree
Access to finance can stimulate entrepreneurial activity.	❏	❏	❏	❏	❏
Entrepreneurs are aware of government agencies that assist with financing.	❏	❏	❏	❏	❏
It is easy to acquire finance from government agencies.	❏	❏	❏	❏	❏
Financial support from government agencies impacts the success of entrepreneurship.	❏	❏	❏	❏	❏
The commercial banks are willing to finance Entrepreneurs.	❏	❏	❏	❏	❏
It is easy to access finance as a registered business.	❏	❏	❏	❏	❏
Entrepreneurs have access to informal finance. e.g., family and friends.	❏	❏	❏	❏	❏
It is easy to access finance from venture capitalists, i.e., venture capital is a type of funding (start-up or growth equity from private investors, development finance from specialised financial institutions) for a new or growing business.	❏	❏	❏	❏	❏

To what extent do you agree with the following statements. This question pertains to City Planning.

	Totally Disagree	Disagree	Neutral	Agree	Totally Agree
NMB is inclusive, resource efficient and a good place to live, work, shop and play in.	❏	❏	❏	❏	❏

The current city spatial development has improved the socio-economic conditions of the residents.	❏	❏	❏	❏	❏
The physical infrastructure of the city is efficient. e.g., information and communication, utilities, roads, land, electricity, water and sewerage, transport or space.	❏	❏	❏	❏	❏
The service infrastructure of the city is efficient.	❏	❏	❏	❏	❏
The city infrastructure makes it easy to conduct business.	❏	❏	❏	❏	❏

To what extent do you agree with the following statements. This question pertains to Business Support Services, i.e., the quality of local services in NMB as perceived by entrepreneurs.

	Totally Disagree	Disagree	Neutral	Agree	Totally Agree
It is easy to access legal services in NMB.	❏	❏	❏	❏	❏
It is easy to access tax services in NMB.	❏	❏	❏	❏	❏
It is easy to access Incubators in NMB.	❏	❏	❏	❏	❏
It is easy to access competent business consultants in NMB.	❏	❏	❏	❏	❏
It is easy to access Education & Training programs in NMB.	❏	❏	❏	❏	❏

To what extent do you agree with the following statements. This question pertains to Entrepreneurial Intention within the city.

	Totally Disagree	Disagree	Neutral	Agree	Totally Agree
Enthusiasm towards entrepreneurship exists.	❏	❏	❏	❏	❏
The intention to develop business ideas exists.	❏	❏	❏	❏	❏
There is intention to start a business.	❏	❏	❏	❏	❏
There is intention to take over a family business.	❏	❏	❏	❏	❏
Individuals are willing to take risks.	❏	❏	❏	❏	❏
A fear of failure restricts people from starting their own business.	❏	❏	❏	❏	❏

To what extent do you agree with the following statements. This question pertains to Human Capital:

	Totally Disagree	Disagree	Neutral	Agree	Totally Agree
Businesses employ a high percentage of skilled labour.	❏	❏	❏	❏	❏
Businesses employ a high percentage of unskilled labour.	❏	❏	❏	❏	❏
Skilled labour is expensive.	❏	❏	❏	❏	❏
It is easy to acquire skilled labour.	❏	❏	❏	❏	❏
The youth/graduates have the right skills.	❏	❏	❏	❏	❏
B-BBEE is important.	❏	❏	❏	❏	❏
Skilled labour makes the business environment more competitive.	❏	❏	❏	❏	❏
There is a sufficient supply of top managers with the qualifications that businesses require	❏	❏	❏	❏	❏
There is a sufficient supply of scientists with the qualification's businesses require.	❏	❏	❏	❏	❏
There is a sufficient supply of engineers with the qualification's businesses require.	❏	❏	❏	❏	❏
There is a sufficient supply of artisans with the qualification's businesses require.	❏	❏	❏	❏	❏
Employment equity is important	❏	❏	❏	❏	❏

APPENDIX C: Semi-structured interview schedule

You fall into one or more of these categories: government, mentor, media, established businesses, knowledge institutions or service provider.
1. Yes
2. No

Please indicate your gender.
1. Male
2. Female
3. N/A

Please indicate your age.
1. 18-25
2. 26-35
3. 36-45
4. 46-55
5. 56-65
6. 66+

Please indicate your race.
1. Asian
2. Black
3. Coloured
4. White
5. Indian
6. Other _____

Country of Birth
1. South Africa
2. Other _____

In which department/section/area do you currently work?

How many years have you been active in your role/s?

OPEN ENDED QUESTIONS:

Overall Entrepreneurial Ecosystem

1. To what extent has NMB developed an entrepreneurial ecosystem? Considering efficiency as well.
2. Does the NMB culture encourage and celebrate entrepreneurship? Considering role models, mentors, social support for risk taking.
3. Are there visible entrepreneurial leaders in NMB?
4. To what extent is self-employment valued in NMB?
5. To what extent has NMB promoted a public image for entrepreneurship? Considering campaigns, programmes, encouraging contact with entrepreneurial role models.
6. In your opinion, are entrepreneurs connected with the EE?
7. To what extent do the networks of entrepreneurs provide an information flow? Considering distribution of knowledge, labour and capital.
8. Do economic development agents increase the entrepreneurial knowledge flow in NMB?
9. Are there entrepreneurial relations with academia and the research environment?
10. To what extent do public servants and economic development agents in NMB connect with entrepreneurs?
11. To what extent do the population of NMB demand local goods and services?

Formal institutions: Government and the Regulatory Framework standards.

1. To what extent do entrepreneurial policies support entrepreneurship? Considering conditions for entry and exit, freedom of establishment and trade, competition policy, the tax system, the level of corruption

2. To what extent are domestic suppliers of products being supported?
3. In your opinion, does the Preferential Procurement Act supports SMMEs?
4. How actively do change agents support entrepreneurs to access markets?
5. Following on 5, what are your perceptions surrounding entry for new entrepreneurial projects, and time to market of innovations?
6. It is easy to deal with the local municipality. Totally Disagree to Totally Agree. (Probe)
7. What are your thoughts regarding the cost of doing business?
8. To what extent do South African labour laws effect SMMEs?
9. To what extent do B-BBEE codes effect SMMEs?

The following questions pertain to City Planning linked to Infrastructure.

1. Does the NMBM City Planning support entrepreneurial development?
2. To what extent has the current city spatial development framework improved the socio-economic conditions of the NMB residents?
3. Is the physical infrastructure of the city efficient? e.g., information and communication, utilities, roads, land, electricity, water and sewerage, transport, or space.
4. Do you believe that the city exerts effort to develop the physical infrastructure (transportation and digital infrastructure)?

The following questions pertain to Business Support Services, i.e., the quality of local services in NMB offered towards local enterprise development.

1. Are there efficient business support services available in NMB?
2. Do NMBs public servants/economic development agents actively facilitate business support for local enterprise development
3. To what extent has the collaborations to promote NMBs local enterprise development been successful?
4. In your opinion, has the Business Support Services in NMB revealed measurable results in scaling entrepreneurs?
5. Do Business Support Services provide the networking opportunities for NMBs entrepreneurs?

Likert Scale Questions for cognitive probing

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*The Likert Scale Questions for **cognitive probing** use the statements from the questionnaire for the factors: Entrepreneurial Culture, Business Environment, Finance and Human Capital.*

Process for cognitive probing:

The author (interviewer) read the statement and asked the participants for their level of agreement. Before commencing with the 5-point Likert scale statements the author explained the scale and followed this by reading each level of agreement. Thereafter, the author would repeat the question and the response options on the Likert scale. The participant was then asked to indicate the most appropriate option on the scale. The author finally interviewed the participant about how they understood the statement and why they selected that response option.

APPENDIX D: Informed Consent

NELSON MANDELA
U N I V E R S I T Y

RESEARCHER'S DETAILS	
Title of the research project	A multi-dimensional entrepreneurial ecosystem model for Nelson Mandela Bay
Reference number	
Principal investigator (PI)	Miss Sasha Boucher
Address	Second (2nd) Avenue, Summerstrand, Port Elizabeth, South Africa, 6000.
Postal Code	6000
Contact details	s203008529@mandela.ac.za
Primary Responsible Person (PRP)	Professor Margaret Cullen (Supervisor)
PRP contact details	041 504 3772 or margaret.cullen@mandela.ac.za

A. DECLARATION BY OR ON BEHALF OF PARTICIPANT	
I, the participant and the undersigned	(full names)
ID number	
OR	
I, in my capacity as	(representative full names)
of the participant	(full names)
ID number	
Address (of participant)	

A.1 HEREBY CONFIRM AS FOLLOWS:	
I, the participant, was invited to participate in the above-mentioned research project	
that is being undertaken by	Sasha Boucher
from	Business and Economic Sciences Faculty
Of the Nelson Mandela University.	

THE FOLLOWING ASPECTS HAVE BEEN EXPLAINED TO ME, THE PARTICIPANT:		
2.1	**Aim:**	This research study aims to: *Propose and evaluate a multi-dimensional model for entrepreneurial ecosystems that may cultivate entrepreneurship on a local level for a developing economy*.
2.2	**Procedures:**	• Participation involves being interviewed by the principal investigator, Sasha Boucher. • The interview will last approximately 60 minutes and it will be recorded. • The interview will be recorded and a transcript will be produced. • You will be sent the transcript and given the opportunity to correct any factual errors. • The transcript of the interview will be analysed by the principal investigator, Sasha Boucher . • Access to the interview transcript will be limited to the principal investigator, Sasha Boucher and primary responsible person, Professor Margaret Cullen.

2.3	**Risks:**	• Whether or not you decide to participate in this research, there will be no negative impact on you.
		   o There are no direct risks to you if you participate in this study.
		   o There are no foreseeable risk, harm or discomfort to your mental and/or physical well-being.

2.4	**Possible benefits:**	There are no direct personal benefits or payments that you will receive by participating in this study.		
2.5	**Confidentiality:**	• I understand that the researcher will not identify me by name in any reports using information from this report (resulting reports), and that my confidentiality as a participant in this study will remain secure. • I can request a copy of the transcript of my interview and may make edits I feel necessary to ensure the effectiveness of any agreement made about confidentiality (see Section 2.2). • Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions. • I understand that disguised extracts from my interview may be quoted in the research thesis, conference presentations and published papers.		
2.6	**Data/Access to findings:**	• Access to the interview transcript will be limited to the principal investigator, Sasha Boucher and primary responsible person, Professor Margaret Cullen and any academic colleagues and researchers with whom they may collaborate as part of the research process . • Any summary interview content, or direct quotations from the interview, that are made available through academic publication or other academic outlets will be anonymised (for e.g. *Respondent 1* as a naming convention will be used) so that you cannot be identified, and care will be taken to ensure that other information in the interview that could identify yourself is not revealed. • The data will be stored for 5 years by the Nelson Mandela Business School • The data will be stored in a secured shared drive with access limited to the principal investigator, Sasha Boucher and primary responsible person, Professor Margaret Cullen.		
2.7	**Voluntary participation / refusal / discontinuation:**	My participation is voluntary	YES	NO
		My decision whether or not to participate will in no way affect my present or future care / employment / lifestyle	TRUE	FALSE

3.	**THE INFORMATION ABOVE WAS EXPLAINED TO ME/THE PARTICIPANT BY:**							
Sasha Boucher								

in	**Afrikaans**		**English**	x	**Xhosa**		**Other**	

and I am in command of this language, **or** it was satisfactorily translated to me by

N/A

I was given the opportunity to ask questions and all these questions were answered satisfactorily.

4.	No pressure was exerted on me to consent to participation and I understand that I may withdraw at any stage without penalisation.

5.	Participation in this study will not result in any additional cost to myself.

A.2	**I HEREBY VOLUNTARILY CONSENT TO PARTICIPATE IN THE ABOVE-MENTIONED PROJECT:**		
Signed/confirmed at		on	20
Signature of participant			

I hereby grant permission for the data generated from this research to be used in the researcher's publications on this topic	YES	NO

I grant permission under the following conditions:

I hereby grant permission for the research to be recorded and saved for purpose of review by the researcher, supervisor and ethics committee	YES	NO
I grant permission for the research recording to be used in presentations or documentation of this study.	YES	NO

	B. STATEMENT BY OR ON BEHALF OF INVESTIGATOR(S)						
I,	Sasha Boucher		declare that:				
1.	I have explained the information given in this document to		(name of patient/participant)				
	and / or his / her representative		(name of representative)				
2.	He / she was encouraged and given ample time to ask me any questions;						
3.	This conversation was conducted in	**Afrikaans**		**English**	x	**Xhosa**	**Other**

Signed/confirmed at		on	20
Signature of interviewer			

C.   IMPORTANT MESSAGE TO PARTICIPANT/REPRESENTATIVE OF PARTICIPANT

Dear participant/representative of the participant
Thank you for your/the participant's participation in this study. Should, at any time during the study:

- an emergency arise as a result of the research, or
- you require any further information with regard to the study, or
- the following occur

(indicate any circumstances which should be reported to the investigator)

Kindly contact	Professor Margaret Cullen
at telephone number	041 504 3772 or margaret.cullen@mandela.ac.za

APPENDIX E: Formal Letter for Interviews

- PO Box 77000 • Nelson Mandela University
- Port Elizabeth • 6031 • South Africa • www.mandela.ac.za
- South Africa• www.mandela.ac.za

NELSON MANDELA
UNIVERSITY

6001
Port Elizabeth
South Africa 6000

Re: Letter of request to participate in academic research study interview

Dear

You are formally invited to participate in an academic research study. The main theme of the study is to develop an understanding of the factors (and their relationship/network) that contribute to develop an entrepreneurial ecosystem. While the main research aim is to: [1]*Propose and evaluate a model for entrepreneurial ecosystems that may cultivate entrepreneurship on a local level for a developing economy*.

I am currently completing my Doctor of Business Administration (DBA) degree under the supervision of Professor. Margaret Cullen. It is necessary to complete a research thesis as part of my degree. The title of the thesis is [2]*"A multi-dimensional entrepreneurial ecosystem model for Nelson Mandela Bay, South Africa"*.

Your participation will involve being interviewed my me. Before this can happen, it will be required of you to provide written consent. The interview consent form must include your signature, date and initials to verify that you understand and agree to the conditions. This form has been attached and the conditions are stipulated therein.

You have the right to query concerns regarding the study at any time. Immediately report any new problems during the study, to the researcher and/or supervisor. The contact information of the researcher and supervisor are provided. Please feel free to call these numbers.

Furthermore, it is important that you are aware of the fact that the ethical integrity of the study has been approved by the Research Ethics Committee (Human) of the university. The REC-H consists of a group of independent experts that has the responsibility to ensure that the rights and welfare of participants in research are protected and that studies are conducted in an ethical manner. Studies cannot be conducted without REC-H's approval. Queries with regard to your rights as a research subject can be directed to the Research Ethics Committee (Human), Department of Research Capacity Development, PO Box 77000, Nelson Mandela University, Port Elizabeth, 6031.

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[1] The research aim changed
[2] The title of the thesis changed

1

If no one could assist you, you may write to: The Chairperson of the Faculty Postgraduate Studies Committee, PO Box 77000, Nelson Mandela University, Port Elizabeth, 6031.

Participation in research is completely voluntary. You are not obliged to take part in any research. You will incur no penalty and/or loss of benefits to which you may otherwise be entitled. If you do partake, you have the right to withdraw at any given time, during the study without penalty or loss of benefits. The study may be terminated at any time by the researcher, the sponsor or the Research Ethics Committee (Human). The results of the research study may be presented at scientific conferences or in specialist publications. This informed consent statement has been prepared in compliance with current statutory guidelines.

Yours sincerely

Miss. Sasha Boucher

Principal Investigator

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[1] Both the title and the aim were revised. These revisions were approved by the NMU Ethics.

APPENDIX F: Interview Sample Quotes

The interview data evidence sample quotes are available upon request. Due to space constraints the full document report is not included here. Below is a sample of the data evidence using Atlas.ti Report's function.

APPENDIX G: Turnitin Report

	Part 5	Part 4	Part 3	Part 2	Part 1		

Title	Start Date	Due Date	Post Date	Marks Available
DBA Thesis submission - Part 5	27 Aug 2018 - 10:50	31 Dec 2021 - 23:59	31 Dec 2021 - 10:50	100

🔄 Refresh Submissions

	Submission Title	Turnitin Paper ID	Submitted	Similarity	Grade	Overall Grade			
📄 View Digital Receipt	Thesis SBOUCHER	866278765	28/07/21, 14:07	15%	--	--	Submit Paper ☁	⬇	--

turnitin

Digital Receipt

This receipt acknowledges that Turnitin received your paper. Below you will find the receipt information regarding your submission.

The first page of your submissions is displayed below.

Submission author:	Sasha Marilyn Boucher
Assignment title:	DBA Thesis submission Part 5 (Moodle TT)
Submission title:	Thesis SBOUCHER
File name:	125_Sasha_Marilyn_Boucher_Thesis_SBOUCHER_28611_8629...
File size:	6.56M
Page count:	373
Word count:	127,630
Character count:	722,451
Submission date:	28-Jul-2021 02:07PM (UTC+0200)
Submission ID:	866278765