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Exploring the limiting issues inhibiting sustainability embeddedness in Denel

by

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I further declare that this dissertation is my own work and has not previously been submitted by me for examination at Unisa or for obtaining a qualification at another higher education institution.



08 May 2024

Signature

Date

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ABSTRACT

South African State-Owned Enterprises (SOEs) often face liquidity challenges, treasury bailouts, political cronyism, productivity inefficiencies, leadership deficiencies, and unsustainability. A review of recent literature revealed that there is a shortage of studies exploring the limiting issues inhibiting sustainability embeddedness within SOEs and the role of sustainable leadership in embedding sustainability in the South African context. Furthermore, sustainability embeddedness and its practical application have not been widely studied.

This research explores the limiting issues inhibiting sustainability embeddedness within the defence industry, more specifically in the Denel group, by conducting 12 semi-structured qualitative interviews. A thematic analysis of the data revealed six inhibitors to sustainability embeddedness, namely: political meddling, working in silos, beggarly communication, an uncondusive legal framework, corruption, and the decreasing budget of the Department of Defence; and six sustainable leadership roles, namely: educating stakeholders, adopting good organisational values, establishing inclusivity, practicing total quality management, clear communication and continuously improving organisational systems and resources investment. The study's findings revealed that sustainable leadership roles assist in addressing the limiting issues inhibiting sustainability embeddedness. Furthermore, sustainable leadership plays a critical role in embedding sustainability within the organisation. The study's findings are potentially transferable to other SOE's which could benefit from a better understanding of the inhibitors to sustainability embeddedness and the role of sustainable leadership in embedding sustainability.

Key words: sustainability, sustainability embeddedness, sustainable leadership, inhibitors to sustainability, sustainable leadership roles, state-owned enterprises.

KAKARETŠO

Dikgwebo tša Mmušo tša Afrika Borwa (diSOE) gantši di lebana le ditlhohlo tša likhwidithi, tlhakodišo ya ditšhelete, segwera dipolotiking, go se šome botse go tša tšweletšo, ditlhaelelo tša boetapele, le tlhokego ya tšwetšopele. Tshekatsheko ya dingwalo tša moragorago e utolotše gore go na le tlhaelelo ya dinyakišišo tša go nyakišiša ditaba tše di lekanyetšago tše di thibelago kakaretšo ya tšwetšopele ka gare ga diSOE le karolo ya boetapele bjo bo tšwetšegagopele mo go akaretšeng tšwetšopele ka gare ga maemo a Afrika Borwa. Go feta fao, kakaretšo ya tšwetšopele le tirišo ya yona ye e šomago ga se tša nyakišišwa ka boati.

Nyakišišo ye e nyakišiša ditaba tše di lekanyetšago tše di thibelago kakaretšo ya tšwetšopele ka gare ga intasteri ya tšhireletšo, kudukudu ka gare ga sehlopha sa Denel, ka go swara dipoledišano tše 12 tša khwalithethifi tše di rulagantšwego seripa. Tshekatsheko ya morero ya datha e utolotše dithibela tše tshela tša kakaretšo ya tšwetšopele, e lego: go tsena ditaba gare ga dipolotiki, go šoma ka botšhikanoši, kgokagano ya go kgopela, foreimiweke ya molao yeo e sa lokago, bomenetša, le tekanyetšo ye e fokotšegago ya Kgoro ya Tšhireletšo; le dikarolo tše tshela tša boetapele bja tšwetšegopele, e lego: go ruta bakgathatema, go amogela mekgwa ye mebotse ya mokgatlo, go hloma boakaretši bja bohle, go diragatša taolo ya boleng ka moka, kgokagano ye e kwagalago le go tšwela pele go kaonafatša ditshepedišo tša mokgatlo le peeletšo ya methopo. Dikutollo tša nyakišišo di utolotše gore dikarolo tša boetapele bjo bo tšwetšegagopele di thuša go rarolla ditaba tše di lekanyetšago tše di thibelago kakaretšo ya tšwetšopele. Go feta fao, boetapele bjo bo tšwetšegagopele bo kgatha tema ye bohlokwa go kakaretšo ya tšwetšopele ka gare ga mokgatlo. Dikutollo tša nyakišišo di na le kgonagalo ya go fetišetšwa go diSOE tše dingwe tše di ka holegago go tšwa go kwešišo ye kaone ya dithibela go ya go kakaretšo ya tšwetšopele le karolo ya boetapele bjo bo tšwetšegagopele mo go akaretšeng tšwetšopele.

Mantšu a bohlokwa: tšwetšopele, kakaretšo ya tšwetšopele, boetapele bjo bo tšwetšegagopele, dithibela tša tšwetšopele, dikarolo tša boetapele bjo bo tšwetšegagopele, dikgwebo tše di laolwago ke mmušo.

OKUCASHUNIWE

Amabhizinisi Kahulumeni eNingizimu Afrika (ama-SOE) avame ukubhekana nezinsalelo zokungabi namali, ukutakulwa ngezizimali, ukwenzelwa kwezopolitiki, ukungasebenzi kahle kwezokukhiqiza, ukuntuleka kwezobuholi, kanye nokungacaci kwezokusimama. Ukubuyekeza ekubhaleni nasekufundeni izincwadi kamuva nje kuveze ukuthi kunokwentuleka ekucwaningeni izinkinga eziphazamisa ukusimama kahle ngaphakathi kuma-SOE ngokunjalo neqhaza lobuholi obusebenza kahle ekusimamiseni isimo eNingizimu Afrika. Ngaphezu kwalokho, akukaze kucwaningwe kabanzi mayelana nokusimama okuhle kanye nokusebenza kwakho ngokubonakalayo.

Lolu cwaningo lubheka kabanzi izithiyo ezivimbela ukusimama okuhle emkhakheni wezokuvikela, ikakhulu kwa-*Denel group*, ngokwenza izinhlobo eziyi-12 ezimayelana nokuhlola iqophelo. Ukuhlaziywa kwemininingwane kuveze izivimbeli eziyisithupha ezithikameza ukusimama okuhle, nokuyilezi: ukugxambukela kwezopolitiki, ukusebenza ngawedwana, ukungaxhumani kahle, uhlaka lwezomthetho olungeluhle, inkohlakalo, kanye nokwehla kwesabelomali soMnyango Wezokuvikela; ngokunjalo nezinhla eziyisithupha zobuholi obusimeme, nokuyilezi: ababambiqhaza kwezemfundo, ukwamukela izimiso ezinhle zesikhungo, ukusungula ukuzibandakanya, ukwengamela amaqophelo aphelele, ukuxhumana okucacile kanye nokuqhubekisa ukuphuculwa kwezinhlelo zesikhungo kanjalo nokutshalwa kwezinsiza. Imiphumela yocwaningo iveze ukuthi iqhaza lobuholi obusimeme kahle liyasiza ekuxazululeni izinkinga ezivimbela ukusimama okuhle. Ngaphezu kwalokho, ubuholi obusimeme kahle budlala indima ebalulekile ekusimamiseni okuhle esikhungweni. Imiphumela yalolu cwaningo kungenzeka idluliselwe kwamanye ama-SOE angase azuze ekuqondeni kangcono izivimbelo ezithikameza ukusimama okuhle kanye nendima yobuholi obusimeme kahle.

Amagama amqoka: ukusimama, ukusimamisa okuhle, ubuholi obusimeme, izivimbeli zokusimamisa, iqhaza lobuholi obusimeme, amabhizinisi kahulumeni.

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LIST OF ABBREVIATIONS

Abbreviation	Definition
ATA	Applied Thematic Analysis
CSIR-DPSS	Council for Scientific and Industrial Research-Defence, Peace, Safety and Security
DOD	Department of Defence
DPE	Department of Public Enterprises
EXCO	Executive Committee
IDC	Industrial Development Corporation
IP	Intellectual Property
EBIT	Earnings Before Interest and Tax
ESG	Economic, Social and Governance
GDP	Gross Domestic Products
NCACC	National Conventional Arms Control Committee
NDIC	National Defence Industry Council
NDT	Non-Destructive Testing
LMT	Land Mobility Technology
OECD	Organisation for Economic Cooperation and Development
PFMA	Public Finance Management Act
POPIA	Protection of Personal Information Act
PMP	Pretoria Metal Pressings
ROI	Return on Investment
SAA	South African Airways
SANDF	South African National Defence Force
SANSA	South African National Space Agency
SABC	South African Broadcasting Commission
SAPO	South African Post Office
SDG	Sustainable Development Goal
SOE	State-owned enterprise
UN	United Nations

DEFINITION OF KEY TERMS

Key terms used in this research are defined as follows:

Term	Definition
Defence industry	Public and private companies that have a primary focus on the design, development, manufacture, and production or support of weapons, munitions, pyrotechnics, equipment systems, and other materials for the Defence Force, or for exports (South African Defence Industry Strategy, 2020; Defence Review, 2015;).
Denel	A South African state-owned, commercially driven enterprise and a strategic partner for defence innovation, aerospace, security, and other related defence technology solutions (Denel Group, 2019).
Inhibitors to sustainability	The constraints to successful sustainability embeddedness within the organisation's practices.
State-owned enterprises (SOEs)	Organisations that have the government as their majority shareholder (Matsiliza, 2017).
Sustainable leadership	Leadership that considers future generations by preserving the natural environment while promoting the social and economic factors.
Sustainable leadership role	A leadership role that is assumed when managers within the organisation have a clear understanding of what needs to be done to achieve the set sustainability targets (Kolzow, 2015).
Sustainability	The integration of the three pillars of sustainability — the social, environmental, and economic factors — in the running of the organisation.
Sustainability embeddedness	The integration of social, ecological, and economic factors into organisational plans and strategies to enhance sustainability (Trollman & Colwill, 2021; Elmaghrabi, 2014).

Transition	In the context of this study, transition reflects the psychological process that organisational members experience to come to terms with new sustainable ways of doing things.
Transitioning into a sustainable organisation	Transitioning into a sustainable organisation involves organisational change and a greater focus on all three pillars (social, environmental and economic) (Pallapu, 2022).

CHAPTER 1: RESEARCH ORIENTATION

Figure 1.1 provides a road map for guiding Chapter 1.

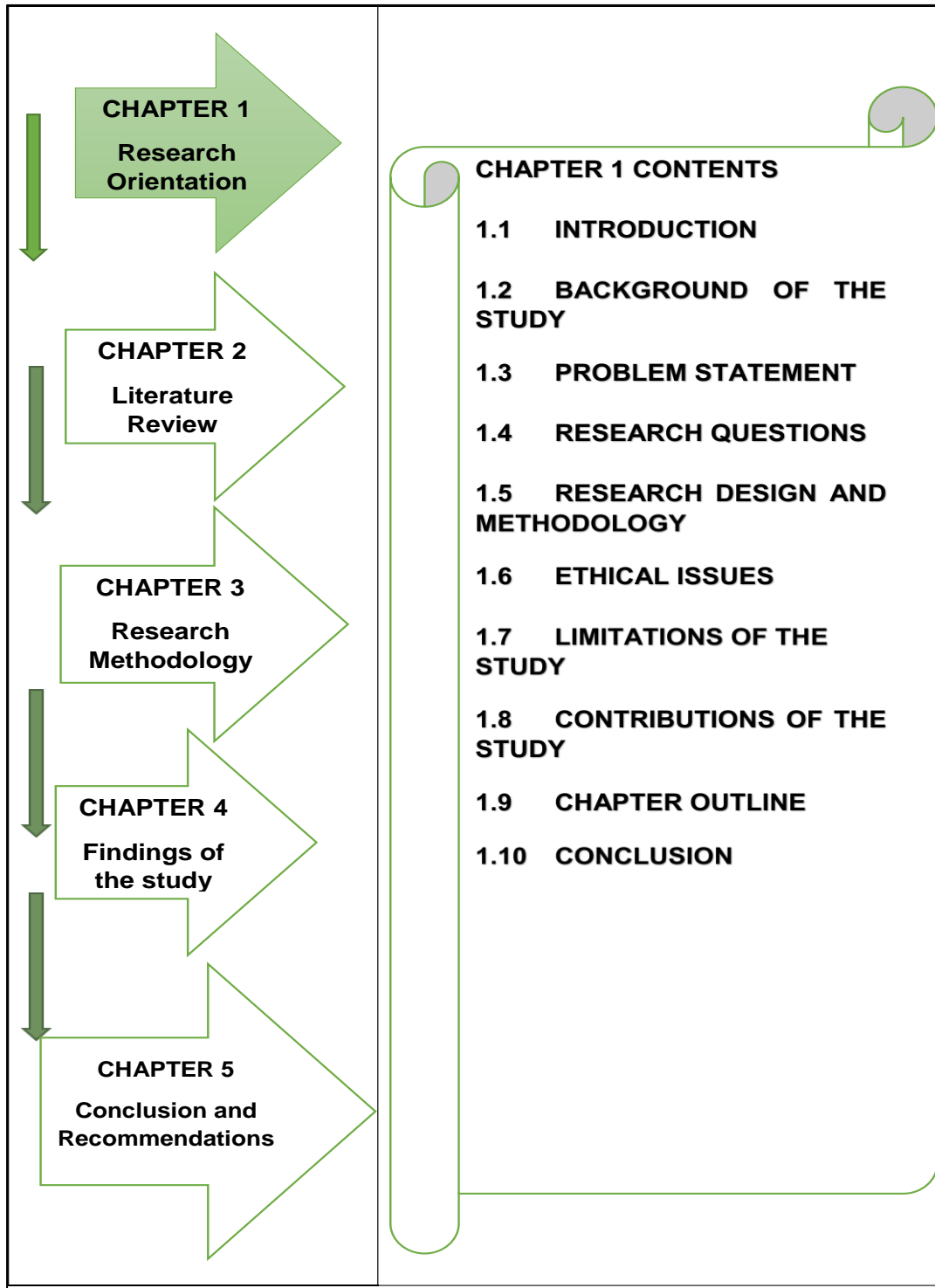


Figure 1.1: Chapter 1 Structure

Source: Own Compilation

1.1 Introduction

Sustainability is about implementing sustainable organisational plans to secure an organisation's future operations. For an organisation to remain sustainable, leaders should not only focus on profits, but also on the two other pillars of sustainability, namely, 'people' and 'planet'. These three pillars are also referred to as the triple-bottom-line (Galpin, Whittington & Bell, 2015). According to Breesam and Kadhim Jawad (2021), the triple-bottom-line entails taking care of the social, environmental, and economic factors to the same extent as organisations do with profits. Organisations are increasingly required to embed sustainability into their strategies in order to survive and remain sustainable in the long term. Sustainability embeddedness is described as the ingraining of sustainable practices into the daily operations of the business, which should be reflected in the performance and future resilience of the enterprise (Le Roux & Pretorius, 2016). However, there are challenges that constrain sustainability embeddedness (Qhobosheane, 2018) and its advancement within organisations. These challenges continue to impact organisations negatively by limiting the ability to achieve sustainability embeddedness. To address the challenges to sustainability embeddedness, organisations require sustainable leadership that can assist to advance sustainability objectives. Sustainable leadership remains a key factor to embed and drive sustainability within the organisation and advance sustainability objectives (Liao, 2022). Leading organisations toward achieving corporate sustainability is key to addressing organisational challenges (Thakhathi, 2016). Organisations do not operate in isolation and are affected by issues pertaining to sustainability and sustainable leadership for their continued existence. Similarly, State-Owned Enterprises (SOEs) are also affected by challenges to sustainability and unsustainable leadership for their survival and sustainable operations (Mashamaite & Raseala, 2018).

SOEs are experiencing challenges in achieving their strategic and developmental goals. SOEs in South Africa face a "leadership conundrum", which has eroded the public's confidence in these institutions' ability to self-sustain and help drive economic growth (Sithomola, 2019:63). This view paints an even darker picture, which, according to PricewaterhouseCoopers' report (2020), could result in an extended recessionary outlook for the South African economy if the distressed SOEs are not

turned around. Currently, SOEs face a challenge of lack of sustainable leadership, making sustained revenue generation even more difficult to achieve (Mashamaite & Raseala, 2018). Le Roux and Pretorius (2016:3) define sustainable leadership as:

... those leaders that seek to instil behaviours, practices, and systems that create enduring value for all stakeholders of the organisation including the investors, the environment, other species, future generations, and the community.

The need for sustainable leadership to not only turn these enterprises around, but also ensure sustainability, is of critical importance to South African economic growth.

SOEs in South Africa, as business enterprises, are required to generate revenue to fund their own operations. However, these SOEs have received massive government funding bailouts, both in the past and recently (National and Provincial Audit Report, 2016-17). This well-publicised financial strain underscores the financial instability and challenges of SOEs such as South African Airways (SAA), the South African Post Office (SAPO), and the South African Broadcasting Commission (SABC) (National and Provincial Audit Report, 2016-17). In his 2019 Medium-Term Budget Statement, the Finance Minister announced that the bailout for SAA, SABC, Denel Group and South African Express amounted to R10.8 billion. Continuous government funding also signals a lack of sustainable leadership for SOEs in South Africa and the need for intervention to address problems associated with some of these enterprises.

This study recognises the unique challenges faced by SOEs. It is grounded in the need for a better understanding and exploration of the limiting issues inhibiting sustainability embeddedness within SOEs. Additionally, it examines the role of sustainable leadership in embedding sustainability.

This study focused on the Denel Group as an SOE. According to the Denel Annual Report (2018/19), there has been a 36% reduction in revenue and an over-indebtedness of R3.4 billion on the balance sheet compared to the year 2017/18. The company is currently facing sustainability challenges. Denel employs around 3968 employees, and its gross domestic products (GDP) contribution is at 0,9% (Denel Annual Report, 2019). Losing an SOE like Denel could negatively affect the defence industry and the South African economy in terms of job losses. There is a need for

ensuring sustainability embeddedness at Denel. Therefore, the aim of this study was to explore the limiting issues inhibiting sustainability embeddedness at Denel as a SOE. The study will benefit leaders in addressing challenges associated with the sustainability and sustainable leadership of SOEs. The findings could assist the organisation whilst simultaneously assisting other SOE's to learn from the study.

The following section will discuss the background of the study, the problem statement, and the research questions. Thereafter, the proposed research design and methodology, ethical considerations, and limitations are provided.

1.2 Background of the study

The concept of sustainability has roots that can be traced back thousands of years (Purvis et al., 2019; Hugé, Wright, Verbruggen & Waas, 2011). According to Pearce and Dimovski (2015:276), sustainability is defined as “the enduring challenge to achieve long-term success while having a positive impact on the society and the environment in which the organisation lives and works”. Le Roux and Pretorius (2016:3) define sustainability embeddedness as:

... the instilling of sustainability into practices (behaviours, actions, beliefs, and attitudes) at every level so that they become deeply engrained in the organisational existence and an integral part of how the organisation ensures its future resilience and performance, eventually leading to a change of organisation's culture towards the long-term sustainability of profit, people and planet.

Sustainability focuses on the prolonged operation of the organisation with the aim of lasting in the long-term. Furthermore, Ojo and Oluwatayo (2016:523) define sustainability as “the utilisation of resources in order to achieve improvements in the economic outcomes of components of the economy without jeopardising access of future generation”. Similarly, Dartey-Baah (2014) describes sustainability as creating both social and economic contributions. According to the above definitions, organisations should utilise resources in a way that benefits both the organisation and the environment in which they operate, to enhance growth prospects in the economy.

For organisations to be competitive, their sustainability strategies have to respond to the heartbeat of changing business times relative to long-term sustainability (Dawson & Carlsson, 2023; Nwagbara & Reid, 2013). For the purpose of this study, sustainability is defined as the integration of the three pillars of sustainability, the social, environmental, and economic factors, in the running of the organisation (Ozili, 2022; Purvis, Mao & Robinson, 2019). Moreover, SOEs are also required to operate sustainably in order to achieve their sustainability objectives.

SOEs remain a catalyst for economic growth, societal improvements, and job creation mechanism of countries globally (Kikeri, 2018). This means that embedding sustainability into SOEs is vital for a country's economy. The sustainability of SOEs in a developing country is important for economic growth, sustainable development, and poverty alleviation (Madumi, 2018). While this underscores the importance of state owned-enterprises, the underperformance of SOEs in South Africa, such as SABC, SAA, and Eskom, is a well-known phenomenon, and these enterprises continue to receive funding from the government (Madumi, 2018). Furthermore, the underperformance of SOEs also surface within the African context. According to Limbo (2019), many African SOEs have a long history of poor performance dating back to 1979, due to socio-economic circumstances adopted at the time, as well as leadership challenges. This study focuses on Denel as the SOE within the defence industry, and also presents an opportunity for the findings to be transferable to other similar context outside the borders of South Africa.

According to the South African Defence Industry Strategy (2020), the defence industry can play a crucial role in expanding and developing the national skill base, furthering national industrialisation policies, generating foreign currency earnings from export related services, and creating employment. The Defence Review (2015) describes the defence industry as encompassing both public and private companies with a primary focus on the design, development, manufacture, production, or support of weapons, munitions, pyrotechnics, equipment systems, and other materials for the Defence Force or for exports. The defence industry consists of the following SOEs: Armscor, CSIR-DPSS (Council for Scientific and Industrial Research-Defence, Peace, Safety and Security), and Denel.

Armcor is an SOE responsible for defence acquisition in compliance with defence material, and remains an intelligent buyer within the defence industry (Defence review, 2015). This SOE also conducts, contracts, and coordinates research and innovation to advise the Defence Force and local industry. On the other hand, CSIR-DPSS pursues product development opportunities that enhance capabilities in the industry and the broader national system of innovation, further demonstrating local manufacturing capabilities (Defence review, 2015). CSIR-DPSS develops technology to a level of readiness to be absorbed by industry and used in further research and development. According to the Denel Group (2019), Denel is a South African state-owned, commercially driven enterprise and a strategic partner for defence innovation, aerospace, security, and other related defence technology solutions. Denel is divided into the following sections: Denel Aeronautics, Denel Dynamics, Denel Land Systems, Denel Vehicle Systems, Denel Overberg Test Range, Denel Pretoria Metal Pressings, Denel Sovereign Security Solutions, and Denel SOC Ltd., which is a state-owned company. Based on the narrative presented in the Denel Group 2019 report, the board observes that Denel faced challenges in the preceding years (2016-2018), which were reported as: (1) poor inventory and cash management, (2) unprofitable sales and loss of contracts, (3) higher costs coupled with declining revenue, (4) a lack of financial discipline, and (5) poor governance, mismanagement, and general corruption (Denel Group, 2019). The performance of many SOEs remains in turmoil because of poor corporate governance and lack of sustainable leadership (Mashamaite & Raseala, 2018). Mustapha, Kruss and Ralphs (2018), argue that it is essential for researchers to conduct an in-depth case study on the operations and sustainability of SOEs. In order to bridge this gap, this study conducted a case study on Denel.

This section explored the limiting issues inhibiting sustainability embeddedness at the SOE, Denel. The following section will provide the study's problem statement.

1.3 Problem statement

As a result of the various challenges faced by Denel (treasury bailouts, political cronyism, unstable leadership structures, lack of accountability, leadership deficiencies and unsustainability) (Sithomola, 2019; Mustapha et al., 2018; Qhobosheane, 2018), this SOE continues to face liquidity challenges due to various

sustainability constraints. Studies exploring the limiting issues inhibiting sustainability embeddedness within SOEs and the role of sustainable leadership in embedding sustainability are lacking (Madumi, 2018; Mashamaite & Raseala, 2018; Thakhathi, 2016). Additionally, little is known about the limiting issues inhibiting sustainability embeddedness in SOEs within the South African defence sector. If this situation is left under-researched and unresolved, South African SOEs will remain in distress and continue to affect the economy negatively. When SOEs are run sustainably, they have the potential to be a vehicle for future industries and for building sustainable growth through natural resources. A study on the defence industry could contribute towards strengthening economic growth and development, and accelerate job creation for the country while advancing sustainability embeddedness (Matsiliza, 2017). This study therefore sought to contribute to literature by offering a better understanding of the limiting issues inhibiting sustainability embeddedness in an SOE (Denel), and the role of sustainable leadership within the context of the South African Defence industry.

The following section will outline the research questions for this study.

1.4 Research questions

To address the problem statement, two research questions were set. Given that the research was qualitative in nature, research questions were outlined to assist in answering the research problem (Kross & Giust, 2019).

1.4.1 First research question

- 1) What are the limiting issues inhibiting sustainability embeddedness in Denel?

1.4.2 Second research question

- 2) What is the role of sustainable leadership in addressing the limiting issues and in embedding sustainability in Denel?

Having outlined the research questions in this section, the following section will discuss the research design and methodology utilised for the study.

1.5 Research design and methodology

In this section the following subsections will be discussed, research design, research methodology, and qualitative data analysis.

1.5.1 Research design

According to Van Zyl (2014:379), research design refers to the “method and structure of an investigation chosen to conduct data collection and analysis”. This study followed a social constructivism research philosophy. Social constructivism refers to exploring the case through the meanings and perspectives of multiple participants (Yin, 2018). Social constructivism is a soft and more subjective way of interpreting data (Yin, 2018), and this philosophy informed the qualitative approach that was adopted. This study interpreted meanings ascribed to the role of sustainable leadership in embedding sustainability in SOEs within the South African defence industry context. One advantage of social constructivism is that qualitative research areas such as cross-cultural differences, ethics, leadership, and analysis of factors affecting leadership can be studied in great depth (Yin, 2018). This study therefore benefited from the stated advantage by allowing an in-depth analysis of the situation under research. Social constructivism, which is associated with an interpretivist approach, requires the researcher to interpret elements of the study, thus social constructivism integrates human interests into the study (Yin, 2018).

The approach employed encompassed both inductive and deductive reasoning. According to Yin (2018), the inductive approach starts by seeking patterns in a set of empirical observations and then theorising based on those patterns, while the deductive approach starts with a theory or hypothesis and then tests it through data collection and observation (Woiceshyn & Daellenbach, 2018). The researcher made observations, sought patterns in the observations made, and then theorised based on the patterns, while also testing the theory through data gathering. According to Woiceshyn and Daellenbach (2018) and Perry and Jensen (2001), both inductive and deductive approaches are complementary to one another and can be used together in one study. Furthermore, inductive reasoning is aimed at developing a theory while deductive reasoning test the theory.

For this study, a qualitative research approach was followed, and the specific research design was a single case study. The researcher required 'rich' data in order to answer the research questions, and as such, a qualitative design was followed to enable deep data gathering through in-depth interviews. Furthermore, qualitative research allowed capturing the in-depth complexity and richness of the situation under study (Arino, Lebaron & Hulliken, 2016). An in-depth investigation was conducted to gain better insight into the limiting issues inhibiting sustainability embeddedness in Denel and the role of sustainable leadership in embedding sustainability. Case studies can yield a great deal of detail and insight (Van Zyl, 2014). A case study is an in-depth investigation of a group or community for research purposes (Yin, 2018). According to Yin (2018), one of the critically important sources of data evidence for a case study is interviews, while Igwenagu (2016) describes a case study as a method that attempts to describe relationships existing in reality. Case study interviews provide a guided conversation instead of structured questions, and the types of questions are fluid rather than rigid (Yin, 2018). This offers motivation for the use of this type of interviews.

1.5.2 Research methodology

In this section participant selection and data gathering, including trustworthiness considerations, are discussed.

1.5.2.1 Participants' selection

The participants for this study were executives and senior managers at different Denel branches located in Pretoria and Centurion in the Gauteng province of South Africa who met the inclusion and exclusion criteria. Pretoria and Centurion are the headquarters of Denel branches and that is where the top level managers' offices are located. Sampling was purposively done with executives and senior management from Denel in South Africa to facilitate rich data gathering. Executives and senior managers (top level managers) are considered as information rich participants since they possess in-depth knowledge of the organisation's crucial strategic and sustainability directives (Vuchkovski, Zalaznik, Mitređa & Pfajfar, 2023). Based on the study by Guedes and DA Conceição (2018), top level managers play a key role in sustainable

decision making and progress regarding the successful direction of the organisation. Furthermore, top level managers are the mirror of the organisation and their characteristics influence how information is communicated to stakeholders. Top managers represents executives and senior managers of the organisation who make important strategic decisions regarding the organisation's growth by devising working strategies (Sohiba & Halimovna, 2023). The total number of executives and senior managers were 67 across all South African branches (see Annexure E) (Denel Group, 2020).

This study employed a nonprobability sampling technique for the study. According to Van Zyl (2014), nonprobability sampling is a technique where the odds of any member being selected for a sample cannot be calculated. In this study, potential participants did not have an equal or independent chance of being selected since the researcher was not able to visit all branches. Therefore, nonprobability sampling was appropriate. Purposeful sampling was used as the method of sampling. According to Lewis (2015), purposeful sampling involves intentionally drawing the sample from part of the population that can best inform the researcher about the problem under investigation. In this study, Denel's executives and senior management from Pretoria and Centurion were purposively selected, allowing for in-depth data gathering. Executives and senior management were selected based on the fact that they are the individuals tasked with ensuring the sustainability of the SOE. In qualitative research, smaller sample sizes are utilised to acquire valuable information for understanding the complexity, depth, variation or context surrounding a phenomenon under study (Gentles, Charles, Ploeg & McKibbon, 2015). According to Marshall et al. (2013:20) "single case studies should generally contain 15 to 30 interviews". In this study, 20 participants were purposively selected from the executives and senior managers of Denel. The sample size for this study was determined by data saturation. According to Guest, Bunce, and Johnson (2006), during interview sessions, most themes are collected when the researcher reaches 12 participants. The list of executives and senior managers was obtained from the gatekeeper to purposively select the participants. The gatekeeper was approached for authorisation to conduct the study and permission was granted. Participants were selected from the following Denel branches: Denel Dynamics (Centurion), Denel Lyttelton Campus (Centurion), Denel Mechem (Centurion), Denel Land Systems

(Centurion), and Denel PMP (main campus) (Pretoria). These branches were accessed with the permission from the organisation.

1.5.2.2 Data gathering

Data gathering was done through semi-structured interviews. The interview questions (that can be seen in Annexure F) helped with explaining, better understanding, and exploring the research subject, opinions, behaviour, experiences and phenomenon under investigation (Cornelissen, 2017). Due to the executives and senior managers' busy schedules, interviews were conducted virtually using Microsoft Teams. Virtual interviews saved the costs of travelling and allowed the participants to engage in interviews at a time and place convenient to them (De Villiers, Farooq & Molinari, 2022). The language used during the interviews was English. Each interview took approximately 60 minutes to conduct. The draft interview guide was prepared based on the research questions, research problem, the literature reviewed, and in consultation with the supervisors. The interviews were conducted one at a time and continued until saturation was reached. The researcher prepared an interview guide for both himself and the participants to facilitate the interview process. The interview guide was prepared based on the literature study. The interview guide included the information sheet (see Annexure C) which introduced the participants to the current study. The information sheet also reminded the participants about the context and aim of the study. The interviews were recorded on Microsoft Teams with the permission of the participants, whereafter they were transcribed with the assistance of a professional transcriber. A confidentiality agreement (see Annexure G) between the researcher and the transcriber was completed to ensure participants' data protection.

1.5.2.2.1 Trustworthiness

The basis for trustworthy materials is based on the constant comparative method of analysis that grounded theory deploys, comparing incidents that are applicable to categories (integrating categories and properties) (Flick, 2014). Trustworthiness is the quality of being reliable. According to Flick (2014:576), "trustworthiness is divided into; credibility, transferability, dependability and confirmability". A detailed discussion on trustworthiness is provided in Chapter 3.

1.5.3 Qualitative data analysis

Qualitative data analysis aims to uncover new insights about the phenomenon being studied (Yin, 2018). This means that the researcher searches for patterns in data recurrent behaviours. Although there is no single way to analyse and interpret qualitative data, the researcher was guided by concepts and expressions used by the participants (Yin, 2018). The method that was appropriate for this study was a thematic analysis. According to Flick (2014), thematic analysis is a method that identifies, analyses, and interprets patterns within qualitative data. Thematic analysis enables researchers to explore themes across a whole data set rather than focusing solely on an individual interview (Flick, 2014). The recorded interviews were transcribed by a professional transcriber in accordance with the University of South Africa (Unisa)'s institutional research ethics standard. In this study, thematic analysis was performed on the transcribed data from the mass Word database created by the transcriber. The researcher conducted a data quality check and utilised Atlas.ti version 23 software to analyse and interpret the data.

1.6 Ethical issues

The aim of ethical research is to avoid causing harm to participants, while deriving valuable insights or benefits from their involvement in an ethical manner (Lawrence, 2019; Walliman, 2011). The relevant procedures to obtain ethical clearance were properly followed, and ethical clearance was obtained from Unisa's Ethical Clearance Committee (see Annexure B). Permission was sought from the SOE (Denel) to conduct the study (see Annexure A).

Participation for all participants was voluntary, and the required consent was obtained from the participants prior to the study (Van Zyl, 2014). Participants were not exposed to harm in any way and protection was provided at all times. The researcher was responsible for all safety measures during the course of study, in adherence with Unisa's ethical policy. Participants' dignity was respected at all times during the research. In addition, their privacy was ensured and the information obtained from them was protected at all times. There was an adequate level of confidentiality for the

data collected during research (Van Zyl, 2014). Senior managers and executives are considered top managers for the organisation. They are committed to the organisation and have busy schedules. Therefore, this study conducted online virtual interviews at a time that was convenient for each of the senior managers and executives (De Villiers, Farooq & Molinari, 2022). All forms of communication in relation to the research were carried out with honesty and transparency (Walliman, 2011). Moreover, this study complied with Unisa's research policy on ethics. The Unisa policy guidelines were complied with at all times to ensure legitimacy.

1.7 Limitations of the study

The following limitations were identified: (1) This study was a single case study at one SOE (Denel) within one industry (defence), and did not extend to other industries and or sectors. Therefore, generalisations cannot be drawn from the findings and conclusions of the study. (2) The study followed a qualitative research methodology which was limited to data gathering as determined by saturation point. Participants included only top-level managers (as per the inclusion and exclusion criteria outlined in section 3.9, table 3.2) employed at the SOE, and interviews served as the primary source of data.

1.8 Contribution of the study

This study contributes to the research body of knowledge by exploring the limiting issues inhibiting sustainability embeddedness at Denel in the South African Defence industry. The study explored the lack of sustainability of SOEs. The results can benefit different leaders by addressing challenges associated with sustainability of SOEs. Finally, the study provides information relating to the limiting issues inhibiting sustainability embeddedness and the roles of sustainable leadership in addressing the limiting issues.

1.9 Chapter outline

This section presents the chapter layout of this dissertation, including a description of the contents for each chapter.

1.9.1 Chapter 1 – Introduction

This chapter outlines the primary and secondary objectives of the study. In this chapter, the aim of the study is introduced. The background of the study along with historical information pertaining to the study is discussed. The importance and contribution of the study is also explained. The problem statement, research objectives, and an indication of the research methodology are outlined in this chapter.

1.9.2 Chapter 2 – Literature review

In this chapter, the researcher elaborates on the discussions in previous research, as articulated by different authors in articles, along with an exploration of the theoretical framework. Different headings and subheadings that address specific study topics are also presented in this chapter. Additionally, differing views of authors is highlighted and, contradictions and correspondence will be examined.

1.9.3 Chapter 3 – Research methodology

In this chapter, the detailed discussion on the design and methodology adopted is explored. The sampling population, sampling technique, and sample size is discussed and motivated. The data gathering and the research instrument used is identified and motivated in this chapter as well as the data analysis method and software used. A discussion regarding ethical issues is also provided in this chapter.

1.9.4 Chapter 4 - Findings of the study

This chapter addresses the results of the study. The results obtained are linked to the literature review and a comparison with current results is presented to enable conclusions to be drawn.

1.9.5 Chapter 5 - Conclusion and recommendations

This chapter concludes with a summary of the findings, limitations, and recommendations. The results are related to the study objectives in order to determine whether these were adequately addressed.

1.10 Conclusion

This chapter provided an introduction and discussed the background to the study. The chapter introduced the problem statement and outlined the research questions of the study. In addition, the research design and methodology were highlighted and explored by discussing a qualitative research methodology and adopting a single case study design. Furthermore, ethical issues, limitations of the study, and contributions were highlighted. The chapter concluded by providing chapter outlines of the dissertation.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter aims to position the study as presented in Chapter 1, which is to explore the limiting issues inhibiting sustainability embeddedness in a state-owned enterprise (SOE). The following roadmap will guide the literature review discussions in Chapter 2:

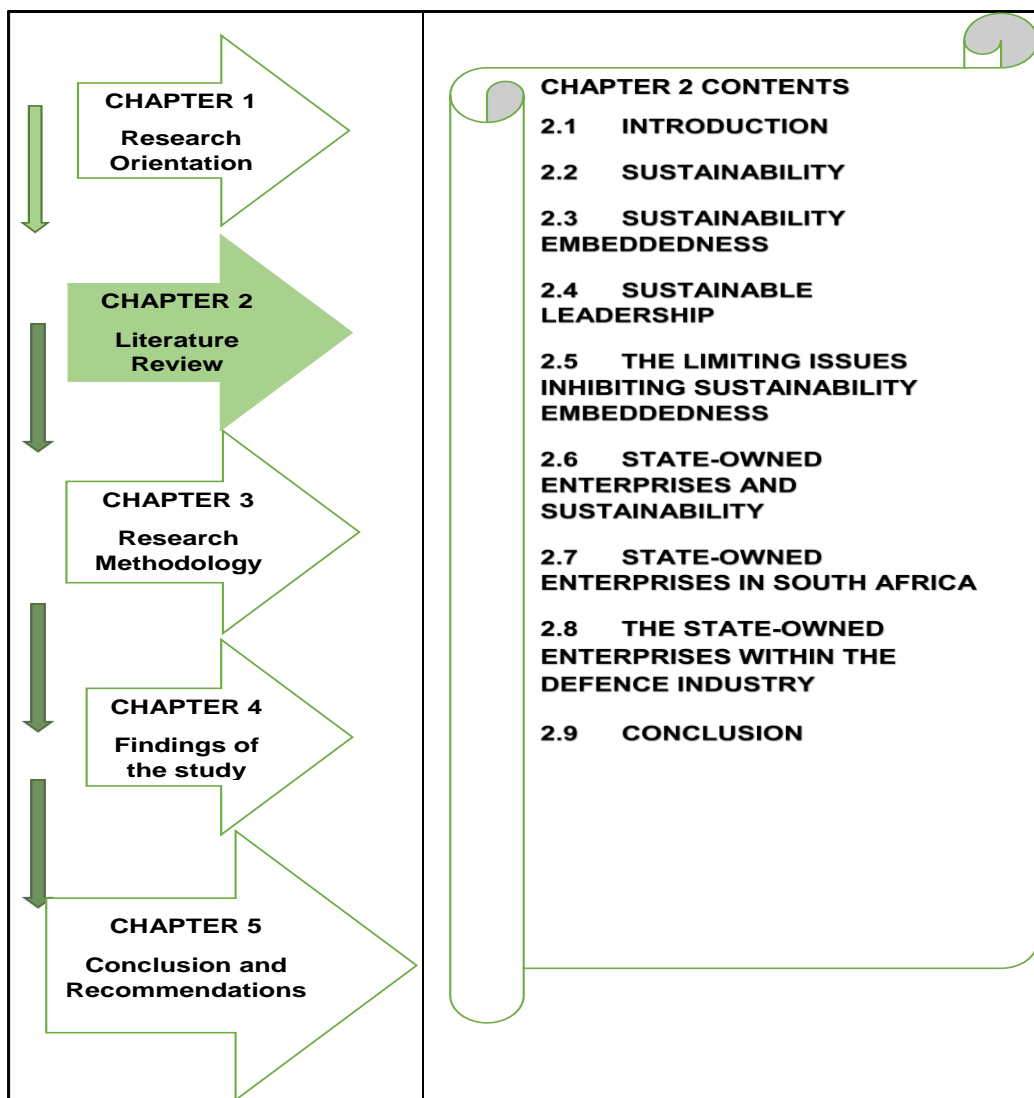


Figure 2.1: Chapter 2 Structure

Source: Own compilation

As Figure 2.1 indicates, this chapter will present in-depth explanations of the concepts of sustainability, sustainability embeddedness, and sustainable leadership. Next, the limiting issues to sustainability embeddedness will be explored. Thereafter, SOEs in general and in South Africa will be discussed. Lastly, SOEs in the defence industry will be discussed.

2.2 Sustainability

Sustainability, often referred to as sustainable development, or corporate sustainability, is generally considered to be the internalisation of social and environmental considerations into business operations and interconnections with a broad group of stakeholders (Perrott, 2015). Sustainability is, in essence, an interconnected and delicate phenomenon that combines the traditional and preponderate economic fundamentals with social and environmental decree (Huda, Safar, Mohamed, Jasmi, & Basiron, 2019). Sustainability ensures a balance by conserving natural resources, protecting the environment and social fairness, while also promoting economic growth. According to Ojo and Oluwatayo (2016), sustainability is defined as the utilisation of resources to achieve economic advancement in specific components of the economy without jeopardising access for future populations. Sustainability promotes the idea of an assimilated value creation space where growth and achievements for the current generation pay equal and same consideration to all the components of sustainability and to the forthcoming generations (Sakalasoorya, 2021; Porter, Hills, Pfitzer, Patscheke & Hawkins, 2015). Newig, Derwort and Jager (2019) describe sustainability as the avoidance of the depletion of natural resources in order to maintain the environmental balance. Bartel, Aerni and Schluep (2017) describe it as the ability of society and the economy to shape the future by ensuring improved socioeconomic and environmental conditions for the next generation. In this study, sustainability is described as the advancement of economic and social elements while retaining the environment for future utilisation.

The conclusion drawn from the above definitions is a focus on the business and the economy, while also including the environmental, which represent the three pillars of sustainability (Sakalasoorya, 2021; Klettner, Clarke & Boersma, 2014). All the above definitions refer to protecting the resources for future utilisation. Sustainability efforts

guide and promote organisations to look ahead and plan the required changes for future operations. Organisations do not operate in isolation and are affected by issues pertaining to sustainability for their continued existence (Dixit & Chaudhary, 2020; Arrobio, Barros, Beauchard, Berg, Brumby, Fortin, Garrido, Kikeri, Moreno-Dodson, Nunez, Robinett, Steinhilper, Vani, Verhoeven & Zoratto, 2014). In order to ensure that the organisation remains sustainable, it is essential to address organisational challenges impacting sustainable operations (Thakhathi, 2016).

Sustainability has become imperative for business growth and survival (Trollman & Colwill, 2021). The process of inculcating sustainability practices in all levels of the organisation begins with the integration of sustainability into the strategic management processes of an organisation (Galpin et al., 2015). Therefore, sustainability should be embedded in the strategy and culture of the organisation (Sakalasoorya, 2021; Bertels, Papania & Papania, 2010). Moreover, sustainability remains a priority for organisational future performance and resilience. Organisations are affected by limiting issues to sustainability, impacting their continued existence and the ability to operate sustainably. Thus, it is imperative to analyse these limiting issues inhibiting sustainability in organisations (Tarei, Chand, Gangadhari & Kumar, 2021; Arrobio et al., 2014).

According to Sakalasoorya (2021) and Klettner et al. (2014), sustainability is better explained using the three pillars of sustainability. These pillars include the environment, society, and economic efficiency, which must be implemented to achieve sustainability in the organisation's core business. The following subsection will discuss sustainability in terms of the three pillars.

2.2.1 The three pillars of sustainability

Sustainability is a vigorous process which allows people to comprehend their potential and improve the quality of their life in ways which concurrently protect and magnify the earth's life support networks (Purvis et al., 2019; Clune & Zehnder, 2018). The precepts of sustainability are usually interpreted as comprising three pillars/spheres. Stabilising the three pillars enables organisations to move towards sustainability (Purvis et al., 2019). However, interpreting what being "sustainable" means to a

specific organisation will facilitate the identification and prioritisation of improvements aligned with the three pillars (Sakalasooriya, 2021; Purvis et al., 2019). These pillars, namely the economy, society and environment, are shown in Figure 2.2.

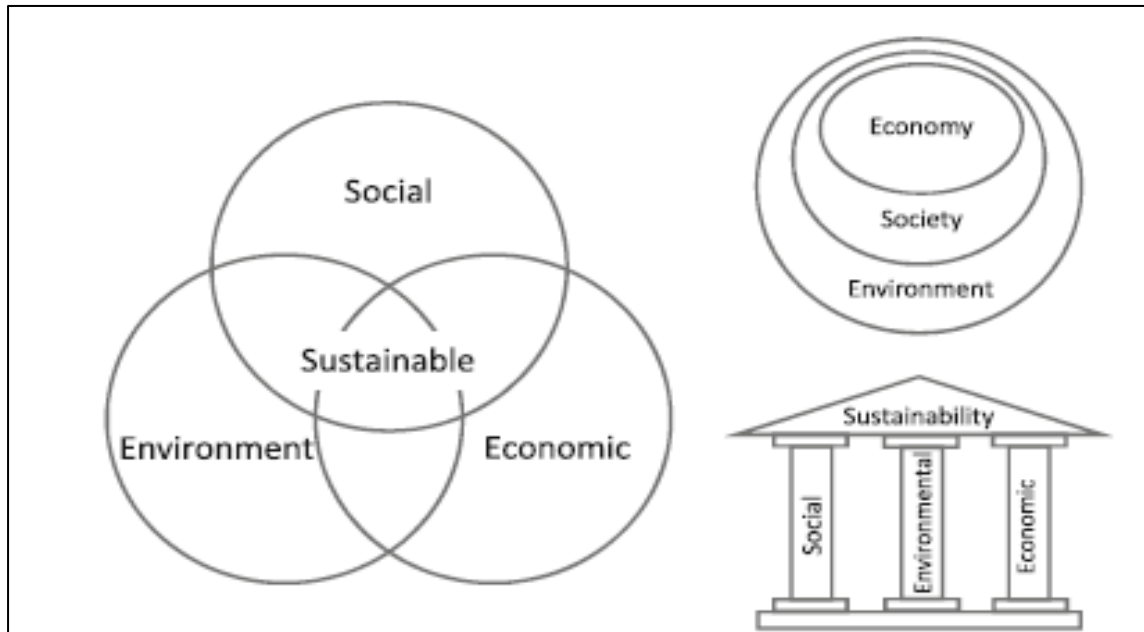


Figure 2.2: A typical representation of sustainability as three pillars and intersecting circles

Source: Adapted from Purvis et al. (2019)

Figure 2.2 depicts the economy as surviving fully within society, because all elements of the human economy require cooperation among people (Rodrigues & Franco, 2019; Clune & Zehnder, 2018). Society, in turn, survives fully within the environmental structure. Although human action is modernising the environment at an ever-increasing rate, society and its economic systems can never exist separately from the environment (Clune & Zehnder, 2018). The most familiar way of clarifying sustainability is through the “*three pillars*”. True sustainability is illustrated by achieving the “*triple bottom line*” wherein all three pillars interrelate on an equal basis, demonstrating proven sustainability (Purvis et al., 2019). Based on the narrative by Dyllick and Muff (2015), true sustainability answers questions such as ‘how can organisations, using their products and services, contribute to the pressing issues of sustainability, e.g., climate change, pandemics, youth unemployment and poverty?’ Truly sustainable organisations deploy their resources to assist in solving some of the

challenging societal problems. Additionally, the three pillars model can be useful in showing where the interrelationships exist; for example, the interrelated activities that lie within the environmental and socio-economic domains.

Despite the relative lack of literature probing the conceptual aspects of ‘sustainability’ and ‘sustainable development’, the concept of the ‘three pillars’ has gained boundless traction (Mensah, 2019). Generally, the above is realised as the balancing of trade-offs between two or more equally desirable objectives within these three categories, even though their usage differs. One controversial aspect of this conceptualisation is its dearth of theoretical development (there are no origins from which it derives, seemingly just unfolding in the literature and generally taken at face value) (Mensah, 2019). Trade-offs occur when a sacrifice of one pillar is made with a view to achieve benefits using the other pillars (Hahn, Figge, Pinkse, & Preuss, 2010). Trade-offs and conflicts in sustainability can transpire at different levels (individual, organisational, industrial and societal). There are three dimensions of trade-offs relevant to sustainability; namely, an outcome, a temporal and a process dimension (Hahn et al., 2010). An outcome reflects the authentic effects of corporate undertaking on sustainability, while a temporal indicates a central area of a prospective trade-off in corporate sustainability (Hahn et al., 2010). A process dimension considers a trade-off in transforming and processing of corporate strategies for sustainability.

As early as 2001, the ‘three pillars’ have been presented as a ‘common view’ of sustainability (Purvis et al., 2019). However, it cannot be seen as universal (Rodrigues & Franco, 2019). Furthermore, institutional, cultural, and technical are considered additional pillars by other studies (Soini & Birkeland, 2014). The origins of the ‘three-pillar’ approach have been ascribed to the Brundtland Report, Agenda 21, and the 2002 World Summit on sustainable development (Purvis et al., 2019; Moldan, Jonaouskova & Hak, 2012). Still a precise framework or theoretical background is not made certain in any of these reports.

2.2.2. Why organisations adopt sustainability

Organisations are increasingly expected to adopt sustainability in order to gain legitimacy from their stakeholders (Crossley, Elmagrhi & Ntim, 2021; Frandsen,

Morsing & Vallentin, 2013). There should be effective integration of sustainability by leaders and employees into the organisational practices. Frandsen et al. (2013), further reveals that increased legitimacy among the integral stakeholders is the significant benefit derived from the adoption of sustainability (Crossley et al., 2021). Sustainability is adopted differently from one organisation to the other. For example, an organisation can include sustainable materials in the manufacturing processes while others may choose to reduce gas emissions by relying on renewable energy. Organisations transform their operations to adapt to diverse stakeholders and strive to achieve sustainability (Sumanasiri, 2020). Adopting sustainability is the key to organisational continuation and success since investors are likely to invest in economic, social and governance (ESG) companies which advance sustainability priorities (Inderst, 2018). Organisations are facing pressure from governments, investors, communities, employees, and consumers to indicate their commitment to adopt sustainability (Inderst, 2018; Wales, 2002).

2.2.3 Transitioning to a sustainable organisation

Organisational transition into sustainable organisations involves adopting deliberate activities in order to move from the current state to the desired sustainable future (Wang, Li, & Liu, 2023; Hallin, Karrbom-Gustavsson & Dobers, 2021; EL Bilali, 2019). Wang et al. (2023) emphasised that it is important for organisations to transition their operations into clean and renewable energy. Similarly, a transition reflects the psychological process that organisational members experience to come to terms with new sustainable ways of doing things. Transitioning into a sustainable organisation involves organisational change and a greater focus on all three pillars (Pallapu, 2022). Organisational change involves structured procedures designed to adapt to sustainability initiatives. Figure 2.3 illustrates the organisation's transition to a sustainable organisation. Based on the study by Irwin, Tonkinwise, and Kossoff (2020), organisational change to sustainability involves a project that is political, social, cultural, scientific, and technological in nature. The authors further reveal that a transition to sustainability can be better explained and described according to the three transition concepts: (1) the multiphase concept, which aims to recognise diverse phases and influence the direction towards achieving organisational sustainability (Loorbach & Wijsman, 2013); (2) the multi-pattern concept, which identifies ways that

emerge from generic patterns, to assist the organisation in transitioning to sustainable operations; and (3) the multi-level concept, which is the most highly developed and significant pattern (Irwin et al., 2020). The multi-level concept pulls together the multiphase and the multi-pattern concepts in achieving an organisational transition to sustainability (EL Bilali, 2019).

According to Le Roux and Pretorius (2016), an organisation’s undertaking to become sustainable may also create challenges for members because the transition to become a sustainable organisation requires that organisational members go through an entrenched changeover in decision making. This means that members have to leave their old ways of doing things and adapt to new ways by reprioritising decisions towards making sustainable decisions. Based on the study by Buick, Blackman and Johnson (2018), managers facilitate employees’ understanding of the change requirements by enabling a conducive environment to implement the organisational change process. Furthermore, all elements of sustainability should simultaneously and integratively be included in organisational decision making (Bulmer, Riera & Rodríguez, 2021; Le Roux & Pretorius, 2016).

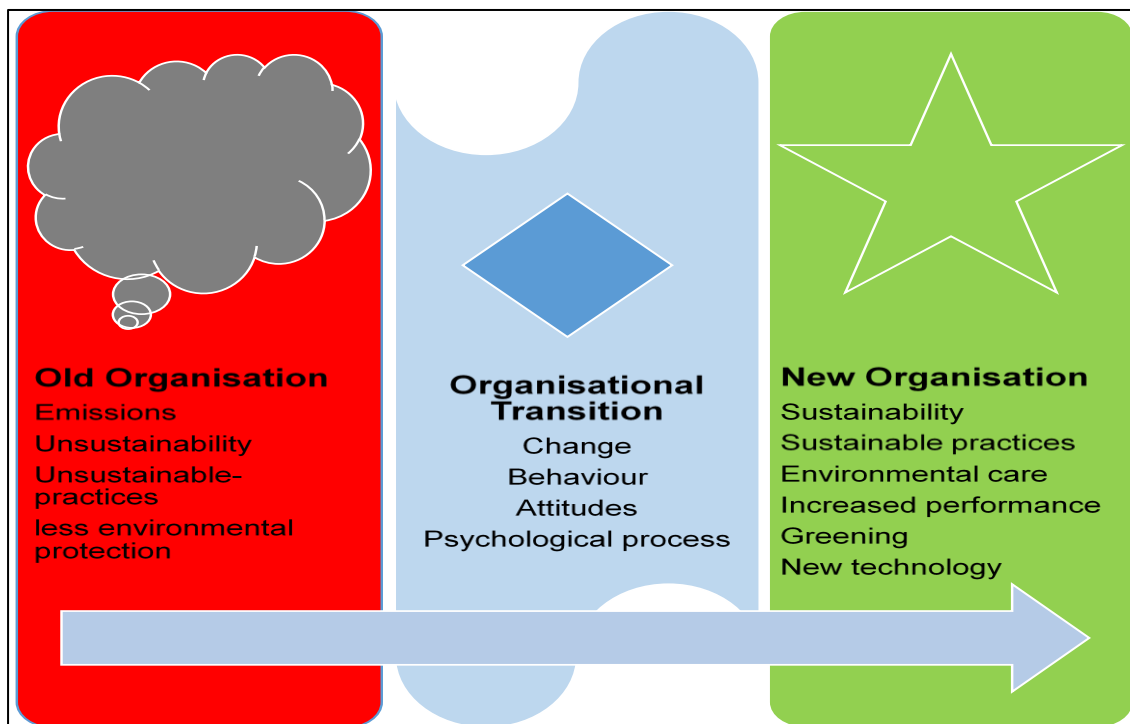


Figure 2.3: Organisational transition to sustainability

Source: Own compilation

Based on Figure 2.3, organisations transition from the old ways of doing things, to new ways, that incorporate sustainable practices, new technology, and environmental care. The transition involves changes in the attitudes and behaviour of organisational members to become a sustainability driven organisation.

While sustainability and its strategic significance to business are well-supported propositions, most concur that there are challenges associated with its embeddedness and implementation (Trollman & Colwill, 2021; Perey, 2015; Nambiar & Chitty, 2014). Sustainability embeddedness will be discussed in the following section.

2.3 Sustainability embeddedness

Sustainability embeddedness entails the involvement of all parties to achieve a workable balance between organisational objectives and the environment (Valente, 2015). According to Valente (2015), sustainability embeddedness involves the inclusion of environmental and social factors into the core business of the organisation. Le Roux and Pretorius (2016) describe sustainability embeddedness as the ingraining of sustainability practices into the everyday running of the organisation with the ultimate objective of long-term performance and survival. Trollman and Colwill (2021) stated that sustainability embeddedness reflects how the organisation is entangled in the local culture, social networks, and performance. Elmaghrabi (2014) and Pálffy, Ablonczy-Mihályka and Kecskés (2023), however, describes sustainability embeddedness as integrating the social, ecological and economic factors, while enhancing organisational sustainability. Pálffy et al. (2023) contends that sustainability embeddedness goes beyond profit making and considers the broader impact of organisational activities regarding the social and natural environments.

Sustainability-embeddedness refers to sustainable organisations that have experienced a typical shift and adopted firm-wide sustainability embeddedness in such a way that sustainability has become an organisational way of life (Valente, 2015; Elmaghrabi, 2014). This means that sustainable organisations have embedded sustainability in their business prototypes and strategies, operations, administration and management procedures, organisational structures, culture and in their communication systems (Elegbede, Matti-Sanni, Ojewole, Moriam, Yusuf, Sanusi,

Elegbede & Yangni, 2023; Sharafizad, Redmond & Parker, 2022; Solomon & Steyn, 2017). Sustainability embeddedness is an open approach that should take place throughout the whole organisation (Trollman & Colwill, 2021). Therefore, sustainable organisations generally have formal committees overseeing sustainability. These committees typically include senior executives, numerous stakeholders, and sustainability divisions that address sustainability and are integrated into the organisational structure (Valente, 2015).

According to Valente (2015), sustainability projects are mostly considered to be the starting point of collaboration and not the end point. Sustainable organisations maintain an outside in-focus on stakeholder engagement by collaborating with a wider group of stakeholders, as opposed to only engaging with shareholders (Sharafizad et al., 2022; Hahn et al., 2014). Sustainability embedded organisations believe that their association with stakeholders in their neighbouring context is crucial for survival (Bianchi & Testa, 2022). The top management of embedded organisations focuses on fostering harmonious competencies among leaders. These organisations often gain a sustainable competitive edge through the development of valuable and rare knowledge that stems from employee and stakeholder collaboration (Valente, 2015).

Sustainability embeddedness should occur at the organisation's strategic and operational level (Bartel et al., 2017). The prospective benefits linked to embedding sustainability into everyday operations are cost-savings; an enhanced reputation; increased innovation; competitiveness and employee retention; value creation with rare resources and capabilities; and reduced risks (Bertels & Dobson, 2020; Aerni, 2018; Le Roux & Pretorius, 2016). Aerni (2018) and Hahn et al. (2014) ascertain that the move to embeddedness calls for members of an organisation to create their perspectives and strategies and combat abandoning conditions where social and environmental characteristics cannot be associated with financial results. The journey toward embeddedness necessitates that all parties involved should achieve a feasible balance between sustainability goals and address the chasm between the organisation and the environment (Jan, Lai, Asif, Akhtar & Ullah, 2022; Trollman & Colwill, 2021). Managers and employees should actively engage in sustainability embeddedness practices to advance sustainability initiatives. According to Wamu, Winkler and Lundsten (2023) and Elmaghrabi (2014), it is essential that management

and employees are aware of sustainability embeddedness and its importance within the organisation because when management and employees work together to enhance sustainability embeddedness, this will yield benefits for the entire organisation. Organisations embed sustainability through improving employee engagement while also being transparent in the production and distribution processes and procedures (Burmeister & Eriksson, 2019). Sustainability should be embedded in the organisation's processes to address their sustainability challenges.

Although this study seeks to address the challenges by exploring the limiting issues inhibiting sustainability embeddedness, sustainable leadership remains a key factor or mediator in sustainability embeddedness (Mukherjee, 2020; Roux & Pretorius 2016). The following section discusses sustainable leadership.

2.4 Sustainable leadership

Sustainability is a prolonged expedition that requires sustainable leadership, accountable decision making, and an understanding of sustainability precepts and practices (Pearse & Dimovski, 2015). The University of Cambridge Institute (2017:9) defines sustainable leadership as:

... individuals who are compelled to make a difference by deepening the awareness of themselves in relation to the world around them. In doing so they adopt new ways of seeing, thinking and interacting that result in innovative and sustainable solutions.

Simiyu (2015) reveals that sustainable leadership is important to unfreezing incorrect behaviour and attitudes of organisational members towards sustainability. Furthermore, sustainable leadership reflects the change in behaviours, attitudes, and connections that generate lasting value for all of the organisation's stakeholders. This is achieved by adopting a broader perspective and incorporating all the activities into the organisational plans (Avery, 2018; Pearse & Dimovski, 2015; Ligita & Erika, 2014).

According to Cahyadi, Poór, and Szabó (2022), sustainable leadership considers a wide range of complex interrelationships among individuals, businesses, global

markets, and ecological systems, with the view that an organisation should achieve welfare by respecting social values. Thakhathi (2016) revealed that sustainability champions embedded sustainability in the organisation's core business activities and corporate strategy. This further affirmed that sustainability can be embedded in organisations for their resilience and long-term survival. Sustainable leadership considers future generations by preserving the natural environment while promoting social and economic factors. One of the key principles of sustainable leadership is to transform organisations into sustainable operations by embedding sustainability in their tradition through sustainable leadership practices (Eustachio, Caldana, & Filho, 2023; Avery, 2018; Pearse & Dimovski, 2015). However, sustainable leadership principles and sustainability practices differ significantly from traditional "locust" leadership, which focuses on maximising profits for the organisation and putting shareholders first (Gutterman, 2023; Avery, 2018). Sustainable leadership practices are inclusive and collaborative because they take into account the needs of other stakeholders to achieve sustainability objectives (Gutterman, 2023).

Bulmer et al. (2021) reveal that sustainable leadership is about influencing others to achieve goals. It has been argued that the better sustainable leadership, the better the organisation in collectively articulating the challenges of the future (Kolzow, 2015). Sustainable leadership promotes sustainability values at the individual, organisational, and social level (Armani, Petrini, & Santos, 2020; Marjanović, Jovanović, Ratknić, & Paunković, 2019). The capacity and capability of sustainable leaders in channeling the energies of subordinates to achieve organisational objectives are important for organisational sustainability (Wamu et al., 2023; Liao, 2022; Kolzow, 2015). Additionally, a study by Wamu et al. (2023) revealed that there is a positive relationship between practicing sustainable leadership and employee achievement.

Sustainable leaders are accountable to the organisation and central to its continued survival and sustainability (Boeske, 2023; Almaki et al., 2016). Embedding sustainability within the organisation and creating a positive culture among members remain the responsibility of sustainable leaders (Murtada & Al-Zar, 2022; Fry & Egel, 2021). A sustainable leader has the responsibility to ensure sustainability embeddedness within the organisation and should have the ability to drive sustainability embeddedness within the organisation (Bulmer et al., 2021).

Furthermore, Murtada and Al-Zar (2022) emphasised that sustainable leadership is a shared responsibility that must be effectively and successfully applied across the organisation.

The role of leadership is key to organisational sustainability because it reflects the level of harmonisation through different styles and techniques to change the organisation for the better (Zogjani & Raçi, 2015). A sustainable leadership role is assumed when managers within the organisation have a clear understanding of what needs to be done to achieve the set sustainability targets (Liao, 2022; Kolzow, 2015). Liao (2022) and Zogjani and Raci (2015) revealed that one of the roles of sustainable leadership is the use of ethical values to sustain the organisation. If a leader uses an ethical approach compatible to all parties within the organisation, then this will create a real possibility for sustainability embeddedness. There are numerous other roles of leadership within the organisation that include the leader as: (1) steward – which relates to the focus of improving others more than oneself; (2) citizen – which reflects society's power to make sustainable decisions; (3) servant – the leader's goal to serve society sustainably; (4) ethical role model – which relates to the leader's responsible and ethical way of leading a sustainable organisation; (5) change agent – which is the leader's ability to apply and enforce changes within the organisation; (6) visionary – which considers a wide range of stakeholders to fulfil the organisational sustainability objective; (7) expert – which is a leader that tries to achieve organisational sustainability goals; (8) coach – which entails focusing on helping the team members to achieve set sustainability targets; and (9) facilitator – which is a leader that cares, motivates, and builds the capacity of organisational members to accomplish sustainability goals (Fry & Egel, 2021; Voegtlin, Frisch, Walther & Schwab, 2020; Bodilenyane & Mooketsane, 2019; Gray, 2018).

Armani et al. (2020) apportioned a comprehensive perspective on sustainable leadership by seeking to understand the attributes which enable changes to sustainable-oriented organisations and their relative connections. The research findings revealed that the sustainable leader's role changes according to organisational maturity, and performance relative to sustainability. Furthermore, Armani et al. (2020) contends that sustainable leadership has seven attributes which are coordinated and interlinked; namely, interpersonal skills, sustainability focus,

orientation towards change, leadership, organisational culture alignment, values, and moral principles and business. Sustainability should be embedded in the leader's actions towards helping the organisation thrive in order to reach sustainability objectives. Sustainable leaders embed sustainability within the organisation through sustainable strategies (Thakhathi, 2016).

Sustainability embeddedness poses challenges for sustainable leaders, practitioners and researchers. Having explored sustainable leadership and its role in embedding sustainability in an organisation, the following section will outline the limiting issues inhibiting sustainability embeddedness.

2.5 The limiting issues inhibiting sustainability embeddedness

Sustainability embeddedness is constrained by various limiting issues inhibiting organisations to adopt sustainability and transition into sustainable organisations (Bulmer et al., 2021; Tarei et al., 2021). There are always members with different beliefs and attitudes regarding corporate sustainability and its culture within the organisation. An organisation with a poor reputation may have transformed its operation to become a good performer. On the other hand, an organisation with an excellent reputation may have poor performance (Bartel et al., 2017). This poses a challenge to hold organisations accountable for sustainability embeddedness.

According to Trollman and Colwill (2021), the limiting issues to sustainability are the economic system constraints and the lack of support for ecocentric business models. Le Roux and Pretorius (2016) examined the transitory scope between proactivity and sustainability embeddedness by understanding and conceptualising the limiting issues that constrain the shift to embeddedness. Le Roux and Pretorius (2016) identified the following limiting issues: (1) Professing what is right - here leaders believe that sustainability is a good thing to do and that being sustainable is essential for the organisation's survival (Jones, 2021). (2) Green distraction - leaders do not understand the true meaning of sustainability embeddedness. Rather, they see the elements of sustainability (environmental, social, and economic) separately as opposed to seeing them together (Halldórsdóttir, 2014). (3) Not my job - this entails some practitioners' beliefs that sustainability is not their responsibility but someone

else's work (Halldórsdóttir, 2014). (4) Past performance anchor - refers to the lag in leaders, which keeps them anchored to previous practices, and delays the shift to embeddedness (Eze, Sofolahan & Omoboye, 2023; Ayandibu, Ngobese, Ganiyu, & Kaseeram, 2019). (5) Fire fighter - reflects the hurried reactions and actions by practitioners to the demands, opportunities, and issues relating to their organisational operational requirements (Halldórsdóttir, 2014). (6) Strategy discourse - entails the operational information which becomes an inhibitor when it fails to ensure sustainability embeddedness throughout the organisation (Jones, 2021; Halldórsdóttir, 2014). Strategy discourse is an instrument used by leaders to ensure a shared vision of future strategy among themselves. And finally, (7) Harmony and sustainable leadership - reflects the relationship and alliance among leaders to strengthen one another for a common purpose (Jones, 2021).

According to Missimer and Mesquita (2022) and Chelagat, Kokwaro, Onyango and Rice (2021), the inhibitors to sustainability are human resource constraints, inability to translate policy from paper to people, and misalignment of the project goals to the team's day-to-day operations. Li, Wan, Xu and Lin (2021) and Karimzadeh, Abbaszadeh, and Kašparová (2019) identified erosion of interpersonal trust, erosion of institutional trust, and systematic neglect of the environment as obstacles to sustainable consumption. Furthermore, Miedzinski, Stancova, Matusiak and Coenen (2021) consider political, conceptual, and implementation challenges as impediments to sustainability. These inhibitors are the constraints to successful sustainability embeddedness within the organisation's practices. In their study of social sustainability in business organisations, Missimer and Mesquita (2022) revealed the following ten (10) constraints to social sustainability within an organisation, namely: (1) poor definition of social sustainability - there is no precise definition of social sustainability and this creates the problem of reduced clarity (Ayandibu et al., 2019; Halldórsdóttir, 2014); (2) picking issues – the lack of precise definition leads to inclusion of irrelevant issues and often causes confusion (Ayandibu et al., 2019; Halldórsdóttir, 2014); (3) lack of systems and understanding – poor systems and misunderstanding makes it difficult to advance sustainability (Zulu, Zulu, Chabala & Chunda, 2022; Li et al., 2021; Panuju, Suudi, & Ibrahim, 2021); (4) lack of ability to deal with issues strategically – the inability to decide on strategic issues due to a lack of clarity (Escoto, Gebrehewot, & Morris, 2022; Le Roux & Pretorius, 2016); (5) poor use of existing tools – without a

clear systematic understanding of the challenges, it becomes difficult to employ the available tools (Li et al., 2021); (6) narrow research on structures and processes for implementation and integration - academic research on sustainability implementation is limited (Escoto et al., 2022; Teplova, Sokolova, Gubareva, Galenskaya, & Teplov, 2020). Accordingly there is limited understanding of systems and processes; (7) absence of empirical data and support informed by realities of practice – the studies on support design are criticised for not being practice based; (8) fragmented organisational structures hinder collaboration on these issues – organisational structures are obstacles to achieving sustainability objectives (Escoto et al., 2022); (9) lack of true integration rather than stand-alone and add-on approaches and tools – this leads to more initiatives being added onto the existing process and structure instead of being truly integrated (Panuju et al., 2021); and (10) lack of a dynamic process working with these issues – the organisation lacks agility and dynamic processes to act quickly in addressing sustainability (Panuju et al., 2021).

Although the above researchers identified the limiting issues to sustainability embeddedness, no single study has focused on the limiting issues inhibiting sustainability embeddedness within the defence industry in South Africa. Having explored the limiting issues inhibiting sustainability embeddedness, the following section will look at state-owned enterprises and sustainability.

2.6 State-owned enterprises and sustainability

State-owned enterprises (SOEs) are public enterprises partially or wholly owned by the government to provide essential services like water, electricity, finance, energy, communication, and transport, among other services (Qhobosheane, 2018; Mashamaite & Raseala, 2018). SOEs are enterprises established by government to achieve social responsibilities such as creating job opportunities and accomplishing economic responsibility (Muller, Amra & Jantjies, 2015). Government is the major shareholder in SOEs. SOEs have expectations such as generating cash flows exceeding their financial sustainability, meeting business requirements for financial performance, adapting to changing environments, and providing assurances of public accountability (Fourie, 2014). SOEs are required to run proficiently in order to boost

the Return on Investment (ROI) for the government, which becomes admissible if it reflects a positive growth when correlated with past financial years (Christiansen, 2013).

Globally, SOEs continue to serve as catalysts for the economic growth, social sustainability, and job creation mechanism of countries (Madumi, 2018). It is important for countries to sustain SOEs for the betterment of their economies. According to Christiansen (2013), SOEs make significant contributions to local, regional, and international economic advancement by attracting and sourcing capital equipment, finance, and collaborations to boost economic growth. The sustainability of SOEs in a developing country is considered to be important for economic growth, job creation, sustainable development, and social sustainability (Madumi, 2018; Fourie, 2014). SOEs play a critical role to ensure environmental protection and sustainability, in line with United Nations sustainable development goals: SDG11 - sustainable cities and communities, SDG13 - Climate action and SDG15 – life on land (Talukder, Hipel, & Vanloon, 2022; Barnes & Barnes, 2019). Furthermore, SOEs play a crucial role in the energy, transport, technology, and telecommunication sectors, where their performance is essential to large segments of the population and other components of the business sector. Furthermore, Talukder et al. (2022) emphasised the importance of managers understanding the links between SOEs and future sustainability, thus underscoring the need for future studies to explore sustainability within SOEs.

Having defined SOEs and the role they play in sustainability, the following section will discuss SOEs in South Africa.

2.7 State-owned enterprises in South Africa

South Africa is part of the universe and has enacted SOEs as one of the mechanisms to guide the country's economic development (Afrika, 2020). By the early 1920s, South African SOEs were given a decree to boost import-substitution industries and worked as exclusive franchises (Afrika, 2020). However, Limbo (2019) reveals that many African SOEs (including South Africa) have a long history of poor performance dating back to 1979, due to socio-economic circumstances adopted at the time, as well as

leadership challenges. Prior to 1994, South African SOEs were employed as instruments to help the apartheid government survive obstacles (e.g sanctions) and were essential to grow the economy (Kanyane & Sausi, 2015). Post 1994, South Africa's democratic government inherited a public system that lacked public accountability and transparency with deficient control systems and dilapidating infrastructure (Muller et al., 2015). Consequently, the government transfigured the public sector, including SOEs, to support the objective of becoming a developmental state, which aims to deliver sustainable employment, advance economic growth, recuperate infrastructure, develop skills and innovation, and enhance service delivery, while enhancing environmental sustainability (Muller et al., 2015; Fourie, 2014).

The South African Government's Department of Public Enterprises (DPE) vision for SOEs is to create sustainable economic and social benefits by providing the means to improve the living standards of the population through sustainable economic and social benefits (DPE, 2021). This vision encompasses both immediate and long-term challenges for SOEs. An immediate need involves the provision of high quality infrastructure and low cost services, with access being extended to historically disadvantaged groups in the community (DPE, 2021). The government believes that in the long-term, SOEs should ideally be equipped to lead the way in promoting an African renaissance by providing world class expertise, resources, services, and infrastructure to a developing continent (DPE, 2021). The South African government currently provides partial or full funding to SOEs and further plays an oversight role over SOEs' governance and financial performance to secure the achievement of the consent decrees (Fourie, 2014).

South Africa has placed infrastructure development at the center of the economy's policy and strategy for more than a decade, with the view to accelerate local production and economic growth through the SOEs (Mustapha et al., 2018). There are more than 300 SOEs engaged in a wide range of operations, some of which extend beyond the country's borders (Fourie, 2014). Some of the large SOEs include Eskom (previously called Electricity Supply Commission), which is tasked with expanding, outgrowing, and maintaining electrical energy distribution. Iscor (previously known as Iron and Steel Corporation) which is aimed at covering iron and steel production; the IDC (Industrial Development Corporation) which was established to help form new

industries, such as the Phosphate Development Corporation, which mines and processes phosphate minerals to advance agricultural and peripheral practices. The South African Coal, Oil, and Gas Corporation that produces synthetic fuels as a spin-off from coal; and the Southern Oil Exploration Corporation, which is tasked to discover crude oil, were established against the background of the oil and petroleum embargo imposed on South Africa during apartheid (Afrika, 2020; Fourie, 2014). Other examples of SOEs include the South African Broadcasting Corporation (SABC), which provides news and general broadcasting service in English, Afrikaans, and other native languages; the Armaments Corporation of South Africa (Armcor) (previously recognised as Armaments Development and Production Corporation), which is responsible for overall research and development related to munitions and military machineries; and South African Airways (SAA), which operates as the civil airline (Zuma, 2013). The contributions of these SOEs to the development of the country have been significant; however, these enterprises continue to require financial support from the government to avoid potential bankruptcy (Madumi, 2018). The continuous need to provide financial support to SOEs has been attributed to troubled structural and operational difficulties, resulting in irregular and unequal patterns of development and a differing distribution of services and infrastructure (Qhobosheane, 2018), creating challenges for SOEs.

The many challenges associated with the operations of the SOEs in South Africa include political intrusion, maladministration, leadership deficiency, corruption, unclear mandates and objectives, animosity, debt burdens, and weak managerial accountability, among others (Sithomola, 2019; Madumi, 2018). These challenges will now be discussed in more detail within the context of sustainability embeddedness.

2.7.1 Political intrusion

Political intrusion reflects the unwanted involvement of politicians in the operations of enterprises (Mashamaite & Raseala, 2018). Interference by politicians is a concerning factor affecting the operations of SOEs. The independence of SOEs from political intrusion is critical for their continued operations and sustainability (Limbo, 2019). Political interference may lead the organisation to undermine proper processes and procedures, further jeopardising sustainability objectives (Qhobosheane, 2018). The

relationship between executives, government officials, or politicians should be aimed at advancing the economic, social, and environmental activities of SOEs.

2.7.2 Maladministration

Maladministration can be described as the process of running an organisation poorly (Haris, Muchtasar & Sahbudin, 2018). SOEs are caught up in maladministration in their daily operations, which may lead to poor performance and unsustainability (Qhobosheane, 2018; Kanyane & Sausi, 2015). Proper management by sustainable leaders is essential for preventing maladministration in SOEs. Irregularities and unlawful acts within organisations should be avoided to prevent maladministration and promote sustainability embeddedness.

2.7.3 Leadership deficiency

Leadership deficiency can be described as the application of poor leadership within the organisation's operations (Sithomola, 2019). Sustainable leadership should be encouraged within SOEs to prevent deficiency. SOEs should adopt sustainable leadership to address any form of leadership deficit and further address their sustainable business practices (Almaki, Silong, Idris & Wahat, 2016).

2.7.4 Corruption

Corruption reflects dishonest conduct by an official in power for personal gains (Enste & Heldman, 2017). According to Wilkinson (2019), poor oversight structures, and weak managerial accountability and governance systems within SOEs may lead to corruption. Efficient systems within SOEs should be fostered to deal with corruption because corruption undermines the sustainability embeddedness efforts of sustainable leaders (Zondo, 2022). Corruption may also involve bribery, fraud, and laundering. If left unattended, corruption may erode trust, weaken democracy, and further hamper sustainable development by exacerbating inequality and poverty (Zondo, 2022; Enste & Heldman, 2017), while also inhibiting sustainability embeddedness (Trollman & Colwill, 2021). Based on the Zondo report (2022), corruption within SOEs reveals the selfishness of leaders for self-interests.

2.7.5 Unclear mandates and objectives

Unclear mandates can be described as strategic mandates that are confusing and not clearly defined for the organisation, while unclear objectives reflect poorly crafted objectives (Zuma, 2013). According to Zuma (2013), strategic mandates by SOEs should reflect the primary existence of an SOE, and when they are not clear, they affect sustainability because sustainability should be part of the strategy (Ioannou, 2020). Furthermore, unclear mandates and objectives limit the sustainability embeddedness within the organisation. The unclear mandates and objectives of SOEs make it difficult for sustainable leaders to exercise their duties and achieve sustainability objectives (Wilkinson, 2019; Klaas, Marcinkowski & Lazarević 2018).

2.7.6 Debt burdens

Debt burdens represent large amounts of money owed by an organisation or country, creating difficulties in repayment for the borrower (Senadza, Fiagbe & Quartey, 2018). Organisations should avoid incurring debt burdens at all times (Gamarra, Pollock, Dömeland & Primo Braga, 2013). SOEs frequently struggle to service their debts due to weak financial management or mismanagement (Arrobbio et al., 2014), further impeding organisational progress toward sustainability (Missimer & Mesquita, 2022). Implementing advanced financial management systems within SOEs is crucial to circumvent mismanagement.

2.7.7 Weak managerial accountability

Managerial accountability encompasses a clear focus on performance while complying with a set of rules (Klaas et al., 2018). SOEs should embrace and apply managerial accountability throughout the organisation. Weak managerial accountability reflects a lack of accountability and poor application of internal controls by managers (ReSPA, 2017). According to Klaas et al. (2018), there are several conditions for strengthening managerial accountability, which includes clear organisational structure and mandates for each department, internal decision making processes and reporting lines, involvement of management in the budget planning and execution, the availability of information, managers' involvement in human resources

management and procurement processes, and the use of performance target and effective performance reporting systems. SOE managers should acquaint themselves with the conditions for strengthening managerial accountability to enhance their organisations and avoid weak managerial accountability (Kikeri, 2018).

Based on the narrative by Ramzy, EL Bedawy, Anwar, and Eldahan (2019), good corporate governance is essential to achieve sustainability objectives. Furthermore, the challenges to sustainability pose a threat to SOEs' operations and their advancement of economic, social, and environmental elements in South Africa. Against this backdrop, this study aims to explore the limiting issues inhibiting sustainability embeddedness in Denel. As this study will focus on Denel as an SOE within the defence industry, the following section will discuss SOEs specifically within the defence industry.

2.8 The state-owned enterprises within the defence industry

The South African defence industry was developed between the years 1965 and 1990 for a range of capabilities through innovation (South African Defence Industry Strategy, 2020). Since 1999, the defence industry has been underperforming, which has resulted in reductions in employment levels within the sector (Matthews & Koh, 2021). The underperformance has had a negative impact on the defence industry since it has been unable to create employment opportunities and has often struggled to pay salaries (Denel Group, 2020). The South African Defence Industry Strategy (2020) asserts that the defence industry holds the potential to significantly impact the profile of the South African economy. Such a shift would change the economy from one focused on agriculture and mining to one that also focuses on engineering, and is technology-directed, with a focus on high-end software and electronics. According to the Gopaul and Oosthuizen (2021), the defence industry can be a significant agent for enlarging and developing the national skill base, and furthering national industrialisation policies, bringing foreign currency earnings from export linked services and the formation of job opportunities. Based on the Defence Review (2015), the defence industry consists of both public and private enterprises primarily focused on the design, development, and manufacturing of weapons, munitions, pyrotechnics, equipment systems, and other materials for the defence force or for exports. There

are three SOEs within the defence industry, which are: Armscor, CSIR-DPSS (Council for Scientific and Industrial Research-Defence, Peace, Safety and Security), and Denel.

Armscor is an SOE responsible for defence acquisition in compliance with defence material and remains an intelligent buyer within the defence industry (Defence review, 2015). This SOE also contracts, conducts, and coordinates research and innovation to advise the Defence Force and local industry. On the other hand, CSIR-DPSS ensures product development possibilities, thereby strengthening competencies in the industry and the broader national system of innovation, and further signifies local manufacturing competencies (Defence Review, 2015). CSIR-DPSS develops technology to a level of readiness for absorption by the industry to be used in further research and development. Denel, as an SOE in the defence sector, will be explored in depth in the following subsection.

2.8.1 Denel Group

Denel is an SOE with the primary function of developing, designing, manufacturing, supporting, and sustaining defence materials (South African Defence Industry Strategy, 2020). The Denel Group (2019) views Denel as a global defence security and related technology company that provides turnkey solutions for defence equipment to its clients. According to the Denel Group (2019), Denel is a South African state-owned, commercially driven enterprise and a strategic partner for defence innovation, aerospace, security, and other related defence technology solutions. The Denel group was established in 1992 when the manufacturing subsidiaries of Armscor were separated to structure Armscor as the procurement service for the former South African Defence Force (currently the South African National Defence Force) (Denel Group, 2013). Denel is a key participant in South Africa's defence-linked industries and a strategic provider of distinctive products and full lifecycle support in the military territory (Denel Group, 2020).

Denel governs four out of the seven broad areas of the domestic defence market. These areas include aerospace, ammunition, weapon systems, and military vehicles. In addition, it is a holding enterprise that is structured into three major categories;

namely, Aerospace, Ordnance, and Commercial and Information Technology (Denel Group, 2020; South African Defence Industry Strategy, 2020). The SOE's footmark also extends to the larger South African manufacturing sector, through its outsourcing of important components of production and the procurement of raw materials (Defence Review, 2015). Denel's turnaround strategy involves the acceptance of strategic equity associates for the Aerospace and Ordnance categories and other divisions inside the Commercial and Information Technology category (Denel Group, 2019). Furthermore, Denel's shift towards globalisation was aimed at ensuring adequate capital boost, increased access to global markets, a wider product range, and increased capacity utilisation within its production establishments (DPE, 2021). After a series of turnaround interventions, Denel management shifted focus towards the amalgamation of strategies to secure internal restructuring, improved focus on budgeting and executive management, deliberations to ensure suitable strategic equity shareholders, and their commitment to sustainability (Enschede, 2018; Defence Review, 2015).

2.8.2 Departments within Denel Group and their functions

The Denel Group is divided into eight different sections: (1) Denel Aeronautics provides end-to-end solutions that include aircraft, components, engines, overhaul services, maintenance, and repairs, together with aircraft system upgrades and integration (Denel Group, 2020). (2) Denel Dynamics is a core business, which includes design, development, and manufacturing of tactical missiles and weapons. The unit further develops satellites to the South African government in conjunction with the South African National Space Agency (SANSA) (Defence Review, 2015). (3) Denel Land Systems is a leading project-based, combined system designer and integrator of combat artillery, infantry systems, small weapons, and other landward-related support systems, including armoured vehicles (Denel Group, 2019). (4) Denel Vehicle Systems provide turnkey vehicle systems to the military, the South African police, and to other countries (Denel Group, 2019). This unit is the subsidiary of the Denel SOE and has three subdivisions, namely Denel OMC, Denel gear ratio, and Denel mechatronics (Defence Review, 2015). (5) Land Mobility Technology (LMT) limited (Ltd) specialises in designing and manufacturing armoured vehicles with protection, as opposed to ballistics, landmines, and unrehearsed explosive apparatus (Denel Group, 2019). (6) Denel Overberg Test Range is a flexible test range specialising in

in-flight systems performance appraisals for domestic and global defence and aerospace industries (Denel Group, 2020). (7) Denel Pretoria Metal Pressings (PMP) is a combined production of small and medium calibre projectiles, detonics, powder cartridges, and mining drill bits (Denel Group, 2019). (8) Denel Sovereign Security Solutions (S3) was formulated to concentrate on Denel's strategy by diversifying into sustainable non-defence national security sectors (Denel Group, 2019).

According to the Denel Group (2020), the SOE performed poorly in previous years (2019/2020). The following subsection will look at Denel's performance.

2.8.3 Understanding underperformance at Denel Group

Denel has not performed satisfactorily for many years. Denel had a total of 3968 employees as of 01 April 2019, and this number decreased to 3332 in 2020 (Denel Group, 2020; Denel Group 2019). The group revenue decreased by 20% (R2.72bn in 2020 compared to R3.40bn in 2019) and was attributed to liquidity challenges (Denel Group, 2020). The Denel performance review reported a net loss of R1.96bn in 2020 compared to R1.46bn in 2019 (Denel Group, 2020). The SOE's earnings before interest and tax (EBIT) were R1515m in 2020 compared to R1339m in 2019. The poor performance at Denel over the years may be fundamentally due to a reduction in local defence spending, the re-organisation of the international arms sector, and the current situation in the global economy, which impacts armaments acquisition and advancement (Defence Review, 2015). Other factors inhibiting sustainability advancement include an escalation in geo-political influences and the overall lack of growth in the global defence industry (Defence Industry Strategy Draft, 2017). The defence industry has experienced a substantial turnaround in strategies over the past few years because of a reduction in defence spending and the increasing cost of manufacturing defence system programs, e.g., fighter aircrafts (Denel Group, 2019).

Several mergers and consolidations occurred globally within the defence sector, leading to the formation of highly contentious defence markets and the establishment of large enterprises around the globe that compete with Denel (Afrika, 2020). The social and ethics committee of Denel reported that they provided oversight to ensure the organisation fulfills its mandate of being socially, economically, and

environmentally responsible, while upholding good corporate citizenship (Denel Group, 2020). This oversight further aimed to protect the organisation's brand and reputation. The Denel Group (2019) reported that their underperformance transpired over a period of three years (2016-2018) and can be attributed to poor inventory and cash management, non-profitable sales and loss of contracts, soaring costs with decreasing revenue, lack of financial control, and bad governance, mismanagement, and general corruption (Denel Group, 2019).

Despite various turnaround situations, sustaining SOEs within the defence industry is essential for the country's economy since it represents 0.86% of the GDP (Martin, 2021; South African Defence Industry Strategy, 2020). The improvement of the economic, social, and environmental factors remains critical to the SOE and its long-term sustainability and operations. Denel's commitment to social, economic, and environmental sustainability, as outlined in its broader mandate (Denel Group, 2020), makes it a suitable subject for this research study. Furthermore, identifying the limiting issues to sustainability embeddedness will provide Denel management with insights and opportunities to address and overcome the limiting issues, facilitating the journey towards becoming a sustainable organisation.

2.9 Conclusion

This chapter provided an overview of the existing literature on the concepts of sustainability, sustainability embeddedness, and sustainable leadership. The limiting issues to sustainability embeddedness were also explored. The literature further acknowledges that sustainability embeddedness should be at the core of the organisation's strategies and that sustainable leadership has an important role to play. Sustainable leadership has the responsibility to instil sustainability embeddedness within the organisational strategies and processes. SOEs in general, and more specifically in the South Africa context, were explored and discussed. The chapter concluded by discussing the SOEs within the South African defence industry.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

The previous chapter reviewed the literature related to the research and developed a conceptual model to answer the research question. This chapter discusses the overall research paradigm, the research approach, the research design, and the methodology for data gathering. In this chapter, the justification for the selected methodologies related to the research questions and aim will be presented. Following the essential elements of a qualitative process, the limiting issues inhibiting sustainability embeddedness in Denel will be explored through discussions on the sampling frame, the pragmatic view of data analysis, the data gathering procedure, the background of qualitative data analysis software (Atlas.ti), and the trustworthiness and credibility of the research. The roadmap guiding Chapter 3 is presented in Figure 3.1.

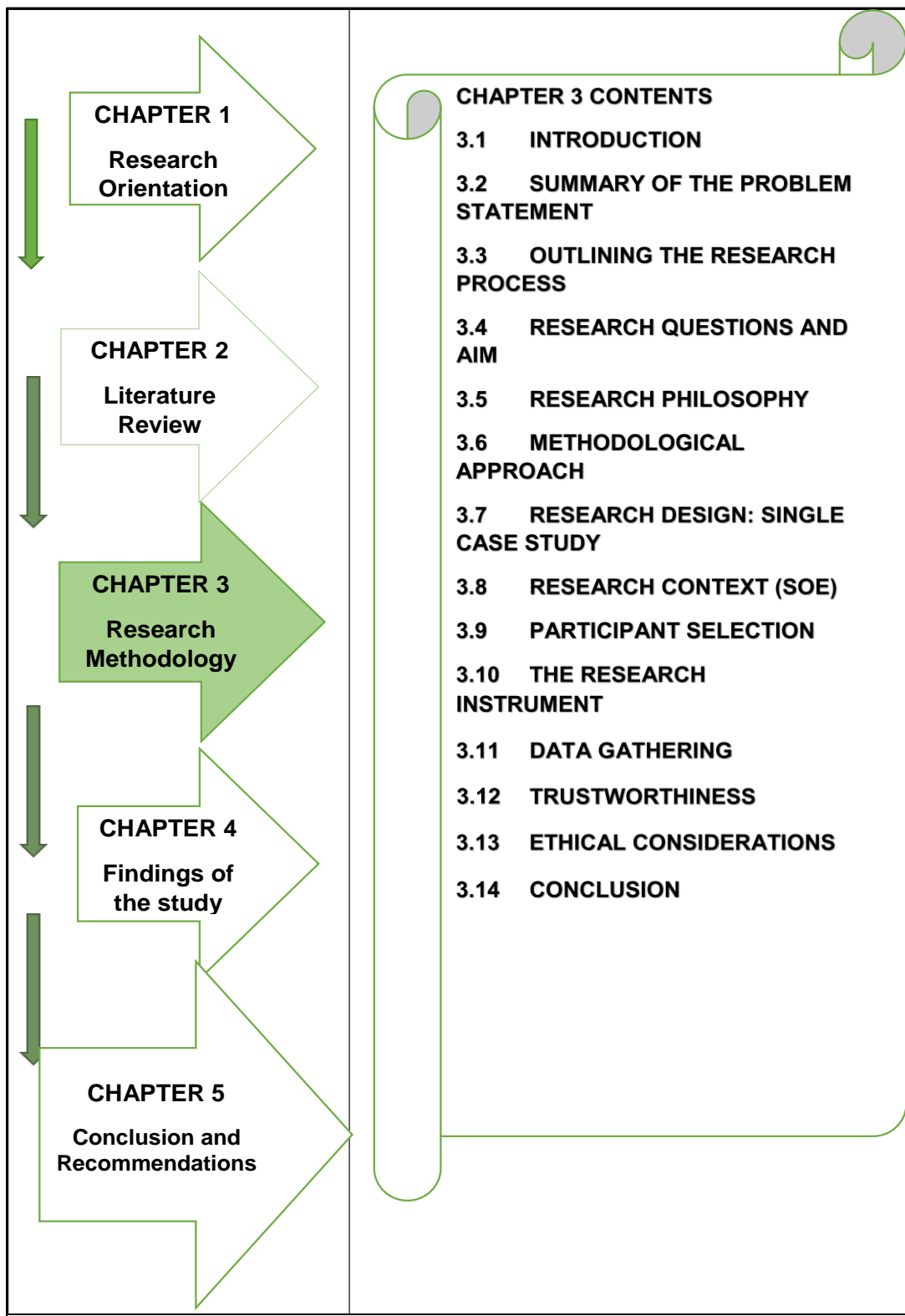


Figure 3.1: Chapter 3 Structure

Source: Own compilation

3.2 Summary of the problem statement

The embeddedness of sustainability in state-owned enterprises (SOEs) is of strategic importance to the South African economy (Afrika, 2020). Based on the study by Mustapha, Kruss and Ralphs (2018), it is essential for an in-depth case study to be conducted on the operations and sustainability of SOEs. A review of recent literature revealed that there is a shortage of published literature on sustainability embeddedness and the role of sustainable leadership within SOEs in the South African context (Qhobosheane, 2018; Thakhathi, 2016). Research exploring sustainability embeddedness and its practical application has not been widely studied (Bulmer et al., 2021; Trollman & Colwill, 2021; Le Roux & Pretorius, 2016; Valente, 2015). This research case study explored the limiting issues inhibiting sustainability embeddedness within an SOE that has faced various challenges in recent years. Sustainable leadership plays a significant part in ensuring sustainability embeddedness by positively influencing organisational members (Fry & Egel, 2021; Le Roux & Pretorius, 2016). To better understand the limiting issues, the study focused on the role of sustainable leadership in embedding sustainability embeddedness and addressing the limiting issues within the SOE.

3.3 Outlining the research process

The research process for this study is presented in Figure 3.2. A qualitative research process guided the study. This study acquired a thorough understanding of the limiting issues inhibiting sustainability embeddedness and the role of sustainable leadership in embedding the sustainability.

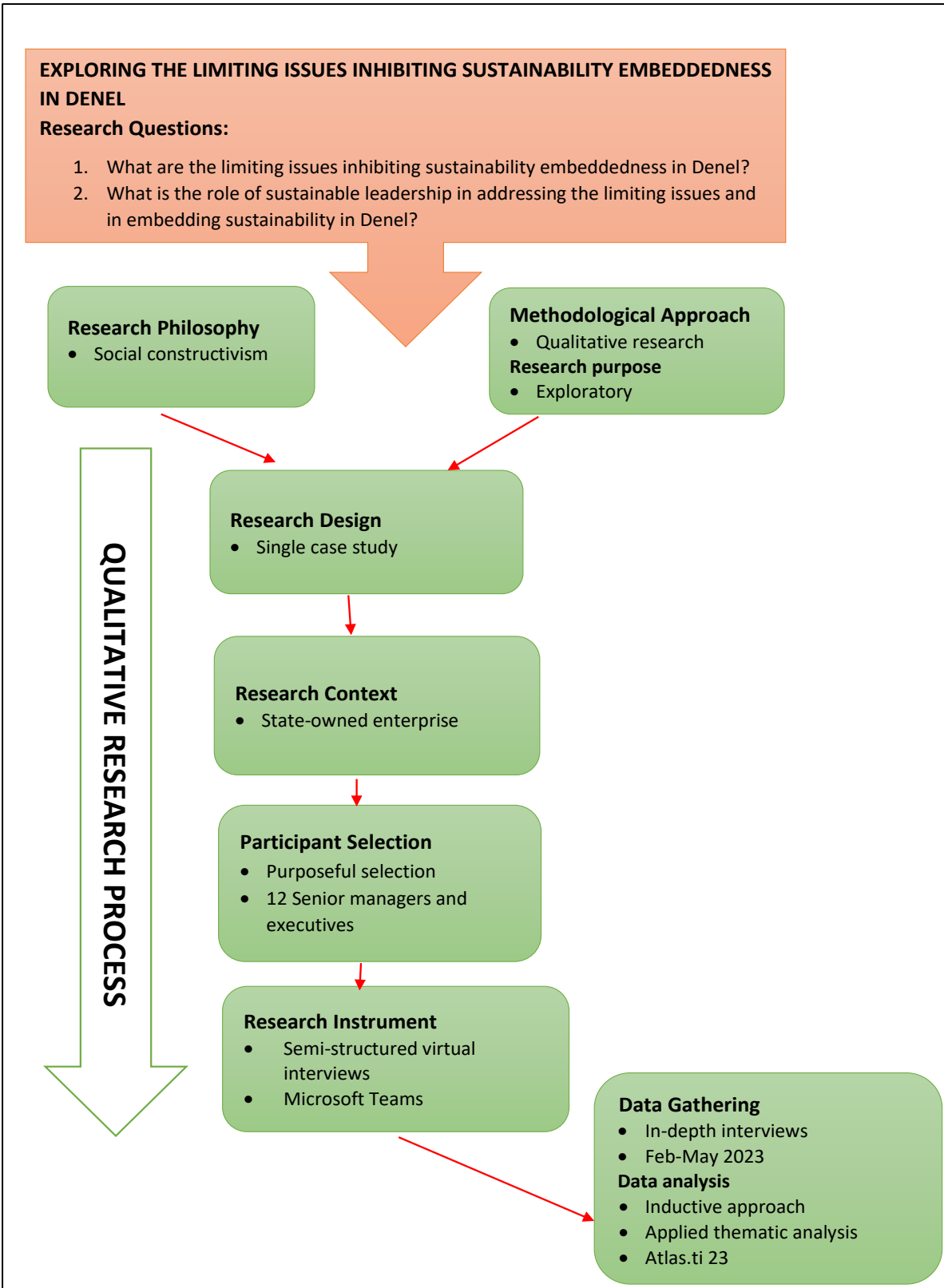


Figure 3.2: Qualitative research process

Source: Own compilation

Figure 3.2 exhibits the research process adopted by this study. The diagram outlines the methodological activities and steps undertaken by the study. The research questions, research philosophy, research methodology approach, research design, research context, participant selection, research instrument, and data gathering were highlighted. The next section will discuss the research aim and questions.

3.4 Research aim and questions

The aim of this study was to explore the limiting issues inhibiting sustainability embeddedness in the selected SOE case organisation (Denel).

In order to fulfil the aim of the study, the following research questions were formulated:

- (1) What are the limiting issues inhibiting sustainability embeddedness in Denel?
- (2) What is the role of sustainable leadership in addressing the limiting issues and in embedding sustainability in Denel?

Having highlighted the research aim and questions above, the appropriate research approach to follow is qualitative research. Creswell (2014) suggests that when a concept needs to be explored and understood due to limited research done on it, it merits a qualitative approach. However, before discussing the methodology, section 3.5 discusses the research philosophy for the study.

3.5 Research philosophy

The research philosophy reflects presumptions about the form in which data concerning a phenomenon should be gathered, analysed, and interpreted (Flick, 2014). The research philosophy behind this study is a social constructivism paradigm. Social constructivism describes knowledge as emergent, developmental, non-objective, and as viable constructed explanations by humans engaged in making meaning in cultural and social communities (Fosnot, 2013). Social constructivism entails stakeholders collaborating to construct artifacts. This paradigm, which is generally combined with interpretivism, seeks to interpret subjective constructions

(Creswell, 2014; Lincoln & Guba, 1985). Using social constructivism, the researcher interpreted the meanings ascribed to the limiting issues inhibiting sustainability embeddedness in Denel. Roller and Lavrakas (2015) ascertains that a qualitative research methodology is key because the outcomes from data gathering and analysis depend on the context quality. The authors further reveal that social constructivism and qualitative research are in a marriage of mutual respect.

Having discussed the research philosophy, the following section looks at the methodological approach.

3.6 Methodological approach

Qualitative research involves the analysis and gathering of non-numerical data to understand ideas, perceptions, and experiences related to the situation under investigation. It seeks to understand human behaviour within the social, cultural, and political contexts in which it occurs (Yin, 2018; Salkind, 2014). A qualitative research methodology is appropriate for this study since data will be gathered in order to understand the opinions, concepts, and experiences on the limiting issues inhibiting sustainability embeddedness (Yin, 2018). Furthermore, qualitative research can assist with obtaining an in-depth understanding of a dilemma or in creating fresh ideas for research (Arino, Lebaron & Hulliken, 2016). Arino et al. (2016) and Salkind (2014) contends that qualitative study is a social science which explores the processes that underlie human behaviour using exploratory techniques.

The research purpose is exploratory in nature since it explores the research topic with varying level of depth (Mukherjee, 2020). The benefit of exploratory research is to gain an initial insight into the under researched topic. Therefore, an in-depth level and better understanding of the research problem is required to answer the research questions, hence exploratory research will be relevant for this study.

3.7 Research design: single case study

Research design reflects the strategy for the study and the plan by which research is executed (Salkind, 2018). The research design constitutes a blueprint for gathering

and analysing data. For the design to elicit the required data, it must be relevant to the type of questions to be answered or the hypothesis to be tested. To provide an in-depth narrative and rich data content to answer the research questions of this study, the experiences and knowledge of senior managers and executives within the case organisation will be encapsulated.

The case study research design explores individuals, groups, or organisations within a unique setting in a detailed manner, yielding significant insights. On the other hand, it remains an empirical inquiry that investigates a contemporary fact in-depth and within its real-life context, especially when the boundaries between phenomenon and its context are not clear (Yin, 2014; Salkind, 2012). According to Igwenagu (2016), a case study is a research strategy or an objective inquiry that investigates a situation within its real-life settings. Salkind (2018) describes the case study method as an intensive study of a person, group, or unit, with the aim of generalising findings across multiple units. The case study strategy is deemed appropriate for this research because it allows for an in-depth exploration of the complex phenomenon, addressing varying levels of complexity related to the limiting issues inhibiting sustainability embeddedness within the SOE.

A qualitative single case study methodological approach and research paradigm will be employed to explore the phenomenon of interest. The single case study design is generally used in exploratory studies wherein adaptable and formless data gathering, such as qualitative research, is necessary. In this research study, a single case study design bolstered the chosen qualitative approach using semi-structured interviews as the principal source of data gathering (Eisenhardt, 1999). Furthermore, the single case study design assisted with asking the “what” questions of the limiting issues inhibiting sustainability embeddedness (Yin, 2018). Thus, the “what” questions will be significant to explore the limiting issues inhibiting sustainability embeddedness within an SOE.

This study warrants a single case study, which is flexible, sophisticated, and practically based to provide in-depth information on the limiting issues inhibiting sustainability embeddedness (Flyvbjerg, 2010). An intensive exploration was conducted to identify the limiting issues inhibiting sustainability embeddedness at the case organisation by interviewing the executives and senior managers. The research study seeks to explore

the role of sustainable leadership in addressing the limiting issues, and the role in embedding sustainability at the SOE. The following section discusses the research context.

3.8. Research context (SOE)

According to Yin (2018), a qualitative case study research involves intensive data gathering in an organisation. The selected organisation and site for data gathering in this study is Denel. Denel is a commercially directed SOE and a strategic associate for defence innovation, security, aerospace, and other linked technology solutions in South Africa. Denel represents a suitable research context within which this study was pursued due to its unique products offering and contribution to the defence industry (Denel report, 2020). Through the implementation of a waste and recycling management system, Denel is committed to environmental sustainability. The SOE's supply production and logistical support include qualification and testing, maintenance, upgrades, and demilitarisation. Denel designs and develops products and solutions that meet the dynamic end-user requirements of its customers and include full lifecycle support, reducing the cost of ownership (Denel report, 2020). Additional to its developmental and production competencies, Denel is the main constructor for a number of South African National Defence Force (SANDF) projects (South African Army, South African Air Force, South African Navy, and South African Military Health Service) (Denel report, 2020). This positions Denel as a specialist contractor to the defence industry, making it a relevant case study.

Denel has a clear strategic intent to establish itself as a complex, vibrant, financially sustainable, and profitable organisation. In addition, the organisation has plans to capacitate its employees regarding skills growth, technological modernisation, and talent retention, as well as to align with the transformation directive of government. However, the SOE continues to face liquidity threats and unsustainable operations due to various challenges (Denel report, 2020). Given Denel's commitment to creating a long-term sustainable SOE, this organisation is uniquely positioned to gather data to answer the research questions in this study. The long-term strategic intent is nurtured by Denel's revised vision, mission, and values, as illustrated in Table 3.1. Denel's strategy is grounded in achieving a considerable increase in revenue,

optimised cost and efficiency, a strengthened balance sheet, a transformed workforce, and modernised technology (Denel report, 2020). Consequently, their strategy is aimed at resolving financial performance difficulties premised on a two-sided proposal focusing on boosting business development and lowering business costs.

Table 3.1: Denel's strategic direction

Our Vision and Purpose	
Vision	We are an innovative global defence security and related technology solutions
Purpose	To provide turnkey solutions of defence, security and related technology, to our clients by designing, developing, integrating, testing and evaluating, and supporting artillery, armour-protected vehicles, missiles munitions, unmanned aerial vehicle systems, aircraft maintenance and aero-structures based on high-end technology, effectively and efficiently.

Source: Adapted from Denel Group (2020)

According to the Denel report (2020), corporate sustainability is associated with making a constructive improvement to advance the economic, social, and natural context of the organisation. Furthermore, the organisation employed specific steps to assure the economic use of limited natural resources, while preserving the environment. The SOE seeks to improve the cultural, economic, social, and environmental welfare of society, ensuring that the resource needs of future generations are not compromised (example, implementation of programmes such as waste and recycling as well as land stewardship and nature conservation) (Denel Group, 2020), which reflects the importance for this case study organisation. The following section will discuss participant selection.

3.9 Participant selection

The method utilised to identify and select participants was purposeful selection (Lewis, 2015). Purposive sampling involves choosing participants that are best suited for rich and in-depth data gathering (Lewis, 2015). This allows the researcher to intentionally select participants based on those who would provide the richest and most relevant data to support answering the study's research questions (Yin, 2018). Executives and senior managers employed at Pretoria and Centurion's Denel branches were purposefully selected for this study to allow for rich data gathering, because they are the staff tasked with ensuring sustainability embeddedness within the organisation. During the selection process, no managers or executives will be unfairly included or excluded from the interviews (Yin, 2018). Senior managers and executives are responsible for the overall strategic direction of the organisation and its survival in the long run, as well as for further overseeing the advancement of social, economic, and environmental factors to ensure sustainability embeddedness and fulfil the vision. Kutzschbach (2021) and Beckmann, Schaltegger and Landrum (2020) highlight that top managers are both the drivers and implementers of corporate sustainability and have the responsibility to deliver on value creation while ensuring the organisation remains sustainable by exercising their decision-making powers. Therefore, this study considered senior managers and executives as top managers within Denel.

According to the Denel Group's integrated report (2020), there are 67 executives and senior managers in total (see Annexure E). Twenty (20) participants were intentionally drawn from a list of senior managers and executives using purposive sampling. This was done with a view to better inform the researcher about the problem under investigation (Yin, 2018). A list of senior managers and executives was sourced from the gatekeeper. The permission from the gatekeeper (see Annexure A) was sought to ensure the trustworthiness of the study (Weaver-Hightower, 2019). This study also complies with South Africa's Protection of Personal Information Act (POPIA). This is to ensure that there is sufficient protection of participants' personal information during the research process. The study developed the inclusion and exclusion criteria to determine the specific participants fairly and systematically (Booth, 2016). The inclusion and exclusion criteria as indicated in Table 3.2 applied. Choosing participants with six months experience and above ensured that participants had been in the job

for at least two business quarters. All potential participants who did not meet the inclusion criteria were excluded from participating in the study.

Table 3.2: Participants inclusion and exclusion

Inclusion criteria	Exclusion criteria
a. More than six months experience	a. Less than six months experience
b. Engaged/involved in sustainability initiatives one way or the other	b. No involvement/engagement in sustainability initiatives
c. Executive or senior management	c. Non-executive or senior management
d. Between 18 and 65 years of age	d. Younger than 18, or older than 65 years of age
e. Based in Pretoria	e. Not based in Pretoria

Source: Own compilation

3.10 The research instrument

The researcher conducted individual interviews to generate and gather data, and was directed by the interview guide. Chambliss and Schutt (2012) observed that an interview guide is best suited for gathering data within qualitative exploratory studies. The questions were designed to gather data to assist in answering the overall research questions. The research instrument is discussed below and can be seen in Annexure F.

3.10.1 Interviews

Interviews are the most common (Kumar, 2011) and the most appropriate (Lewis, 2015) tool utilised to gather qualitative research data. Interviews are conversations intended to generate information and are suited to the collecting of data from participants in social science research (Kumar, 2011). Semi-structured interviews were used for gathering data to answer the research questions by asking participants the “what” questions, whilst revealing how they view sustainability, sustainable leadership, and limiting issues inhibiting sustainability embeddedness within an SOE.

Semi-structured interviews were selected since they possess the elements of both structured and unstructured interviews (Kumar, 2011). Based on findings by Guest et al. (2006), data saturation occurs after twelve (12) interviews are conducted. Therefore, this study aimed to include 20 participants, and continued with interviews until the data saturation point was reached. Semi-structured interviews allowed the participants to further elaborate on their answers while adding rich data for the researcher to harvest. Furthermore, interviews employ theoretically driven questions to elicit information from the participants' experience, along with data from the existing framework in the particular domination (Yin, 2018). By employing the above data gathering method, the researcher explored and properly understood the 'what' of the contextual dynamics of the study at hand (Lewis, 2015). The following section discusses the data gathering method.

3.11 Data gathering

Rich data is necessary to address the research questions. The data were collected using qualitative methods. Rich data is crucial to obtain deeper insights into the phenomenon being explored (Salkind, 2018). Data gathering involves gathering information applicable to the study through one of the following primary methods: participating in the setting, observing directly, in-depth interviews, and documents analysis. In this study, the researcher gained rich narrative data through in-depth interviews in order to answer the research questions. The method chosen to gather data (semi-structured in-depth interviews) encapsulated the experiences and views of senior managers and executives at Pretoria and Centurion branches of Denel, pertaining to sustainability embeddedness and the role of sustainable leadership. The Pretoria and Centurion locations are appropriate since Denel's top-level managers are found within the headquarters of Denel branches in the specified areas. Top level managers play a crucial role in driving the organisations to achieve key strategic goals, while also leading managers beneath them to successfully implement organisational sustainability objectives (Guedes & DA Conceição, 2018). Top-level managers are appropriate participants for this study since they are responsible for the strategic formulation and direction of the organisation and are better placed to provide valuable insights for rich data gathering. Participants were contacted for their availability using telephone numbers and email addresses provided by the gatekeeper, and informed

consent (see Annexure D) was sought prior to the commencement of interviews. Participants were asked questions, guided by the research questions for the study, in order to gather rich data.

Participants were listed in a table by their pseudonyms (see Table 3.3), and these were used to label and record their responses to provide confidentiality. Table 3.3 illustrates the date, time, and length of each interview session with each senior manager and executive. A file was saved with pseudonyms to protect the identity of the participants. The researcher conducted one-on-one interviews virtually using Microsoft Teams. Interviews were recorded using Microsoft Teams; however, permission and informed consent were obtained from the participants before recording (Yin, 2018). Furthermore, participants were asked whether they need clarity regarding the study before commencement of the interviews. An interview guide was used to assure consistency of questions throughout the interviews (see Annexure F). Table 3.3 below indicates a total of twelve (12) participants interviewed from February to May 2023. The researcher conducted a combined total of ten hours (10h) twenty minutes and forty-one seconds for all the interviews. Three executives and nine senior managers were interviewed for the study.

Table 3.3: Data gathered during interviews

Pseudonym	Manager	Executive	Date	Duration (Time)
Abram		Senior Executive	06 February 2023	35:40
Benny	Senior Manager		14 February 2023	33:07
Charles	Senior Manager		18 February 2023	54:40
Denny		Senior Executive	01 April 2023	31:38
Emanuel	Senior Manager		11 April 2023	01:04:04

Freddy	Senior Manager		12 April 2023	33:21
Gabriel	Senior Manager		14 April 2023	48:16
Hilary	Senior Manager		19 April 2023	01:29:35
Isaac	Senior Manager		19 April 2023	50:05
John	Senior Manager		20 April 2023	01:27:00
Kham		Senior executive	24 April 2023	37:39
Moses	Senior Manager		19 May 2023	55:36
	Total Interview Time			10:20:41
	Total Average Time			51:43

Source: Own Compilation

3.11.1 Data Analysis and Synthesis

This study followed an inductive and deductive approach (Salkind, 2012) to analyse the data. An inductive bottom-up approach, where the study uses observations to describe a phenomenon under research, was conducted (Ryan, 2018). Furthermore, a deductive approach (top-down method) where the researcher starts with a general theory and subsequently tests it, was adopted (Woiceshyn & Daellenbach, 2018). This study initially employed an inductive reasoning approach and later tested the theory (through a deductive approach) by utilising other studies to confirm the findings. An inductive approach involves qualitative methods such as case studies and ethnography, which enables answering the research questions (Woiceshyn & Daellenbach, 2018). An inductive research approach is aligned with the philosophical lens chosen for this study (social constructivism) and with the methodological approach (qualitative research) (Creswell, 2014).

To analyse data, an applied thematic analysis (ATA) was used to interpret the data derived from the interviews. The ATA approach is an inductive set of processes designed to identify and examine themes from textual data in a transparent and credible way (Guest, MacQueen & Namey, 2012). Figure 3.3 outlines the analytic procedure that the researcher pursued to analyse the data. Based on the narrative by Weaver-Hightower (2019), researchers who wish to be skilful in analysing the qualitative data must properly grasp coding. For this study, the data for analysis was first processed for transcription and stored in the case study database. Secondly, the data was disassembled through coding using ATLAS.ti software. Thirdly, the data was analysed, and finally, the actual results were documented and securely stored.

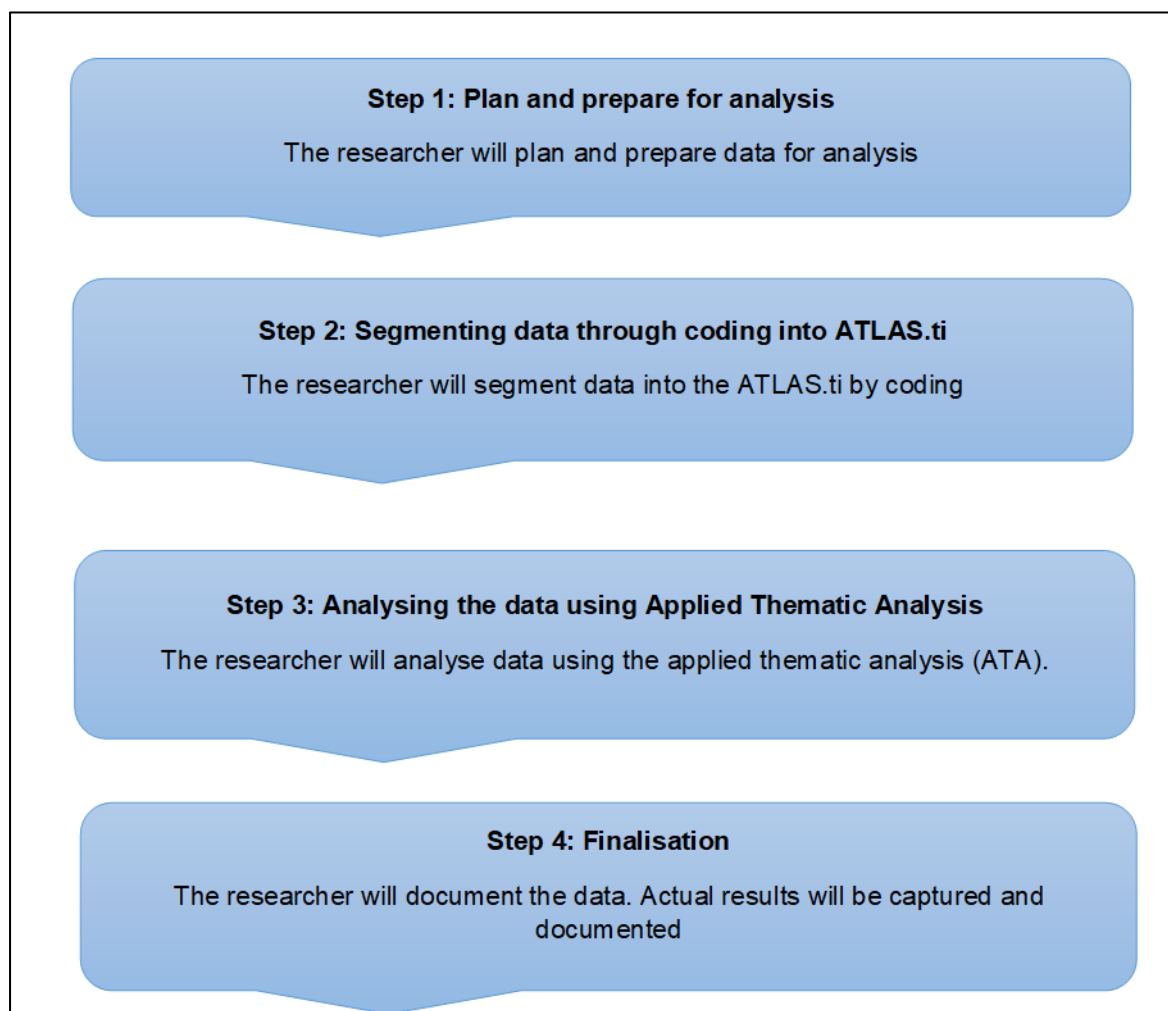


Figure 3.3: Data analysis process

Source: Adapted from Flick (2014)

The researcher made observations, sought patterns in the data, and theorised patterns at the end of research. This approach also aimed to generate meanings from the collected data in order to build a theory learning from senior managers and executives' experiences of the limiting issues (Yin, 2018). This study started by gathering data relevant to the limiting issues. Once this step was completed, a theory was formulated (Ryan, 2018). A more detailed data analysis is provided in Chapter 4.

Having outlined the qualitative data analysis above, the following section discusses how trustworthiness was established in this study.

3.12 Trustworthiness

Trustworthiness reflects the level of reliance in data, explanations, and methods employed to assure the quality of the research study (Nowell, Norris, White & Moules, 2017). The researcher sought permission from the gatekeeper to ensure trustworthiness of the study. Trustworthiness is the quality that inspires reliability. There are two methods of trustworthiness described by Creswell (2009): qualitative validity, which assesses the accuracy of findings by using certain processes; and qualitative reliability, which measures consistency across various researchers and studies. Figure 3.4 illustrates the trustworthiness of the study. Based on Figure 3.4, trustworthiness can be divided into four criteria: credibility, transferability, dependability, and conformability.

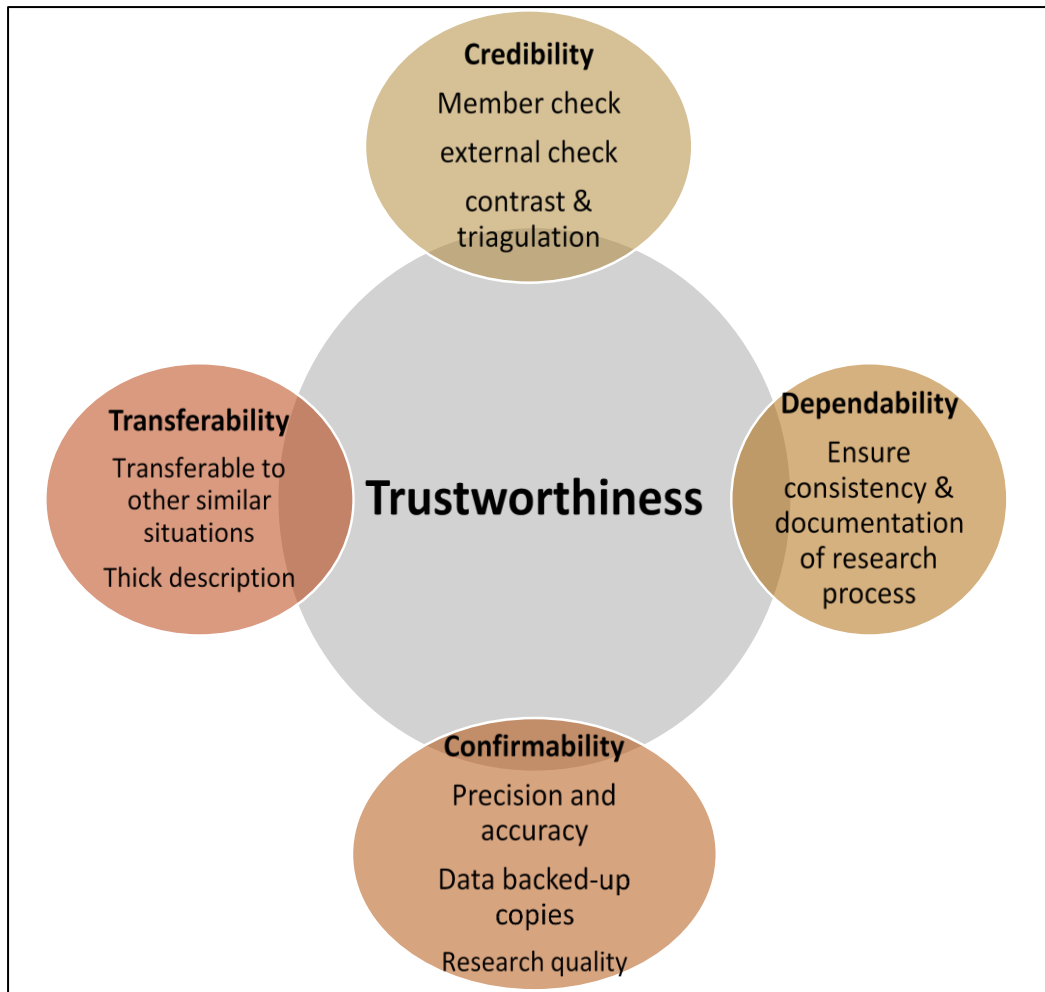


Figure 3.4: Trustworthiness of the study

Source: Own compilation

Using Figure 3.4, the trustworthiness of the study will be established as follows:

3.12.1 Credibility

Credibility is the degree to which the research results are plausible and relevant (Salkind, 2014). Credibility is one of the most significant elements to assure the trustworthiness of the study. To ensure credibility, interviews were conducted virtually via Microsoft Teams with all the participants. Microsoft Teams allowed the researcher to schedule interviews at a time and place suitable for the participants. To increase credibility, this study used member checking (Ghafouri & Ofoghi, 2016). In each interview situation, an average 51 minutes and 43 seconds (51:43) were exhausted with each participant (as illustrated in Table 3.3). The participants participated

voluntarily in the study and shared the information freely. To ensure authenticity, data gathered through interviews were recorded precisely using Microsoft Teams, with the permission of participants. The recorded interviews were sent to a professional transcriber who transferred them into Microsoft Word documents (see confidentiality agreement in Annexure G). The supervisor and co-supervisor reviewed the research procedures and findings at each consecutive stage of the research study and the study received ethical clearance from UNISA (see certificate in Annexure B).

3.12.2 Dependability

Dependability reflects the coherence and the manner in which the research findings are definitive (Kalu, 2017). This study ensured consistency across time during the research process. According to Flick (2014), the documentation of research processes is crucial for ensuring dependability. The study employed an interview guide to ensure that all participants were asked the same questions throughout the interviews. The interview guide is included as Annexure F. The questions in the interview guide, as derived from the literature, were clear and straightforward to understand.

3.12.3 Confirmability

According to Flick (2014), confirmability reflects the degree by which other researchers align with the research findings. Salkind (2014) described confirmability as the objectivity of the study during data gathering and analysis. This criterion reveals a measure to demonstrate the research quality. The semi-structured interview guide was utilised to ask questions throughout interviews. The participants were permitted to answer questions freely without any disturbance to ensure research quality and compliance. Participants were not compelled to answer the questions in a way that favoured the researcher. This criterion also relied on precision and accuracy in the research, which was achieved when all other criteria (credibility, dependability, and transferability) were met (Stahl & King, 2020; Nowell et al., 2017). Data backed-up copies will be made available to any mediator or person aspiring to confirm the quality of the research undertaken.

3.12.4 Transferability

Transferability reflects the technique whereby the results can be generalised to other related environments in qualitative research (Kalu, 2017; Korstjens & Moser, 2017; Salkind, 2014). Comprehensive data was accumulated from the participants. Due to the study's scope, the results of this study cannot be generalised. However, the researcher provided detailed data correlating to the methodology of the study to allow readers to decide whether the data can be transferable to other similar environments, especially in SOE contexts. The research design and the purposive sampling chosen were well segmented in the study to allow transferability to other related situations (Anney, 2014). Furthermore, a thick description was utilised to check how well the research fits with other similar studies. A thick description entails a well-described social action or behaviour within the research context with a view to providing meaning for an outsider (Stahl & King, 2020; Anney, 2014). Ethical considerations are discussed in the following section.

3.13 Ethical considerations

Ethical research involves a mixture of values, norms, and organisational preparations that helps to regulate scientific processes (Van Zyl, 2014). Permission to conduct research was sourced from the case organisation as well as Unisa's Ethics Review Research Committee. The permission letters can be seen in Annexures A and B. There was an adequate level of confidentiality during the research process. Due to the executives and senior managers' busy schedules, this research followed an online data gathering method in order to accommodate executives and senior managers. Online virtual interviews offer various advantages, such as, arranging priorities, cost effectiveness, and time convenience (De Villiers et al., 2022). The ethical clearance certificate was acquired from Unisa's Department of Business Management Research Ethics Review Committee (see Annexure B). To comply with the ethical clearance processes, the following precepts were observed and practiced:

3.13.1 Confidentiality

Confidentiality reflects a situation in which the researcher knows the identity of the research subjects and takes appropriate steps to shield the identity from being seen by uncertified individuals (Van Zyl, 2014). Participants' identifiers and the audio recordings were confidentially secured in a password protected MyUnisa SharePoint and laptop. The participants' right to privacy were ratified at all times. This study employed pseudonyms to safeguard the participants' identifiers throughout the interviews.

3.13.2 Voluntary participation

Voluntary participation refers to a human research subject's exercise of choice in deciding whether to participate in a research study (Walliman, 2011). Participants were not compelled to participate in the study. The engagement of all participants was predicated upon informed consent. Voluntary participation refers to a human research subject's exercise of choice in deciding whether to participate in a research study (Walliman, 2011). Participants were not compelled to participate in the study. The engagement of all participants depended on informed consent. An information sheet as well as an informed consent obtained from the participants can be seen in Annexure C and D.

3.13.3 Non exploitation

Non-exploitation reflects the unwillingness to misuse participants or institutions throughout the course of the study (Flick, 2014). The researcher avoided manipulating the participants and the institution at all times during the research process. The participants and organisation will receive results of research after the finalisation of the study and once it has been signed by official acceptance into Unisa's Master's Dissertation repository.

3.13.4 Honesty, fairness and integrity

The process to select the participants was fair, just, and objective, as illustrated in Table 3.2. The researcher disclosed any connection with the participants which might jeopardise the study. The following section will discuss the researcher's role disclosure.

3.13.5 The researcher's role disclosure

Qualitative research requires that the researcher's role be disclosed to avoid potential conflict of interest during the research process (Unluer, 2015). This research study offers an insider perspective about the researcher and the research project. Chammas (2020) forewarned about the personality of the researcher, which should be prevented to limit bias. To mitigate bias, notes were developed about thoughts, feelings, and responses to place each discussed question into the research perspective (Chammas, 2020). Furthermore, the researcher avoided making assumptions or relying on gut instinct to limit bias. The researcher followed the interview protocol and used the interview guide (see annexure F) to ensure that all participants are asked the same questions throughout the interviews.

The researcher is an employee of the Ministry of Defence (South Africa) while participants are senior managers and executives at Denel. Although the participants and the researcher are in the same sector, they do not work in the same organisation. The participants do not report to the researcher nor does the researcher report to the participants. However, being in the same sector offers insider advantages, such as understanding the nature of the business participants pursue, the jargon used, and easy access to documents for research (Unluer, 2015). Being employed within the South African Ministry of Defence and Military Veterans and knowing some of the staff within the case organisation assisted the researcher with contacts (Hayfield & Huxley, 2015). The assistance of the researcher's former immediate supervisor (acting chief of staff) also helped with locating the executives and senior managers. The researcher developed and kept a reflective journal to limit bias and preconceived notions of the case organisation. To comply with research ethics, the participants were informed that there were no right or wrong answers to the questions asked, and that pseudonyms

would be used to conceal the identity of the participants and uphold their confidentiality.

3.14 Conclusion

This chapter highlighted the research approach and strategy adopted by the study. The research method (qualitative), research design (case study) and paradigm (social constructivism) were highlighted and discussed. The chapter also outlined the instruments used in data gathering and analysis. The interview protocol and processes, including data transcription were discussed. The ethical considerations, in adherence with Unisa's Research Ethics guidelines, were also discussed. The chapter concluded by discussing the researcher's role disclosure.

CHAPTER 4: FINDINGS OF THE STUDY

4.1. Introduction

The purpose of this study was to explore the limiting issues inhibiting sustainability embeddedness in Denel and to explore the role of sustainable leadership in addressing the limiting issues. Chapter 3 explained the qualitative exploratory research methods and presented a single case study as the preferred design. The single case study allowed the researcher to gather detailed data to answer the research questions. The study used semi-structured interviews to gather data virtually from the participants. The researcher used Atlas.ti software version 23 to analyse and interpret data from the 12 participants using codes. Atlas.ti software enabled the researcher to explore the phenomena hidden in the data.

This chapter discusses the findings of the study relating to the research questions. The chapter started with background to data gathering, followed by profiling of participants and an interview summary, data formation and analysis, themes, linking themes to the research questions, and the discussion of themes. The road map guiding Chapter 4 is presented in Figure 4.1 below:

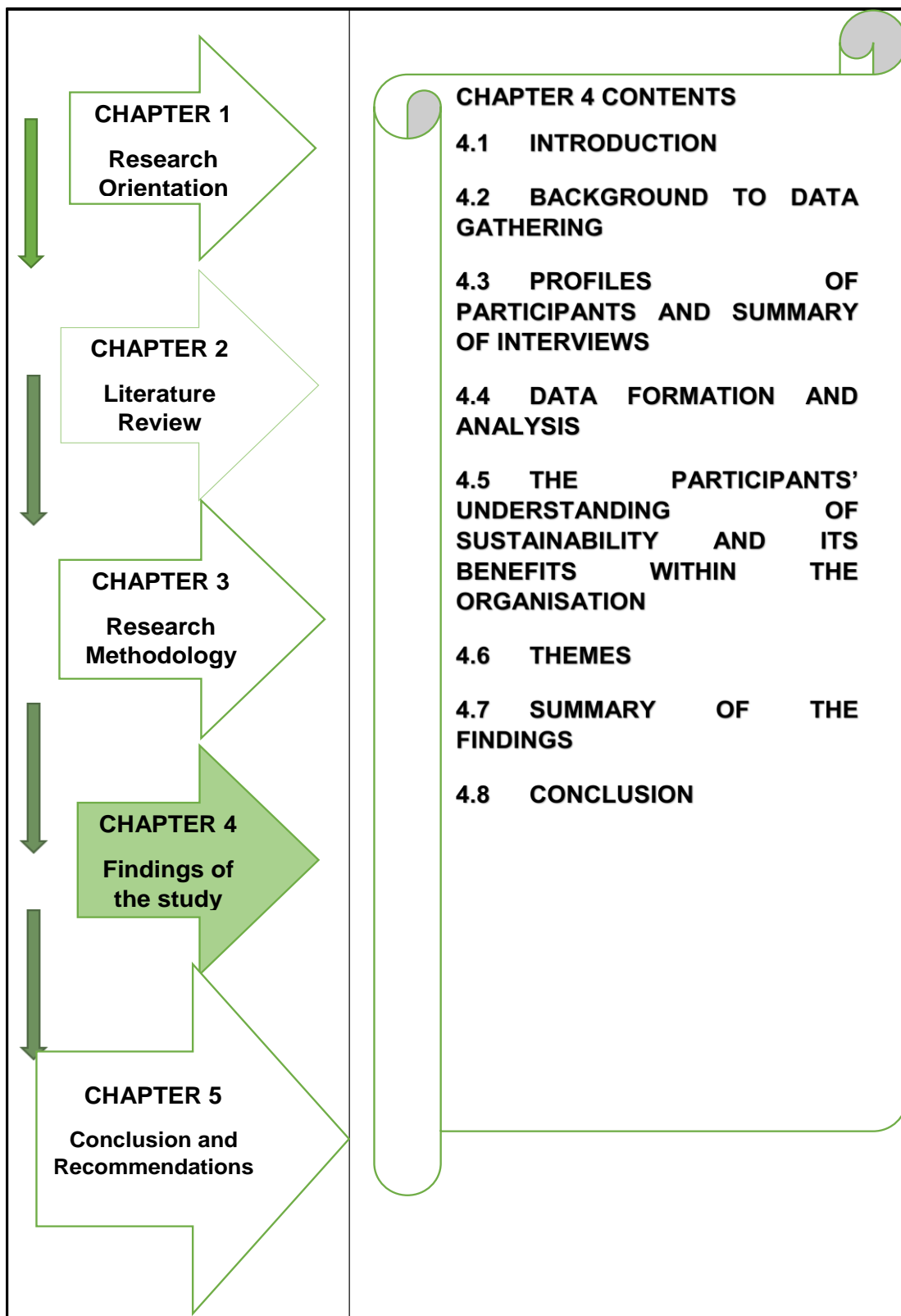


Figure 4.1: Chapter 4 structure

Source: Own Compilation

4.2. Background to data gathering

This section provides details regarding the data gathering process of the study. The researcher gathered data from February 2023 to May 2023. Figure 4.2 indicates the timelines for data gathering and analysis. As stated in Chapter 3, a total of 67 senior managers and executives were earmarked for this study (see Annexure E). However, out of the 67 participants, 20 were selected using purposive sampling guided by the inclusion and exclusion criteria. Out of the 20 participants, 12 agreed to participate and interviews were conducted virtually via Microsoft Teams. The 12 participants were considered the final sample for this study after the saturation point was reached. Prior to the commencement of the interviews, an introductory email with the consent form and information sheet attached, was sent to the participants. Consent forms were signed by all eligible participants who agreed to take part in the interviews. Consent forms ensured that the researcher complied with the university's ethical requirements and that the participants voluntarily participated in the study (Annexure D). To protect the identity of the participants, pseudonyms were used to de-identify them. Even though the researcher knew the real identities of the participants, the transcripts were recoded and analysed using pseudonyms to limit the researcher's bias. The researcher analysed and interpreted each of the qualitative data documents through systematic processes of data refinement, coding, and decoding (Saldaña, 2021). These processes evolved through various simultaneous and iterative research processes, including data collection, transcription of video-recorded semi-structured interviews, and data analysis. Coding methods and terminologies were employed, as indicated by Saldaña (2021). Descriptive codes and a few in vivo codes were used by the researcher. These codes were established inductively (data-driven) and deductively (theory-driven).

Upon the completion of the 12 virtual interviews, the video recordings of all 12 interviews were sent to the transcriber. The transcriber converted and transcribed all video recordings into Microsoft Word documents. Once all the video recordings were transcribed, the Microsoft Word transcripts were returned to the researcher. The transcriber confirmed in writing that all the recordings sent to her were deleted upon completion of transcription. In preparation for data analysis, a quality check was done by the researcher to ensure data integrity and minimisation of errors (for the signed

confidentiality agreement, see Annexure G). The researcher conducted member checking with the participants by emailing all the transcribed interview transcripts to the respective participants. None of the participants objected or rectified the transcripts and this further affirmed the correctness and validated the completeness of the interview transcripts before data analysis.

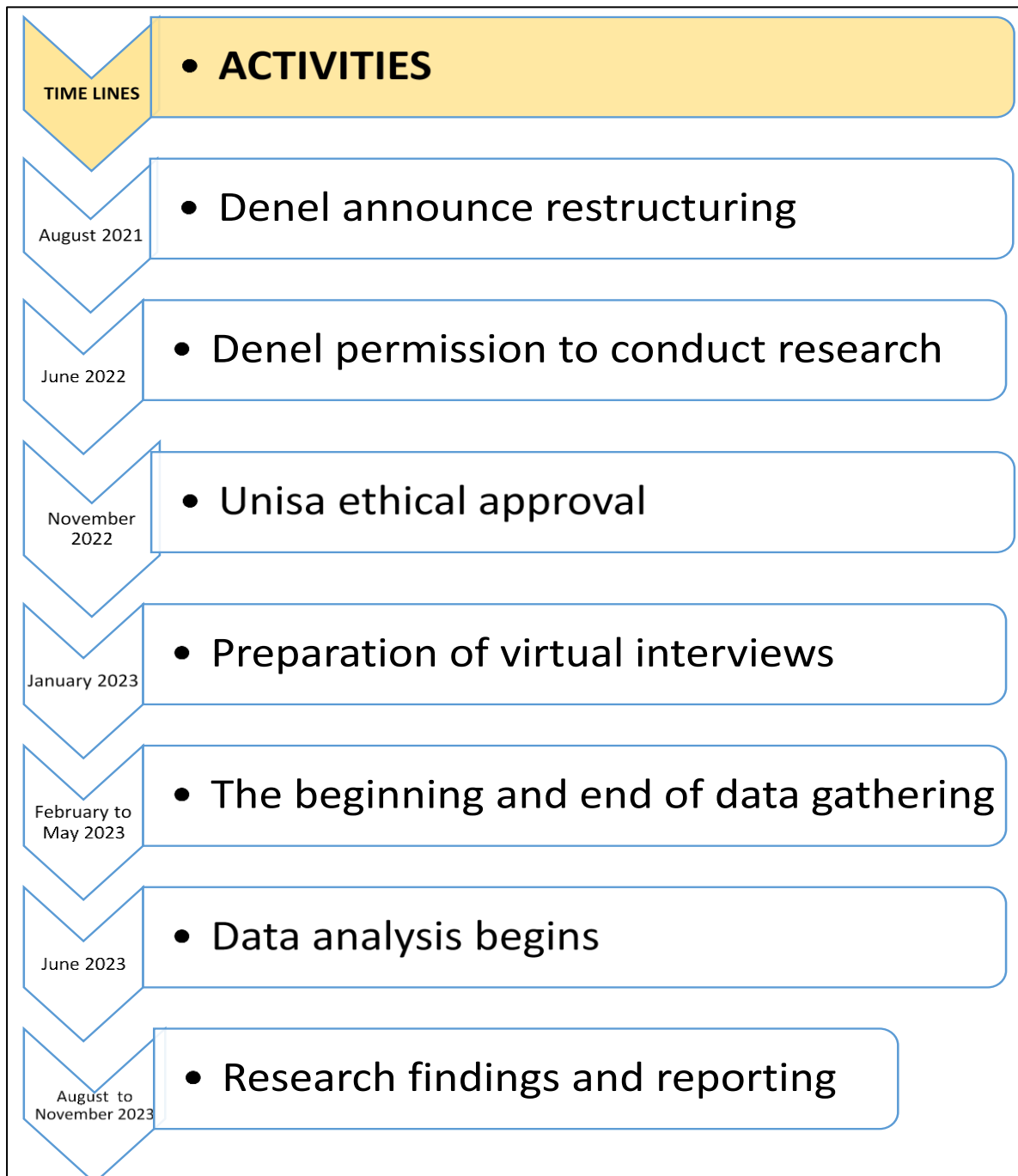


Figure 4.2: Data gathering and analysis time-lines

Source: Own Compilation

As can be seen in Figure 4.2, Denel announced organisational restructuring in August 2021 and the researcher obtained a permission letter to conduct research in June 2022, and the Unisa ethical approval in November 2022. Furthermore, preparations for virtual interviews started in January 2023 and data gathering commenced from February 2023 to May 2023. Data analysis was conducted from June to July 2023 and research findings and reporting were done from August to November 2023.

4.3. Profiles of participants and summary of interviews

This section presents participants' profiles, and the summary of interviews conducted. All interviews were conducted virtually via Microsoft Teams at a time that was convenient to the participants. Virtual interview protocols were observed and adhered to. Table 4.1 presents participant profiles and a summary of the interviews.

Table 4.1: Participants profile and interview summary

PARTICIPANT PROFILE	YEARS OF EXPERIENCE	INTERVIEW SUMMARY
Participant 1, Abram. Top Level Manager	13 years	Abram provided executive experience and background when answering the interview questions. He spoke freely about his personal experience. The interview session went well, and sufficient data was collected.
Participant 2, Benny. Senior Manager	3 years	Benny was relaxed and shared his experience freely. He was straightforward with many of his answers, and he seemed to understand what needs to be done in order to advance sustainability embeddedness. He indicated that managers are currently starting a new organisation where elements of

		sustainability and sustainability embeddedness has to be revisited.
Participant 3, Charles. Senior Manager	17 years	Charles was knowledgeable about sustainability embeddedness concepts. He shared his experience at liberty, and supplied applicable answers. He indicated that he is also responsible for policy formulation and implementation within the organisation, which made him an informative participant. His experience provided useful information.
Participant 4, Daniel. Top Level Manager	21 years	Daniel was very confident about the topic being discussed. He freely answered the interview questions. He indicated that Denel is a unique organisation that cannot easily be replaced. He has been in the organisation for more than 21 years and was very precise when answering the interview questions.
Participant 5, Emanuel. Senior Manager	9 years	Emanuel was calm and relaxed. He requested explanations of sustainability concepts before we started with interview questions. He offered thorough explanations and was elaborate when answering.
Participant 6, Freddy. Senior Manager	8 years	Freddy thought carefully before answering the interview questions. An overall good interview session with the participant. He has knowledge of the legislative framework imposed by

		the government affecting SOEs and was able to discuss the inhibitors to sustainability embeddedness. Freddy was hopeful that the current Chief Restructuring Officer can turn Denel around and make it profitable.
Participant 7, Gabriel. Senior Manager	19 years	Gabriel was eager to share his experience and thoughts with the researcher. He indicated that he likes the concept of sustainability. He gave substantial and applicable information relating to sustainability and sustainability embeddedness within Denel. He felt more comfortable knowing that I, (the researcher) work within the Ministry of Defence Office. The participant indicated that SOE's are operating and punching below their weight (they are performing poorly).
Participant 8, Hilary. Senior Manager	9 years	Hilary shared the information freely. He provided thoughtful answers to the interview questions. He took his time to elaborate on his experiences and provided the required depth in his answers. Hilary had insight into the SOE and the economy and provided insight into the new re-structuring initiative forming part of Denel's sustainability journey.
Participant 9, Isaac. Senior Manager	28 years	Isaac was very energetic and ready to answer the interview questions. Isaac indicated that he studied sustainability

		<p>concepts during his time at a tertiary institution. He shared from his depth of experience and did so comfortably. Isaac described things factually.</p>
<p>Participant 10, John. Senior Manager</p>	<p>11 years</p>	<p>John was very articulate when providing answers. He was quick to ask for clarification where he did not understand. He provided in-depth answers by giving examples to the answers provided. He provided the information and background freely and honestly.</p>
<p>Participant 11, Kham. Top Level Manager</p>	<p>10 years</p>	<p>A well-rounded session with Kham. He was brutally honest with the answers and his 10 years meant he had seen expertise leaving the company and saw this as a contributing factor to the challenges experienced by the SOE. Kham affirmed the role of management in bringing about change and was positive about Denel's ability to be sustainable and profitable again.</p>
<p>Participant 12, Moses. Senior Manager</p>	<p>20 years</p>	<p>Moses was very security conscious at the start of the interview and was hesitant to open up. After being assured that the study had ethical clearance and he was assured of his confidentiality he began participating and shared his experience and knowledge at will.</p>
<p>Total years of experience</p>	<p>168 years</p>	
<p>Total average experience</p>	<p>14 years</p>	

Source: Own Compilation

Table 4.1 outlined all the senior managers and executives that were interviewed. Using Table 4.1, the researcher briefly shared the participants' profiles and frame of mind during the interviews. Pseudonyms were used to ensure confidentiality. The table briefly indicates the participants' years of experience in both senior management roles and in the executive. The participants had a combined total of 168 years of experience and an average of 14 years within senior management and executive roles.

4.4 Data formation and analysis

The 12 interviews produced 136 pages of transcribed data and 636 minutes (10h20m41s) of audio recordings. Data formation is illustrated in Figure 4.3.

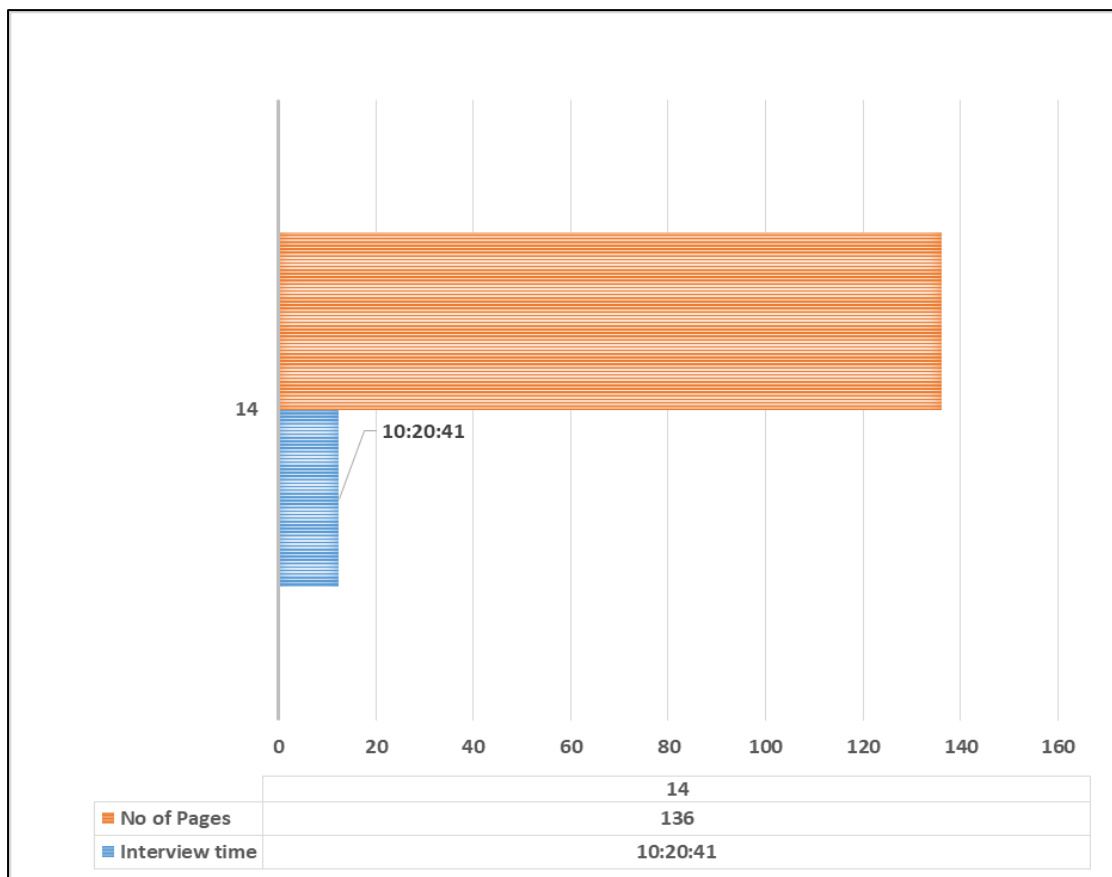


Figure 4.3: Data formation

Source: Own Compilation

The responses from the 12 participants were analysed using Atlas.ti software version 23. Atlas.ti is qualitative data analysis computer software appropriate for in-depth data analysis using quotations, codes, and codes categories (Archer, Janse van Vuuren & Van der Walt, 2017). Using Atlas.ti, the researcher started by marking quotations and creating codes using data from the interviews following thematic analysis. Quotations are sections of data selected in preparation for coding, while codes are quotations marked (labelled) to create codes. In this study, codes were analysed and assessed by the researcher to prevent redundancy.

A code list of 154 codes were created and later reduced to 29 codes after reassessment and reanalysis. Out of the 26 codes, 12 code categories were created. There are 484 direct quotations covering data from the 12 interviews. Figure 4.4 indicates the data analysis process and introduces the sub-themes.

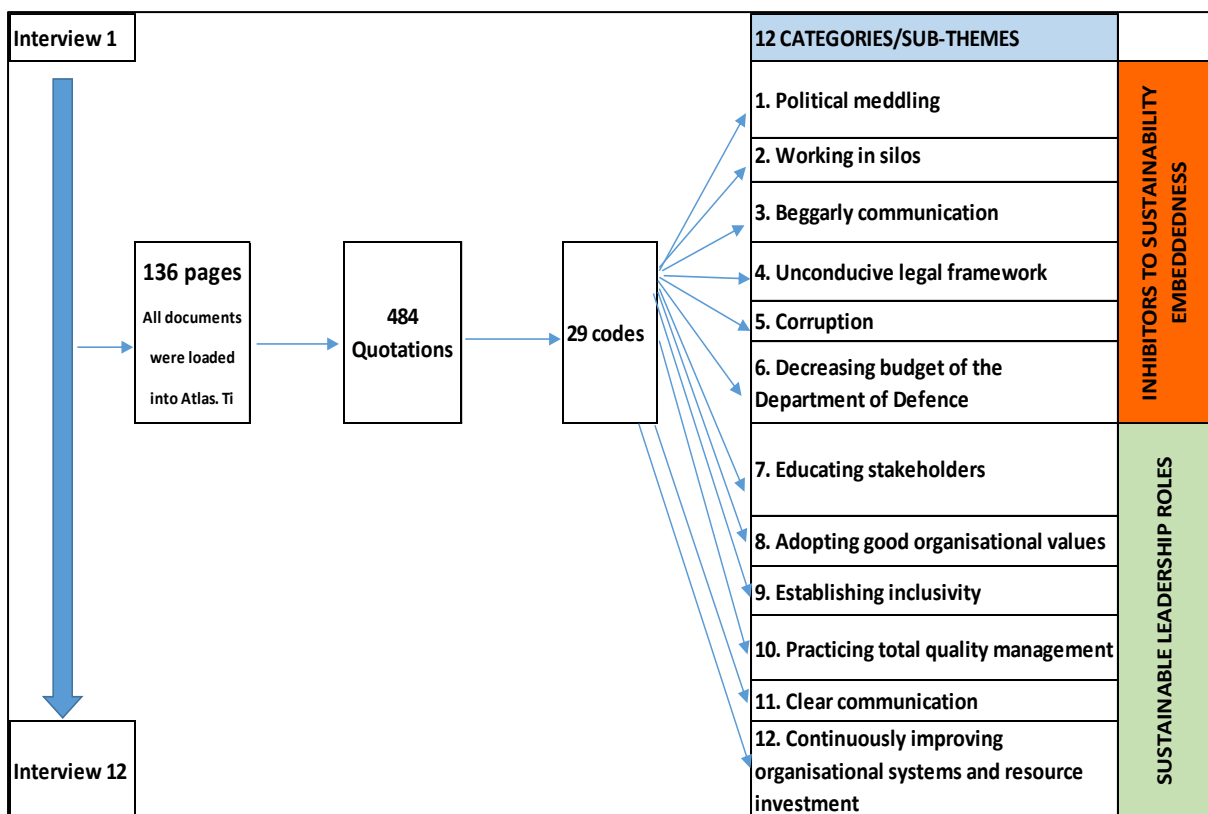


Figure 4.4: Data analysis process

Source: Own Compilation

Codes were created and grouped into categories to create themes for in-depth data analysis (Archer et al., 2017). Codes unfolded through an iterative process where refinement, review, and grouping of codes took place. There were 12 sub-themes which emerged in relation to the study objective and the research questions. The 12 sub-themes were grouped into two main themes for the study, namely: (1) inhibitors for sustainability embeddedness (political meddling, working in silos, beggarly communication, uncondusive legal framework, corruption, and the decreasing budget of the department of defence); and (2) sustainable leadership roles (educating stakeholders, adopting good organisational values, establishing inclusivity, practicing total quality management, clear communication and continuously improving organisational systems and resources investment). The researcher was guided by the research questions while creating codes and code categories using Atlas.ti.

Before in-depth discussions of the 12 sub-themes, the following section will discuss the participants' understanding of sustainability and its benefits within the organisation. This demonstrates the foundation of their answers and provides context to the findings.

4.5 The participants' understanding of sustainability and its benefits within the organisation

This section discusses the participants' understanding of sustainability and its benefits by looking at the participants' background in terms of sustainability and the participants' view on the strategic importance of Denel. While this was not the intention of the study, it provides a demonstration of the context / knowledge from which the findings emerged.

4.5.1 Participants' understanding of sustainability

There are numerous benefits linked to embedding sustainability within the organisation. Data from the responses of participants revealed some of the benefits related to sustainability embeddedness. The response from Abram describes the benefit of longevity (which means staying in business long and with good reputation).

"The advantages of sustainability include longevity. And longevity means to go and be in the market and go back to that same person again that you did not disappoint. Advantages of it is that your reputation in the market is good and a positive reputation in the market."

(Abram)

Data further revealed that sustainability assists managers to focus on the organisation's vision. This is illustrated by Gabriel's response.

"So it guides and helps in ensuring that whatever you would have set as your vision, can you achieve it or not, based on whether you have a sustainability strategy or not. So that helps you to focus on your vision" **(Gabriel)**

Gabriel indicates that sustainability assists with the organisation's vision and focus. Abram concurs with Gabriel that sustainability has to do with long-term objectives and future organisational plans.

Sustainability assists the organisation to be innovative and competitive in the markets. The response from Hilary revealed this benefit.

"The advantages... look, if you want to be sustainable you need to be competitive. So one of the advantages is that you need to always be innovative, to come up with ideas, to come up with new products" **(Hilary)**

Sustainability fosters growth in the organisation. Sustainable organisations have the advantage of growing. This is evident from Isaac's response.

"The biggest thing for me as far as sustainability is concerned, we are all looking for growth. You can't find growth without sustainability. In fact, I dare say that one of the direct outcomes of being sustainable is that you are automatically able to grow" **(Isaac)**

According to Kham, sustainability assists to keep customers happy since it improves products and services, while Moses indicated that sustainability assists in reducing unemployment.

The participants further elaborated on their understanding of sustainability as well as the meaning of sustainability. According to Abram, sustainability means staying in business today and in the future.

"...is to be there tomorrow and the day after. For example, today to do sustainable business, in our personal lives, in other words, don't do something for short-term gain. Often, a small example, you would have agreement, and then if something comes through, a person doesn't honour its agreement, what happens is that, that relationship is permanently damaged, and maybe even broken. And that person can never go back for another opportunity" (Abram)

Charles stated that sustainability is the business of continuing operations in the long term, while Isaac mentioned it has to do with longevity. Both Charles and Isaac concur with Abram, as they view sustainability as the endeavour for long-term and regeneration. This is evident from their responses.

"Well sustainability can be the business being able to continue operating in the short and long term. It is not only about profitability, because profitability can be a short-term event, but it is the ability of business to exist profitably in a longer term" (Charles)

"Sustainability has to do with regeneration. It has got to do with longevity. It has got to do with durability, being able to withstand various tests that may come one's way, whether it's organisation or whatever, but that's what sustainability in my understanding is" (Isaac)

Sustainability embeddedness means the ingraining of sustainability practices into the everyday running of the organisation for future survival. The meaning of sustainability embeddedness from the participants' perspectives were revealed through the responses of Benny and Charles.

"...we're obviously procuring with the intention of things like, almost like buying green, if I can call it that. I think there's something called the green procurement that we have to look at. But also in terms of the social element, in terms of how do we invest in our people, in our communities, and things like that. And ultimately, also combining that with the objectives of the organisation in terms of where the organisation wants to go in the future" (Benny)

Charles further revealed that sustainability embeddedness pertains to organisational culture and reducing the effects of climate change. He further expressed that sustainability embeddedness becomes part of the organisation's culture.

"Sustainability embeddedness in our organisation means that the concept of sustainability is entertained with all the activities of the business throughout the value chain. Today the big issue is about climate change. The effects of climate change caused by how we produce things today. So it means in that embeddedness becomes part of the culture of the organisation. Then that culture is linked to policies, practices, training and awareness among all employees and management" (Charles)

Data revealed that participants understand sustainability and its importance to organisational long-term survival. Furthermore, participants concurred that embedding sustainability within the organisation assists in advancing the social, economic, and environmental priorities of the organisation.

Having established participants' understanding of sustainability as well as the benefits, the next subsection will clarify the strategic importance of Denel as a site for exploration of sustainability. The following subsection will look at the participants' view on the strategic importance of Denel.

4.5.2 The participants' view on the strategic importance of Denel

Data revealed that participants believe that Denel is strategically important to the defence sector, the South African economy, and sustainability. The SOE carries the engineering skill base to the defence sector, and is crucial to the South African economy. This is evident from the response by Charles.

"Denel is important for two reasons: one, its level of dependence from a military point of view for South Africa in particular. The second thing is that it creates capacity for intellectual capital for the country. Denel does a lot of engineering work, and from that engineering work, which is specifically military in nature, that can be diffused into the bigger economic areas of the organisation" (Charles)

Isaac affirms Charles's view that Denel carries an engineering skill base which can be diffused into the South African economy. The response from Isaac affirmed this.

"Most of the technologies that are currently used in South Africa came from Denel's innovations and Armscor. Initially those were conceptualised for military use, but they have since been diversified for everyday use by everybody. So you cannot underestimate the value that Denel brings to the country. But secondly, and this is the important part, Denel carries a certain portion of South Africa's engineering base. I'm talking about the brains of South Africa" (Isaac)

Denel's sustainability embeddedness is crucial for the country's security and economic stability. The safeguarding of South Africa's sovereignty and the operations of the South African National Defence Force (SANDF) depends on Denel's existence. This is revealed by the responses of both Isaac and Hilary.

"The very sovereignty of South Africa, which is directly, by legislation coupled to the mandate of the South African Defence Force cannot be divorced from the existence of Denel either, because without Denel, the Defence Force will not be able to fulfill its constitutional mandate of ensuring or safekeeping our sovereignty" (Isaac)

Hilary affirmed Isaac's perspective that South Africa's successful safeguarding of sovereignty depends on Denel's survival, successful operation, and sustainability.

"In our case, in terms of security, Denel is important in that regard. To make sure that we keep the sovereignty of the country within our own borders. I don't think it's any government's wish to see or rely on a particular country's technology to protect themselves" (Hilary)

Data from the participants' responses revealed the strategic importance of Denel to the Defence industry and the South African economy. The survival and successful safeguarding of the country's sovereignty by the SANDF relies on the existence of Denel and its sustainability. The following section will discuss the two main themes, twelve sub-themes, and their interrelatedness.

4.6 Themes

The purpose of this study was to explore the limiting issues inhibiting sustainability embeddedness in Denel. Additionally, it aimed to explore the role of sustainable leadership in addressing these limiting issues and in embedding sustainability in Denel. This section presents two main themes, along with the twelve sub-themes and the interrelatedness between them, illustrated in Figure 4.5. The themes emerged from the responses of the 12 participants of the study through the Atlas.ti coding process, contributing to the answering of the research questions.

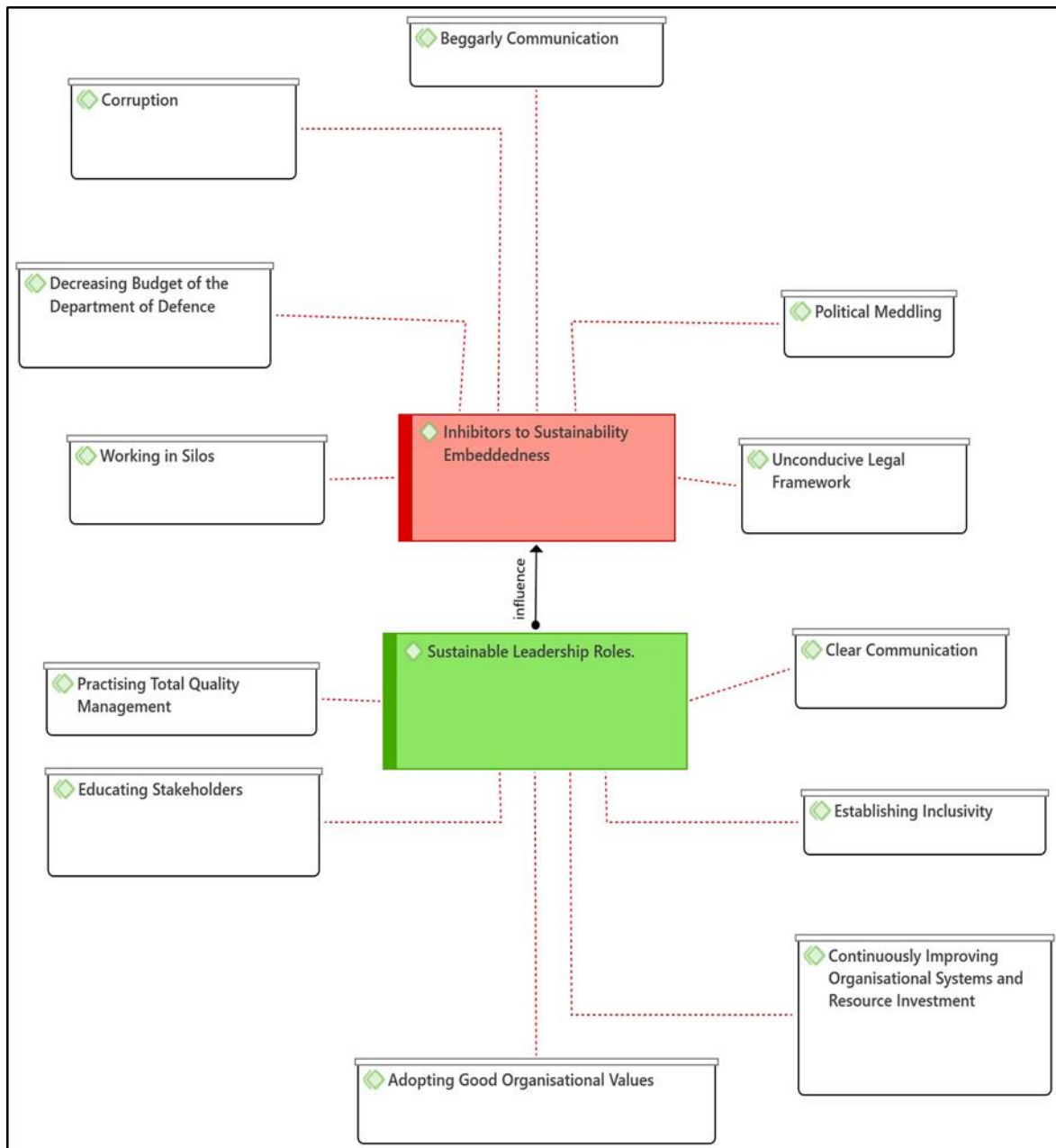


Figure 4.5: Atlas.ti Ad Hoc Network of themes and sub-themes

Source: Own compilation

The two main themes and 12 sub-themes, as illustrated in Figure 4.5, were identified with the objective to answer the related research questions of the study. The themes and sub-themes were linked to the study's research questions for further analysis. The researcher grouped the sub-themes into two main themes for this study namely: (1) the inhibitors to sustainability embeddedness and (2) the role of sustainable leadership in embedding sustainability.

Table 4.2 illustrates the links between the research questions and the created themes and sub-themes.

Table 4.2: Linking the research questions to themes and sub-themes

RESEARCH QUESTIONS	MAIN THEMES	SUB-THEMES/CATEGORIES	CODES
What are the limiting issues inhibiting sustainability embeddedness in Denel?	Inhibitors to sustainability embeddedness	• Political meddling	✓ External influence ✓ Political meddling ✓ Biasness
		• Working in silos	✓ Divisions ✓ Non-cooperation
		• Beggarly communication	✓ Poor feedback ✓ Structural misalignment
		• Unconducive legal framework	✓ Lengthy procurement processes ✓ Red tapes in procurement
		• Corruption	✓ Dishonesty ✓ Selfish interest ✓ Unethical leadership
		• Decreasing budget of the Department of Defence	✓ Reduced budget ✓ Low spending levels
What is the role of sustainable leadership in addressing the limiting issues and in embedding sustainability in Denel?	Sustainable leadership roles	• Educating stakeholders	✓ Sustainability stakeholder awareness campaigns ✓ Sustainability initiatives with stakeholders ✓ Advocating the advantages of sustainability ✓ Green procurement
		• Adopting good organisational values	✓ The improvement required for sustainability embeddedness ✓ Adopting sustainability embeddedness principles in organisation
		• Establishing inclusivity	✓ Cooperation among stakeholders ✓ Developing common organisational goals
		• Practicing total quality management	✓ Delivering quality products ✓ Making Denel sustainable and profitable ✓ Good governance
		• Clear communication	✓ Clear communication ✓ Collective understanding of sustainability
		• Continuously improving organisational systems and resource investment	✓ Ongoing investment in research & development ✓ Improvement of organisational processes

Source: Own compilation

Table 4.2 presents the research questions, two main themes, twelve sub-themes and their related codes, identified through a thematic analysis. The themes and sub-themes were identified with a view to answer the study's research questions.

4.6.1 Theme 1: The inhibitors to sustainability embeddedness

The first research question states: What are the limiting issues inhibiting sustainability embeddedness in Denel? This subsection will discuss theme 1 and its related subthemes in detail in order to answer this research question.

Figure 4.6 exhibits the inhibitors to sustainability embeddedness using data from the responses of the participants. The inhibitors to sustainability embeddedness are the limiting issues to organisational sustainability embeddedness.

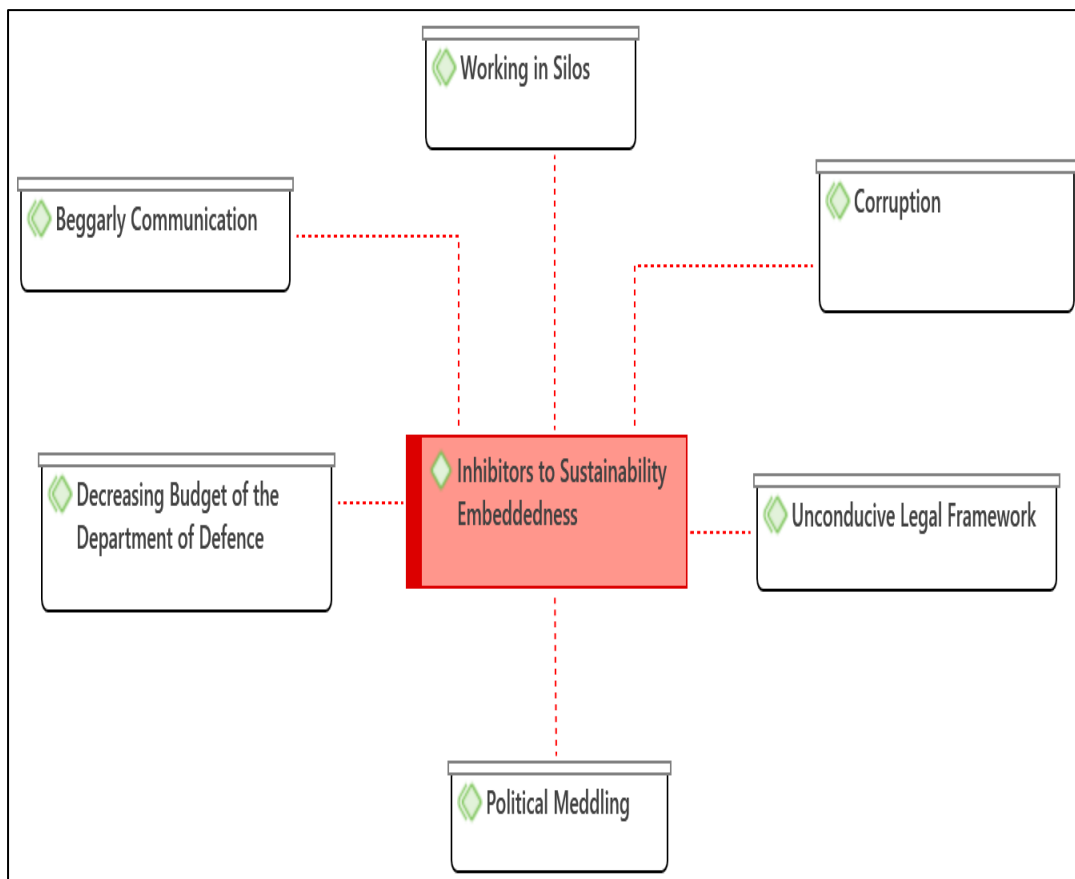


Figure 4.6: Atlas.ti Ad Hoc Network of inhibitors to sustainability embeddedness

Source: Own compilation

4.6.1.1 Political meddling

After analysing data from the responses of the participants, it was evident that there are numerous constraints inhibiting sustainability embeddedness within the organisation. One of the constraints identified included political meddling. Political meddling is described as the interference and influence of political principals on the day-to-day running of the organisation. The influence of political principals on the leaders makes decision making pertaining to sustainability embeddedness difficult. This was evident with data from the responses of Abram, Benny, Hilary, John, and Kham.

"...as the disadvantages of SOEs is the political meddling, right? Instead of a decision just to be commercial on price, and so on, politics get involved also. And then the profit motive is not as strong as if it was a total private company" (Abram)

"I think that's the problem right now and sometimes I do think there's too much political interference that doesn't allow people necessarily to move" (Benny)

Hilary, John, and Kham confirm the assertions made by Abram and Benny that political influence is an inhibitor to sustainability embeddedness. Politics wrongly influence organisational decision making by prioritising self-interests over organisational objectives.

"...there's a lot of external influence in terms of politics, geopolitics and all that, and some of the policies, government policies, are not geared to an engineering company which need to compete with the private sector" (Hilary)

"As Denel, we never budgeted for R&D as we should be doing. That has been caused by certain sorts of events, political influences, within the organisation." (John)

Data reveals that the interference of political leaders inhibits organisational sustainability embeddedness by hiring managers who are politically aligned to the principals. These managers often fail to make pure business decisions that advance organisational objectives.

"...it's politics. Political interference. I was saying to somebody the other day, in an SOE, that's why they normally hire a non-aligned person to become a CEO. His responsibility is to run a business. And the minister is there to support him politically, but the minister does not get involved. Now, with our SOEs, there's political interference from ministers, and then there's cadre deployment where people are just thrown into departments" (Kham)

Kham revealed that political influence, which leads to cadre deployment, further aligns managers with political interests and this inhibits the organisation's ability to sustain and prosper. Furthermore, cadre employees do not have a commitment to Denel's sustainability, as they serve their own agenda instead of Denel's sustainability objectives.

4.6.1.2 Working in silos

Further identification of constraints revealed that working in silos is an inhibitor to sustainability embeddedness within the organisation. Working in silos means the teams (employees) intentionally insulate themselves from other teams (employees). Working in silos discourages collaboration and further misaligns the organisational objectives. Data from the responses of participants John and Kham revealed that Denel employees work in silos, and they presented it as an inhibitor to sustainability embeddedness.

"Okay, as I said before, in Denel, we mostly, always had a culture of doing things in isolation. [...] And it always boils down to that isolation and doing things in your own little corner and doing things with your friends. You don't want to be part of a team, you want to talk to your own people." (John)

"The other challenge is that in different departments people are still working in silos. When you start working in silos, people are conniving. People conniving behind progress..." (Kham)

Data from John's response further attests that some of the Denel divisions work in silos, continuing to inhibit organisational sustainability embeddedness.

"Denel has a lot of divisions across the country, but most of the time we have been working in silos" (John)

Data from the responses of John and Kham indicate that it is difficult to achieve sustainability targets while working in silos. Working in silos means that teams or managers operate separately to fulfil their isolated objectives, contrary to the common organisational goals, and this inhibits the organisation's ability to advance sustainability embeddedness.

4.6.1.3 Beggarly communication

Beggarly communication is described as the lack of communication within the organisation. This deficiency in communication delays the organisation's progress in achieving sustainability embeddedness. Data revealed that poor communication acts as a constraint to sustainability embeddedness within Denel. The responses from Freddy and Gabriel exemplify this inhibitor.

"It's communication, especially on the decision makers part and that mostly they take decisions in the boardrooms, which are decisions that will affect the people on the ground and in most cases the people on the ground don't have a say, and they don't give inputs in those decisions that normally at the end affects them" (Freddy)

"... the inhibition of sustainability comes as a result of the message not getting to the right people that are ultimately entrusted with ensuring that Denel operates, Denel produces and so on" (Gabriel)

Hilary supports the perspectives of both Freddy and Gabriel by emphasising that organisational leaders should have direct and clear communication with employees to avoid misunderstandings and delays. Beggarly communication causes confusion and delays, and inhibits the organisation's sustainability embeddedness since clear messages and the vision / objectives do not reach employees on time.

"...the leadership should have a direct communication with their employees" (Hilary)

Data from the responses of Freddy, Gabriel, and Hilary indicate that poor communication due to unclear messages inhibit Denel's ability to sustain and survive in the long run. Both participants agree that beggarly communication limits organisational sustainability embeddedness.

4.6.1.4 Unconducive legal framework

An unconducive legal framework indicates that the legal framework is not supportive of the organisation's flexibility and ability to achieve sustainability objectives. The unconducive legal framework governing SOEs often makes it difficult for them to compete successfully in the local and international market. The delays in the procurement processes and restrictive nature of the legal framework inhibit the organisation's ability to be flexible and sustainable so as to reach sustainability targets. The participants revealed that excessive bureaucratic rules (red tapes) should be minimised to allow organisational effectiveness, agility, and advancement of sustainability initiatives. The responses from Hilary, Freddy, Gabriel, and Daniel revealed that the unconducive legal framework is an inhibitor to sustainability embeddedness. An unconducive legal framework hinders the organisation's ability to be competitive and sustainable in the markets due to unwarranted and unsustainable lengthy processes and procedures.

"We always complain about the PFMA (Public Finance Management Act) and all that, that it actually hinders our competitiveness in the market, because we compete with the international market. A typical example, we'll get an RFQ to say please quote us for one two three four. We want a quote within 3 months. Most of the countries say 3 months. And if we were to follow the PFMA to the Teeth, we would be lucky to get anything out within eight months or so. By that time our counterparts, the Chinese, would have already issued a quote to that country and we would still be trying to get things together" (Hilary)

Both Freddy and Gabriel support Hilary's perspective that lengthy procurement processes make it difficult for organisations' to speedily and adequately deliver on sustainability targets, inhibiting the implementation of sustainability initiatives. The participants revealed that lengthy procurement processes lead to delays in delivering sustainable products (e.g the production of the lightest 7.62x51mm general purpose

machine gun (GPMG), further inhibiting sustainability embeddedness by restricting the organisation's ability to respond timeously and adequately to market requirements and advance the achievement of sustainability targets.

"I can make a small example, like if I have to buy screws, to make a weapon, and in those screws you find that it can take me 20 minutes to just go buy the screws, for R50, but once I get them, I can make R500 out of those R50 screws that I got to go and buy. But because of these processes that I have to follow, for me to get those R50 screws, I might end up losing that R500 that I was going to get" (Freddy)

"I'm not saying PFMA is wrong, but if you check what Denel is doing, and how it's supposed to do it, there's a conflict. Denel does not get state money, but the money we make gets managed through the PFMA. So it's strange because in the first place you have to go and do everything else to get this business, as soon as you get it, you say no you cannot appoint that guy to run your business. You can only appoint that supplier and that supplier. We know the defence industries is a very specialised industry, so it becomes very difficult to get all suppliers" (Gabriel)

Data from Daniel's response confirms that the regulatory framework and lengthy processes remain inhibitors to organisational sustainability. The participant indicates that lengthy processes cause inefficiencies which inhibit organisational sustainability. Daniel revealed that the processes dictate the appointment of suppliers based on lowest cost charged, as well as the black economic empowerment agenda. However, some of the suppliers do not fulfil the organisational sustainability requirements, and this inhibits the organisation's sustainability embeddedness objectives.

"If you look at us, for instance now, it's the question of the NCACC (National Conventional Arms Control Committee) processes" (Daniel)

The responses of the participants indicate that the legal framework should be reviewed and redefined to enable organisational effectiveness and efficiency to advance the sustainability objectives. Data shows that some of the suppliers do not meet the sustainability requirements, and this further contributes to limiting sustainability embeddedness since the appointment of sustainability conscious suppliers is overlooked.

4.6.1.5 Corruption

Corruption is the dishonest behaviour by leaders of the organisation for self-interests. Data from the participants revealed that corruption is also an inhibitor to sustainability embeddedness. Participants indicated that corruption diverts organisational objectives to personal selfish interests, further limiting the ability to remain sustainable. Corruption redirects managers' sustainable decision making to unsustainable, unethical, and selfish decision making. This inhibits the organisation's capacity to support sustainability embeddedness. This is evident from the responses of Isaac, John, Charles, Hilary, and Gabriel.

"We have got leadership that is not self-confident in their own ability to get things done"
(Isaac)

"Okay, as I said before, in Denel, we've always had a culture of not trusting each other. And we've always had a culture of not being honest and doing things with your friends. You don't want to be part of a team, you want to talk to your own people." **(John)**

John went on to describe the dishonest and corrupt culture whereby some leaders are self-serving, and advance their personal interests ahead of organisational objectives, thereby diverting attention from the organisation's sustainability initiative.

"Self-serving and selfish interest of certain leaders in the organisation. We've got some people, for example, who are here in it for themselves and for their families alone" **(John)**

Both Charles and Hilary confirm the assertion made by John that corruption and selfish interests ruin the organisation's capacity to embed sustainability by negatively influencing the manager's decisions regarding sustainability practices. According to John and Charles, selfish leaders are corrupt and immoral, and often display unethical behavior when making decisions.

"Because there is also reality about fraud and corruption, which was part of the element of what happened during the state capture" **(Charles)**

"Remember, I said there's too much interference, either by corruption, either by, I don't know" (Hilary)

According to Gabriel, Denel went to the Zondo Commission of Inquiry due to fraud and corruption by other organisational leaders. Data reveals that unethical behaviour by certain leaders continues to dent the organisations' image, which distracts from its ability to sustain and survive.

"... Denel went to the Zondo Commission, it's a clear sign that somebody did something wrong. Very, very wrong" (Gabriel)

Data from the responses of participants indicate that corruption exacerbates the organisation's ability to advance sustainability targets and further inhibits its ability to achieve sustainability embeddedness.

4.6.1.6 The decreasing budget of the Department of Defence

The decreasing budget of the Department of Defence is an inhibitor to the organisation's sustainability embeddedness. A decreasing budget reflects a reduction in the spending level by the Department of Defence (South Africa) for the Defence industry. The reduction in the budget means that some sustainability initiatives will have less or no money for execution. Data from the participants revealed that the process for sustainability requires money to be spent now to enable future sustainability embeddedness. Low spending levels negatively affect the research and development processes of the organisation and the efforts to advance sustainability embeddedness. Data from the responses of Charles and Emanuel show that the Department of Defence (South Africa) budget is decreasing. This has a negative effect on Denel's sustainability as an SOE within the Defence sector. Both Charles and Emanuel agree that the decreasing budget is an inhibitor.

"...the market is limited for Defence which is locally, the local budget for instance is limited. It's not increasing. In fact it is decreasing. Competition becomes a real issue for the organisation because if you don't have adequate funding it is not easy to complete

improving the programs. It means no adequate funds for research and development."
(Charles)

"...but the issues that we have been facing for the past few years was that the company was at the brink of low orders, due to a reduced defence budget, and there was obviously also the issues which included corruption that moved us away from the sustainability path because all that we were doing in the last year and a half or two years, was mainly trying to survive" **(Emanuel)**

Emanuel reiterated Charles's view that the decreasing budget affects the organisation's sustainability initiatives. This means that the organisation will receive fewer orders and experience reduced spending levels on planned programs.

4.6.2 Theme 2: Sustainable leadership roles

The second research question states: what is the role of sustainable leadership in addressing the limiting issues and in embedding sustainability in Denel? Theme 2 and its sub-themes will be discussed in detail in this subsection.

Figure 4.7 indicates the six sustainable leadership roles identified using data from the participants' responses. Data revealed that sustainable leadership plays a critical role in embedding sustainability within the organisation

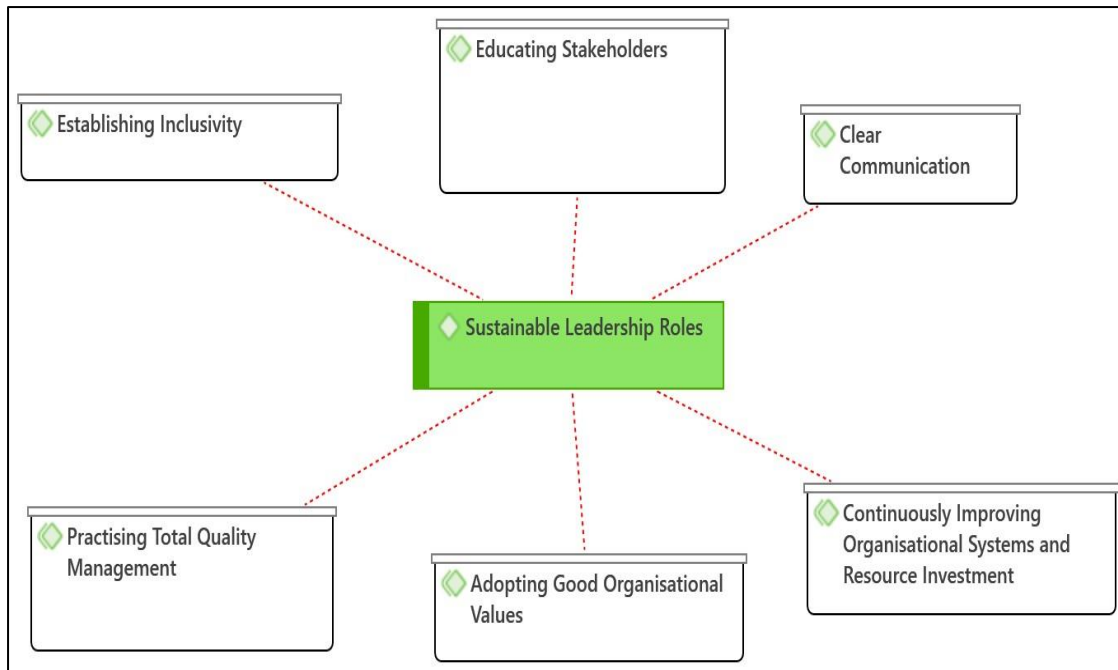


Figure 4.7: Atlas.ti Ad Hoc Network of Sustainable leadership roles

Source: Own Compilation

4.6.2.1 Educating stakeholders

One of the identified sustainable leadership roles was educating stakeholders about sustainability and encouraging their participation in green procurement. Educating stakeholders involves running campaigns and other sustainable support programs to inform stakeholders about sustainability embeddedness and its importance. This is evidenced by the responses of Benny and Emanuel.

"...it's about educating the stakeholders around sustainability. Not just educating, but also looking at implementing some of the best practices that are out there in terms of sustainability, and teaching people what it is to do what is right. I think sustainability is also about doing the right thing" (Benny)

"...obviously making sure that we participate in green procurement, and also look at what we're dealing with in terms of our suppliers, because that in itself will ultimately contribute to that. Ensuring that we're buying from the right suppliers at the end of the day, that is also invested in sustainability" (Benny)

Emanuel affirms the perspective by Benny that teaching and learning can assist stakeholders to understand sustainability embeddedness and to establish a common understanding.

"I think it's more about learning and explaining and teaching as well, so that we can have everyone on the same level" (Emanuel)

Data from the responses of both Benny and Emanuel concur that educating stakeholders is important for awareness and advancing sustainability embeddedness.

4.6.2.2 Adopting good organisational values

.Another leadership role in fostering sustainability embeddedness was identified as adopting good organisational values. These values are those that seek to promote organisational performance and achieve sustainability targets. The participants revealed that efforts to advance good organisational behaviour and practices should be encouraged. This was revealed by the responses of Benny, Charles and Gabriel.

"...but also looking at implementing some of the best practices that are out there in terms of sustainability, and teaching people what is the right thing to do. I think sustainability is also about doing the right thing" (Benny)

"Consistently applying and abiding by good values of the organisations that promote sustainable business just to show for instance that business doesn't exist on an island" (Charles)

The perspectives of both Benny and Charles were supported by Gabriel, who stated that good values and culture should form part of the organisational strategies and sustainability initiatives.

"They must just also add that we are sustainability conscious. If that can be added into our culture, because your values speaks to your culture" (Gabriel)

Participants recommended a culture change from a “culture of not being honest” (John) to a sustainability embedded culture which is “about doing the right thing” (Benny). Furthermore, data from the participants’ responses also indicated the role of sustainable leadership in bringing about a cultural change aligned to organisational sustainability embeddedness. John elaborated by sharing:

“Okay. We need to build the trust again. We need to repair those relationships within employees, between employees and management. Between employees, one, between employee and management and between the organisation and the suppliers.” (John)

Data from the participants indicates that good organisational values lead to a healthy organisational culture. Furthermore, participants confirmed that adopting good organisational values assists to advance the sustainability embeddedness plans.

4.6.2.3 Establishing inclusivity

The third leadership role in addressing sustainability embeddedness was identified as establishing inclusivity by rectifying issues of policies and procedures. Establishing inclusivity refers to the ability to integrate every employee into the organisation. Sustainable leaders enhance the establishment of inclusivity by ensuring that internal policies and procedures are in place, enabling employees to receive messages (from the policies) that are vital to advance sustainability targets. Data from the responses of Hilary and Freddy revealed that establishing inclusivity through refining policies, procedures, and rebuilding organisational structures accelerates the achievement of sustainability embeddedness.

“So as part of my initiative is to say, let's try to rectify the issue of policies and procedures and by that also, it also rebuild the structure, the organisation's structure, which we are currently busy with, to say, let's move the requirement of the organisation, so that everyone can feel where they need to be where they need to be. So as far as that of embedding the sustainability to say that everyone needs to feel part of the solution” (Hilary)

Freddy supports Hilary’s assertion that inclusivity is about making everybody a part of the sustainability journey.

"...the way they explain the plans, and how they're going to be executed and the involvement of all parties or everybody in that plan and the execution of the plan" (Freddy)

Data therefore indicates that inclusivity strengthens common understanding and accelerates employees' buy-in by jointly advancing organisational sustainability embeddedness.

4.6.2.4. Practicing total quality management

Total quality management refers to the quality assurance system designed to maintain high standards and achieve sustainability targets. John indicated that he is busy drafting a template for documents, as part of the initiative to address sustainability embeddedness. The responses of John, Charles, and Daniel are detailed below:

"So I'm also currently drafting template for documents and policies that will tell the organisation, this is how you do your decision analysis. This is how we prioritise your projects. This is how you do a feasibility study. This is how you qualify project. So I'm busy with all those initiatives" (John)

John went on to indicate that he is practicing total quality management and culture as part of the initiatives to advance sustainability. Furthermore, John indicated that sustainability should be embedded in the organisational strategic decision making to achieve sustainability targets.

But I'm practicing that total quality management principles and culture." (John)

Charles and Daniel revealed that compliance with quality standards and processes leads to sustainability embeddedness and further improves organisational sustainable production systems.

"...the infrastructure for compliance to oversee quality issues, to oversee environmental issues and so on." (Charles)

"The first one obviously is your quality systems. Your quality systems, your contracting models, and all signing of the certificate of conformance must be part of that process"
(Daniel)

Daniel affirms Charles and John's view that quality control processes and systems enhance the organisation's ability to achieve sustainability objectives since total quality management will be applied to projects that aim to advance sustainability targets.

"...every product uses what we refer to as qualified material. Before a product is used outside in an operational area it would have gone through a qualification process" **(Daniel)**

Data from the responses of Charles, Daniel, and John revealed that practicing total quality management assists with the products refinement process through quality assurance, further advancing organisational sustainability targets.

4.6.2.5 Clear communication

The sustainable leader's role when embedding sustainability should include clear communication to staff. Clear communication enables sensemaking and a collective understanding pertaining to the meaning of sustainability and how to properly embed it. Data from the responses of Freddy, Gabriel, Hilary, and Charles exemplify this role.

"In my role is still to communicate clearly. In my part of making sure that the projects are executed on time" **(Freddy)**

"I fully engage with my team. I communicate with my team regularly. I receive feedback from them and also guide them." **(Gabriel)**

Hilary supports both Freddy and Gabriel by indicating that dialogue and clear communication can assist in clarifying messages that support sustainable organisational objectives among stakeholders. Hilary further indicates that through dialogue and communication a decision should be made with regards to placing Denel in the Department of Defence, not the Department of Public Enterprises, to further accelerate sustainability initiatives.

"However, I think we can overcome [those things] through dialogue, communication, alignment with different stakeholders, Armscor, to be specific, and Department of Defence, as you probably hear, many people say Denel should be under Department of Defence and not under the Department of Public Enterprises" (Hilary)

Data from Charles's response revealed that clear communication is also about ensuring that employees understand the policies and procedures to advance the organisational vision and further achieve sustainability targets. Charles drafted policies for presentation to the board, and according to him, sustainable leaders should enable clear communication to enhance policies that promote sustainability embeddedness. Furthermore, Charles disseminates sustainability messages to enable clear communication and assists by encouraging sustainability initiatives.

"Within my position... within my role for instance, and I am the custodian of policies that promote or seek to promote sustainability. As a custodian of those policies one cannot do it without firstly believing in them. So if you're a custodian, for instance one as a custodian of such policies in other words you write policies yourself and to present for recommendations to the board at the end of the day. So you become yourself that kind of a leader" (Charles)

Data from participants' responses indicate that clear communication is about clarification and understanding of sustainable policies and procedures governing the organisation to support sustainability initiatives. Sustainable leaders use clear communication in their roles to strengthen efforts that bolster sustainability embeddedness.

4.6.2.6 Continuously improving organisational systems and resource investment

Continuous improvement of organisational systems and resource investment is important for the organisation's sustainability embeddedness and survival. Continuous improvement of organisational systems and resource investment was identified as the

sustainable leader's initiative to advance sustainability embeddedness. Data from the responses of Moses revealed that:

"I will say continuous improvement in terms of your processes. Continuous cost-cutting measures in terms of your operational expenses. Continuous investment in terms of your resources, your people, your equipment that you use. And then also make sure that you are always in good books with the labour forums in terms of the labour issues" (Moses)

Moses further indicated that the bottlenecks in procurement processes should be eliminated to improve response times and increase the organisation's agility to better address sustainability embeddedness.

"...decisions must be made quicker, more strategic decisions that can actually help the company to grow. [...] The turnaround time of approvals of such decisions must be made quicker, company must actually be allowed to be self-sustainable. The bottlenecks in terms of procurement or PPPFA, somehow they need to be eradicated. We need to have processes that actually give us the agility. We need to be able to operate like a private company." (Moses)

Data from John's response further affirms Moses's view that systems and procedures should be improved to address sustainability embeddedness.

"So one of our interventions as the organisation is to formalise this process of business excellence initiatives. And also, okay, I'll be program managing all these initiatives to make sure that we update and optimise all our policies, systems, processes, procedures, and work instructions" (John)

This section presented two main themes for the study and 12 related sub-themes. Data from the participants revealed that there are six inhibitors to sustainability embeddedness and six sustainable leadership roles for sustainability. The themes and sub-themes are related to each other and provide answers to the study's two research questions. Data from the participants' responses indicates that inhibitors to sustainability embeddedness are the limiting issues to sustainability. Data further revealed that sustainable leadership has several roles to assist in addressing the limiting issues and advancing sustainability embeddedness within Denel.

4.7 Summary of the findings

The objectives of this study were to explore the limiting issues inhibiting sustainability embeddedness in Denel and to explore the role of sustainable leadership in addressing the limiting issues. In relation to the above research objectives, two research questions were asked:

- (1) What are the limiting issues inhibiting sustainability embeddedness in Denel?
- (2) What is the role of sustainable leadership in addressing the limiting issues?

The themes and sub-themes described in the preceding sections are linked to the findings of the study in answering the research questions. Using data from the responses of the participants, it is evident that sustainable leaders address the inhibitors to sustainability embeddedness through sustainable leadership roles. A summary of the interrelatedness between themes, sub-themes, and findings is provided in Figure 4.8. The red arrows indicate the direct influence to specified themes, sub-themes, and findings. From the figure it can be seen that establishing good organisational values has a direct influence on corruption. It is also clear that establishing inclusivity has an influence on working in silos. Furthermore, clear communication has a direct influence on beggarly communication. Based on the exploratory findings, it was found that sustainable leadership roles appear to have an influence on the inhibitors of sustainability embeddedness.

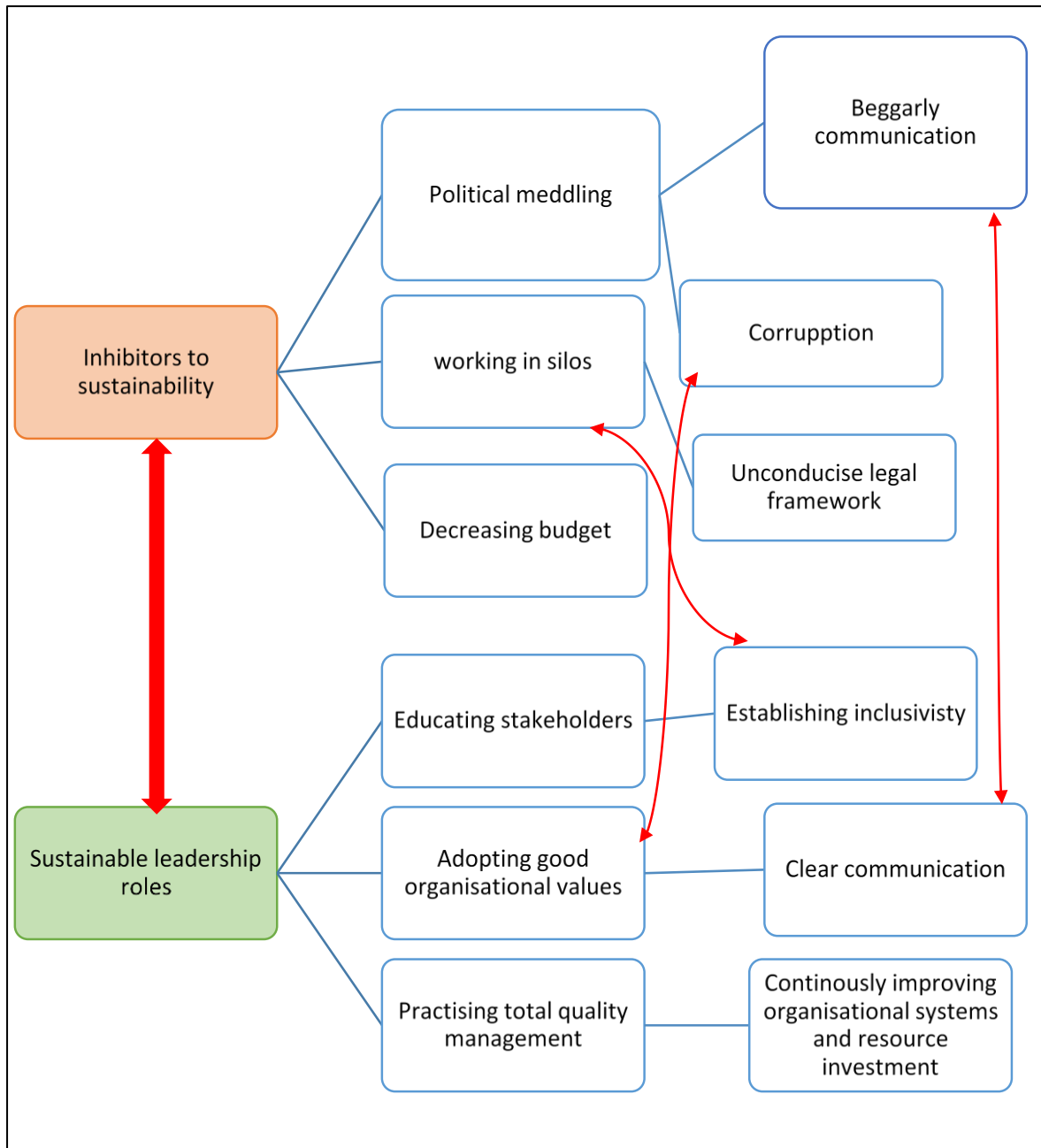


Figure 4.8: Interrelatedness of findings, themes and sub-themes

Source: Own compilation

4.7.1 Finding 1 Theme 1 Inhibitors to sustainability embeddedness

Political meddling: Senior managers and executives experienced political meddling, which becomes an inhibitor to organisational sustainability embeddedness.

Working in silos: The working in silos of the senior managers and executives within Denel is a constraint to sustainability embeddedness. Working in silos includes divisions and non-cooperation among managers within the organisation.

Beggarly communication: Poor communication by managers within the organisation is an inhibitor to sustainability embeddedness. Beggarly communication includes poor feedback and misalignment of organisational sustainability objectives.

Unconducive legal framework: The unconducive legal framework within which managers operate is a constraint to sustainability embeddedness. The unconducive legal framework includes lengthy procurement processes and excessive bureaucratic rules (red tape).

Corruption: The deceitful behaviour of other managers makes it difficult to achieve organisational sustainability embeddedness. Corruption involves dishonesty, self-interests, and poor leadership by managers within the organisation.

The decreasing budget of the Department of Defence: Low level budgets lead to a lower level of spending on sustainability initiatives and also contribute to inhibiting sustainability embeddedness. The reduction on budget is an inhibitor to sustainability embeddedness and future sustainability plans.

4.7.2 Finding 2 Theme 2 Sustainable leadership roles

Educating stakeholders: Senior managers and executives revealed that educating stakeholders about sustainability and green procurement is one of the initiatives that leaders can utilise to support sustainability embeddedness. Educating stakeholders encompasses sustainability stakeholder awareness campaigns, sustainability initiatives with stakeholders, and advocating the advantages of sustainability and green procurement.

Adopting good organisational values: The adoption of good organisational values by senior managers and executives was revealed as a crucial role in organisational sustainability embeddedness. This role entails making the improvements required for

sustainability embeddedness and the adoption of sustainability embeddedness initiatives.

Establishing inclusivity: Senior managers and executives revealed that establishing inclusivity can assist in reaching sustainability embeddedness objectives.

Practicing total quality management: One of the roles identified by senior managers and executives is practicing total quality management, which includes delivering quality sustainable products and good governance to ensure organisational profitability and sustainability.

Clear communication: Managers revealed that clear communication of organisational messaging and communication is the responsibility of sustainable leaders. It involves conveying organisation messaging with precision and fostering a collective understanding of organisational sustainability initiatives.

Continuously improving organisational systems and resource investment: Management's ongoing investment on research and development, product development, and systems refinement enable greening and advancing sustainability embeddedness.

4.8 Conclusion

This chapter presented the findings of the study. The chapter discussed the background to data gathering and provided participants' profiling and summaries of the interviews. Furthermore, data formation and analysis were explored. The researcher discussed the participants' understanding of sustainability and its benefits within the organisation. The researcher followed a thematic analysis method to analyse data using Atlas.ti 23. Using Atlas.ti, quotations and codes were created and grouped to create themes for answering the research questions. The chapter discussed themes of the study by revealing two main themes and 12 sub-themes. The themes and sub-themes helped to answer the following research questions: (1) What are the limiting issues inhibiting sustainability embeddedness in Denel? (2) What is

the role of sustainable leadership in addressing the limiting issues and in embedding sustainability in Denel?

During data analysis, six (6) inhibitors to sustainability embeddedness were identified: (1) political meddling, (2) working in silos, (3) beggarly communication, (4) uncondutive legal framework, (5) corruption and (6) the decreasing budget of the Department of Defence. Furthermore, the following sustainable leadership roles were identified: (1) educating stakeholders, (2) adopting good organisational values, (3) establishing inclusivity, (4) practicing total quality management, (5) clear communication, and (6) continuously improving organisational systems and resource investment. The chapter concluded by discussing summary of the research findings.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This study aimed to explore the limiting issues inhibiting sustainability embeddedness in Denel and to explore the role of sustainable leadership in addressing the limiting issues. Chapter 1 presented the background to the study and highlighted the research problem, as well as the related research questions for the study. Chapter 1 also provided a summary of the research methodology utilised for the study. Chapter 2 provided an in-depth literature review by discussing concepts of sustainability, sustainability embeddedness, sustainable leadership, and state-owned enterprises. Chapter 3 outlined the study's planned research methodology. It also further justified the choice of a qualitative research approach as the preferred method, and the adoption of a single case study design. Chapter 4 discussed data analysis and findings of the study based on the two research questions. Chapter 5 presents the research conclusions based on the research findings presented in Chapter 4. It also provides recommendations for future research. This chapter relates the research questions to the literature, themes, and findings. Furthermore, the benefits of the study, recommendations, research contributions and links, as well as the limitations are highlighted and presented. Figure 5.1 provides a roadmap for Chapter 5.

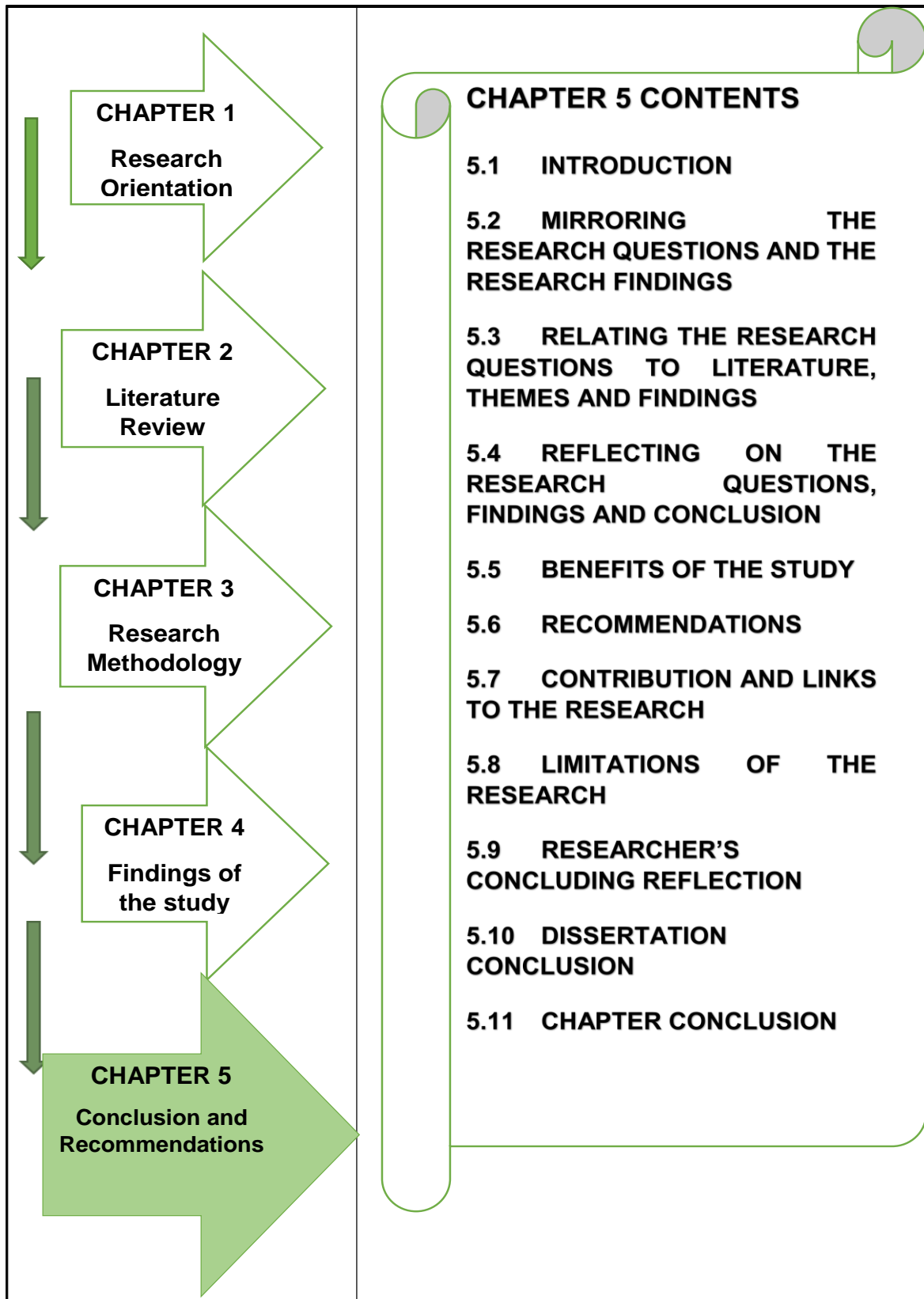


Figure 5.1: Chapter 5 roadmap

Source: Own compilation

5.2 Mirroring the research questions and the research findings

This study explored the limiting issues inhibiting sustainability in Denel and also explored the role of sustainable leadership in addressing the limiting issues. Twelve (12) participants were interviewed virtually through Microsoft Teams to identify the limiting issues inhibiting sustainability embeddedness and the roles of sustainable leadership in addressing the limiting issues. The findings revealed the inhibitors to sustainability as: political meddling, working in silos, beggarly communication, an uncondusive legal framework, defective leadership and corruption, and the Department of Defence's decreasing budget. Furthermore, the following roles of sustainable leadership were identified: educating stakeholders, adopting good organisational values, establishing inclusivity, practicing total quality management, clear communication, and continuously improving organisational systems and resource investment. The findings of the study are related to the research questions.

5.3 Relating the research questions to literature, themes, and findings

Chapter 2 provided a review of literature in relation to the limiting issues inhibiting sustainability embeddedness and the role of sustainable leadership in addressing the limiting issues. When reviewing literature, the following concepts were highlighted and discussed: sustainability, sustainability embeddedness, sustainable leadership, and the state-owned enterprises (SOEs).

Using data from the responses of the participants, Chapter 4 provided the research findings by identifying the themes and sub-themes of the study. Table 5.1 provides the interrelatedness between the literature review in Chapter 2 and the research themes and findings in Chapter 4, as well as the links to the study's research questions.

Table 5.1: Relating the research questions to literature, findings and themes

Topic: Exploring the limiting issues inhibiting sustainability embeddedness in Denel and the role of sustainable leadership in addressing the limiting issues		
Research questions	Literature Review References, Chapter 2	Finding and Theme
What are the limiting issues inhibiting sustainability embeddedness in Denel?	(Escoto et al., 2022; Missimer & Mesquita, 2022; Zondo, 2022; Bulmer et al., 2021; Chelagat et al., 2021; Jones, 2021; Li et al., 2021; Trollman & Colwill, 2021; Ayandibu et al., 2019; Sithomola, 2019; Wilkinson, 2019; Madumi, 2018; Le Roux & Pretorius, 2016; Halldórsdóttir, 2014)	Theme 1: Inhibitors to sustainability embeddedness The findings of the study identified the following inhibitors to sustainability embeddedness: political meddling, working in silos, beggarly communication, an uncondusive legal framework, corruption, and the decreasing budget of the Department of Defence.
What is the role of sustainable leadership in addressing the limiting issues and in embedding sustainability in Denel?	(Wassan et al., 2023; Awan, 2021; Fry & Egel, 2021; Rocha & Pinheiro, 2021; Tahir et al., 2021; Abbas, 2020; Armani et al., 2020; Voegtlin et al., 2020; Bodilenyane & Mooketsane, 2019; Butler et al., 2018; Gray, 2018; Almaki et al., 2016; Thakhathi, 2016; Zogjani & Raçi, 2015; Kolzow, 2015)	Theme 2: The role of sustainable leadership in embedding sustainability The findings of the study revealed the following sustainable leadership roles: educating stakeholders, adopting good organisational values, establishing inclusivity, practicing total quality management, clear communication, and continuously improving organisational systems and resource investment.

Source: Own compilation

5.4 Reflecting on the research questions, findings and conclusion

Table 5.1 illustrates the link between the research questions, themes, and findings. This section will reflect on the findings and conclusions as related to the study's research questions.

5.4.1 Research question 1: what are the limiting issues inhibiting sustainability embeddedness in Denel?

The first research question aimed to explore the limiting issues inhibiting sustainability embeddedness. Sustainability embeddedness reflects the organisation's advancement of the social, economic, and environmental factors to achieve sustainability targets. On the other hand, the limiting issues refer to the inhibitors to sustainability embeddedness. Using data from the responses of the participants, the inhibitors (constraints) to sustainability embeddedness were identified. The interpretations of the limiting issues (inhibitors) were provided previously in the literature review (Trollman & Colwill, 2021; Le Roux & Pretorius, 2016) to provide meaning and understanding. Inhibitors to sustainability are the constraints or hindrances preventing organisations from achieving sustainability embeddedness. The importance of reflecting on inhibitors provides context to the findings regarding the inhibitors to sustainability embeddedness. Managers should understand the inhibitors and the extent to which they limit sustainability embeddedness within the organisation.

Finding 1: Inhibitors to sustainability embeddedness

Conclusion on inhibitors to sustainability embeddedness

The finding of the study revealed that there are six inhibitors to sustainability embeddedness. Data from the participants revealed the following six inhibitors to sustainability embeddedness:

(1) Political meddling – political meddling reflects the influence of political leaders on leaders of the organisation, driven by political interests. Political meddling is a

constraint to organisational sustainability embeddedness and this inhibitor continues to affect the organisation negatively by appointing politically connected managers who lack good ethics and morals. The appointment of unethical managers inhibits organisational sustainability embeddedness because unethical and politically connected managers prioritise selfish interests ahead of the sustainability agenda. Qhobosheane (2018) and Mashamaite and Raseala (2018) ascertain that political interference in SOEs is a hindrance to the organisations' sustainability and survival. Furthermore, Masoud (2023) revealed that political interference on SOEs, relative to issues of contract awarding and project allocation, negatively influence procurement performance. This study found political meddling to be a challenge to organisational sustainability, which aligns with the findings of Masoud (2023), Qhobosheane (2018) and Mashamaite and Raseala (2018). This inhibitor should be minimised through enforcement of good ethical leadership. Leaders should adopt good organisational values and also develop strict hiring policies to circumvent any form of political influence and to advance sustainability objectives.

(2) Working in silos – the inhibition of sustainability embeddedness due to managers working in silos negatively affect the organisation's sustainability initiatives. Working in silos decreases engagements and often leads to unmanageable divisions within the organisation and poor performance (Cabrera & Cabrera, 2018). Conversely, the results of the study by De Waal, Weaver, Day and Van Der Heijden (2019), revealed that there is a comprehensible constructive relationship between the application of an organisational silo-busting technique, learning, and knowledge, as well as the overall performance of the organisation. However, in this study, data from the participants revealed that working in silos is an inhibitor to organisational sustainability and good performance. The finding of this study aligns with the results of Cabrera and Cabrera's (2018) study, which indicates that working in silos negatively affects the organisation's performance and its ability to sustain and prosper. This inhibitor (working in silos) creates misalignment and confusion regarding sustainability objectives because sustainability messages are constrained within unmanageable divisions. Managers should establish inclusivity by rectifying issues of policies and procedures so that all employees are accommodated and commonly promote an organisational sustainability agenda.

(3) Beggarly communication – unclear communication due to messages and feedback not reaching employees is an inhibiting factor to sustainability embeddedness. Beggarly communication may cause misunderstandings and lead to poor performance by employees (Gamil & Rahman, 2023; Mafundu & Mafini, 2019). Beggarly communication was found by another study to cause misunderstandings between employees with regard to sustainability and organisational performance (Alqahtani & Makki, 2022; Gamil & Rahman, 2023). This study's finding is congruent with that of Gamil and Rahman (2023) and Mafundu and Mafini (2019), who revealed that misunderstandings due to unclear communication leads to an organisations' poor performance and unsustainability. To overcome this inhibitor to sustainability embeddedness, managers should employ clear communication practices by using concise and complete messages to advance sustainability objectives. Additionally, clear messages and feedback on sustainability objectives should reach all employees timeously.

(4) Unconducive legal framework – the unfavourable legal framework which causes lengthy processes leads to the inhibition of sustainability embeddedness. Lengthy processes and red tape is associated with non-effectiveness and delays in response to an organisation's operational requirements (Zulu et al., 2023; Pandey, 2021; National Policy Development Framework, 2020). Furthermore, these delays and the lack of efficiency and effectiveness hinder the organisation's capacity to adequately respond to sustainability plans that support sustainability embeddedness (Tarei et al., 2021). Zulu et al. (2023) emphasised that policies and regulations may be a hindering factor to sustainability if they are not properly aligned to organisational objectives. Managers should encourage organisational policy workshops in order to allow a high-level understanding and adoption of policies among the employees. A review of some organisational policies may stimulate organisational agility and speedily advance sustainability objectives within Denel and other organisations (National Policy Development Framework, 2020).

(5) Corruption – unethical and dishonest behaviour by some leaders leads to corrupt activities and selfish interests. Corruption resulting from unethical leadership often leads to organisational failures and non-accomplishment of organisational objectives (Zondo, 2022; Wilkinson, 2019). Furthermore, corruption continues to inhibit the

organisation's ability to advance sustainability initiatives. Managers are encouraged to adopt good organisational values and ethics to limit corruption and advance the organisational sustainability agenda. Organisations may foster good behaviour by promoting teamwork and open communication about the expected conduct from employees. Furthermore, group brainstorming sessions may be arranged to support good behaviour. Sustainable leaders may formulate and implement ethical policies to assist in dealing with corruption. Based on the narrative by Suriyankietkaew and Avery (2016), adopting good ethical behaviour, enabling succession planning, building trust, and fostering innovation, can minimise dishonesty and further assist to achieve sustainability. Moreover, these authors illustrated that sustainable leaders may adopt the 23 honeybee (sustainable) practices to address limiting issues and advance sustainability initiatives. In this study, the seventh honeybee practice (ethical behaviour) is aligned with the finding of the study. Good ethical behaviour (as a honeybee practice) can assist the organisation to minimise corruption and achieve good performance that meets the sustainability objectives (Suriyankietkaew & Avery, 2016).

(6) The decreasing budget of the Department of Defence – the decreasing budget reflects a decline in spending on the organisational planned programmes (Matthews & Koh, 2021; Putter, 2019). This further reduces the spending levels on the organisation's research and development initiative, which hampers its ability to achieve sustainability objectives. The study by Bessonova and Gonchar (2022) revealed that harder budget constraints limit state-owned enterprises' efficiency and ability to deliver on sustainability targets. In this study, the decreasing budget was also found to be an inhibitor since it influences the organisation's capacity and ability to fund sustainability projects. These projects play a crucial role in achieving organisational sustainability embeddedness. To address this, managers should collaborate and re-configure organisational spending patterns. This reconfiguration will enable the reprioritisation of sustainable resource investments, thereby circumventing the impact of reduced budget expenditure. By taking these steps, organisations can overcome this inhibitor and successfully embed sustainability.

Sustainable leaders should properly understand the six inhibitors and their negative, limiting effects on the embeddedness of sustainability within the organisation. The

identified inhibitors to sustainability embeddedness pose a challenge to organisations' ability to embed sustainability (Missimer & Mesquita, 2022; Trollman & Colwill, 2021). These inhibitors should be adequately addressed to support the organisation in achieving its sustainability targets.

5.4.2 Research question 2: what is the role of sustainable leadership in addressing the limiting issues and in embedding sustainability in Denel?

The second research question aimed to explore the role of sustainable leadership in addressing the limiting issues and in embedding sustainability in Denel. Sustainable leadership plays a critical role in embedding sustainability within the organisation (Awan, 2021). Literature (Voegtlin et al., 2020; Kolzow, 2015; Zogjani & Raçi, 2015) provided the background to the various roles played by sustainable leadership in embedding sustainability within the organisation. Based on the narrative by Awan (2021), sustainable leadership roles reflect the approaches used by a sustainable leader to support sustainability objectives and embeddedness. In this study, the researcher uncovered six roles sustainable leaders adopt to embed sustainability within the organisation. In addressing the limiting issues, sustainable leaders employ the various roles to help in advancing the sustainability objectives.

Finding 2: Sustainable leadership roles

Conclusion on sustainable leadership roles

Sustainable leadership, as revealed by other authors (Voegtlin et al., 2020; Bodilenyane & Mooketsane, 2019; Gray, 2018), reflects the sustainable leader's ability to initiate and influence the achievement of sustainability embeddedness. Sustainable leadership roles involve initiatives used by sustainable leaders to assist in addressing and overcoming the limiting issues inhibiting sustainability embeddedness. This study revealed six specific sustainable leadership roles that contribute to embedding sustainability. These include:

(1) Educating stakeholders – educating stakeholders reflects the sustainable leader's campaign to promote sustainability embeddedness through education and

awareness, thus advancing sustainability objectives. According to Awan (2021), educating stakeholders involves the exchange of information among stakeholders to support the sustainability agenda. Schulz, Finstad-Milion, and Janczak (2018) describe educating stakeholders as the creation of a shared understanding among stakeholders with the objective of establishing concrete solutions for advancing corporate sustainability. Furthermore, Schulz et al. (2018) revealed that the value of an education approach to sustainability lies in incorporating various perspectives and enabling diverse stakeholder development to advance sustainability objectives. Sustainable leaders who use education to promote learning and awareness about organisational sustainability are able to overcome inhibitors and further advance sustainability embeddedness objectives.

(2) Adopting good organisational values – indicates the commitments of sustainable leaders to embrace good organisational ethics and norms that support sustainability initiatives and further assists in advancing sustainability embeddedness. Good organisational values can assist leaders to prevent corruption and selfish interests because good organisational values and norms support the advancement of sustainable organisational goals ahead of personal goals (Awan, 2021; Rocha & Pinheiro, 2021). This finding of this study corresponds with that of Awan (2021) and Rocha and Pinheiro (2021), since they both emphasised that good organisational values assist leaders to prevent corruption and therefore support sustainability objectives. Sustainable leaders should adopt good organisational values that positively influence members to overcome corruption as an inhibitor to sustainability embeddedness as this will assist the organisation in advancing sustainability objectives.

(3) Establishing inclusivity – indicates the ability of sustainable leaders to rectify and redefine issues of policies and procedures, making everyone part of the whole organisation. Establishing inclusivity assists in preventing the occurrence of working in silos by some organisational members, as all employees form an integral part of the organisation and support common sustainability goals. According to Thein (2019), inclusion resembles the process of improving access, ability, and opportunities for people to participate in societal and organisational commitments. Moreover, establishing inclusivity among employees enables inclusive behaviour and fosters

cooperation to achieve sustainable organisational goals (Tahir, Batool & Saleem, 2021). This finding of this study is congruent with Tahir et al. (2021) because leaders are encouraged to make everyone part of the organisation by fostering cooperation. Sustainable leaders may foster inclusivity by encouraging employees to share and embrace sustainability ideas and initiatives. Sustainable leaders should establish inclusivity by making all employees part of the organisation's sustainability objectives and overcome working in silos, which is an inhibitor of sustainability embeddedness.

(4) Practicing total quality management – reflects the implementation of sustainable quality assurance systems and procedures that meet the organisation's requirements for achieving sustainability targets. Total quality management enables organisations to deliver high quality sustainable products that meet the requirements for sustainability. Wassan, Memon, Mari and Kalwar (2023) and Abbas (2020) emphasised that practicing total quality management is linked to organisational sustainable growth and good performance. Furthermore, Wassan et al. (2023) indicated that sustainable leaders should pay more attention to sustainable quality management processes if they are to compete successfully in the markets. Conversely, Li, Zhao, Zhang, Chen and Cao (2018) found that corporate quality has a negative effect on the organisation's sustainability objectives. However, the finding of this study corresponds with studies by Wassan et al. (2023) and Abbas (2020), since they both revealed that there is a positive relationship between total quality management and organisational sustainability. Sustainable leaders should practice total quality management by ensuring the delivery of refined high quality sustainable products that advance the achievement of sustainability embeddedness.

(5) Clear communication – refers to clear messages and sharing feedback with the employees of the organisation. Data revealed that clear communication can assist in dealing with poor communication and also strengthen organisational communication strategies. Based on the findings by Genç (2017), clear communication is important in any strategic decision since it enables organisations to achieve sustainability goals. Furthermore, Genç (2017) indicates that a lack of communication within the organisation makes it difficult to implement the planned sustainability changes. Maya (2021) developed a sustainability communication framework (SCF) that assists organisations to restructure their communication processes in order to support

sustainability initiatives. The findings of this study aligns with the perspective by Genç (2017), which emphasised that without clear communication, sustainable leaders may find it difficult to achieve sustainability objectives. Sustainable leaders should employ clear communication strategies to overcome beggarly communication (inhibitor) and advance sustainability embeddedness.

(6) Continuous improvement of organisational systems and resource investment – describes the management's commitment to continuously refine organisational systems by investing in sustainable resources through research and development. Management's ongoing improvement of organisational systems and sustainable resources investment should support sustainability initiatives. According to Butler, Szwejczewski, and Sweeney (2018), continuous improvement resembles management's systematic procedures for frequently refining and implementing new ways of doing business sustainably. Furthermore, Butler et al. (2018) suggests that when the organisation's continuous improvement is fully embedded in the production and operations systems, the value of the benefits exceed the sacrifices made. The finding of this study aligns with Butler et al. (2018) who indicated that continuous improvement of systematic procedures yields benefits for the organisation. The ongoing investment on research and development, as well as efforts to enable sustainable organisational resources, is essential for the advancement of sustainability objectives.

Sustainable leaders should understand their roles and influence on the organisational sustainable decision making in terms of resource allocation. Sustainable leadership roles play an important part in assisting to support efforts to advance sustainability objectives. These roles (educating stakeholders, adopting good organisational values, establishing inclusivity, practicing total quality management, clear communication and continuously improving organisational systems and resources investment) should be utilised to discourage the various limiting issues (inhibitors) (political meddling, working in silos, beggarly communication, unconducive legal framework, corruption, and the decreasing budget of the department of defence) by incorporating them into the organisational plans and advance sustainability targets.

5.4.3 Graphical presentation of the links between the research questions, themes and findings

This section illustrates the links between the research questions, themes, and findings by means of a figure. Figure 5.2 diagrammatically presents the interrelatedness between themes and findings as well as the related research questions. Chapter 4 presented an in-depth analysis of rich data and identified themes to answer the research questions. As illustrated in Figure 5.2, there are six inhibitors to sustainability embeddedness, and six sustainable leadership roles. Using the orange arrows, Figure 5.2 indicates the interrelatedness between the identified inhibitors to sustainability embeddedness and sustainable leadership roles. The orange arrows indicate the interrelatedness between establishing inclusivity and working in silos, adopting good organisation values and corruption, as well as clear communication and beggarly communication. Based on Figure 5.2, the findings of the study provided answers to the research questions.

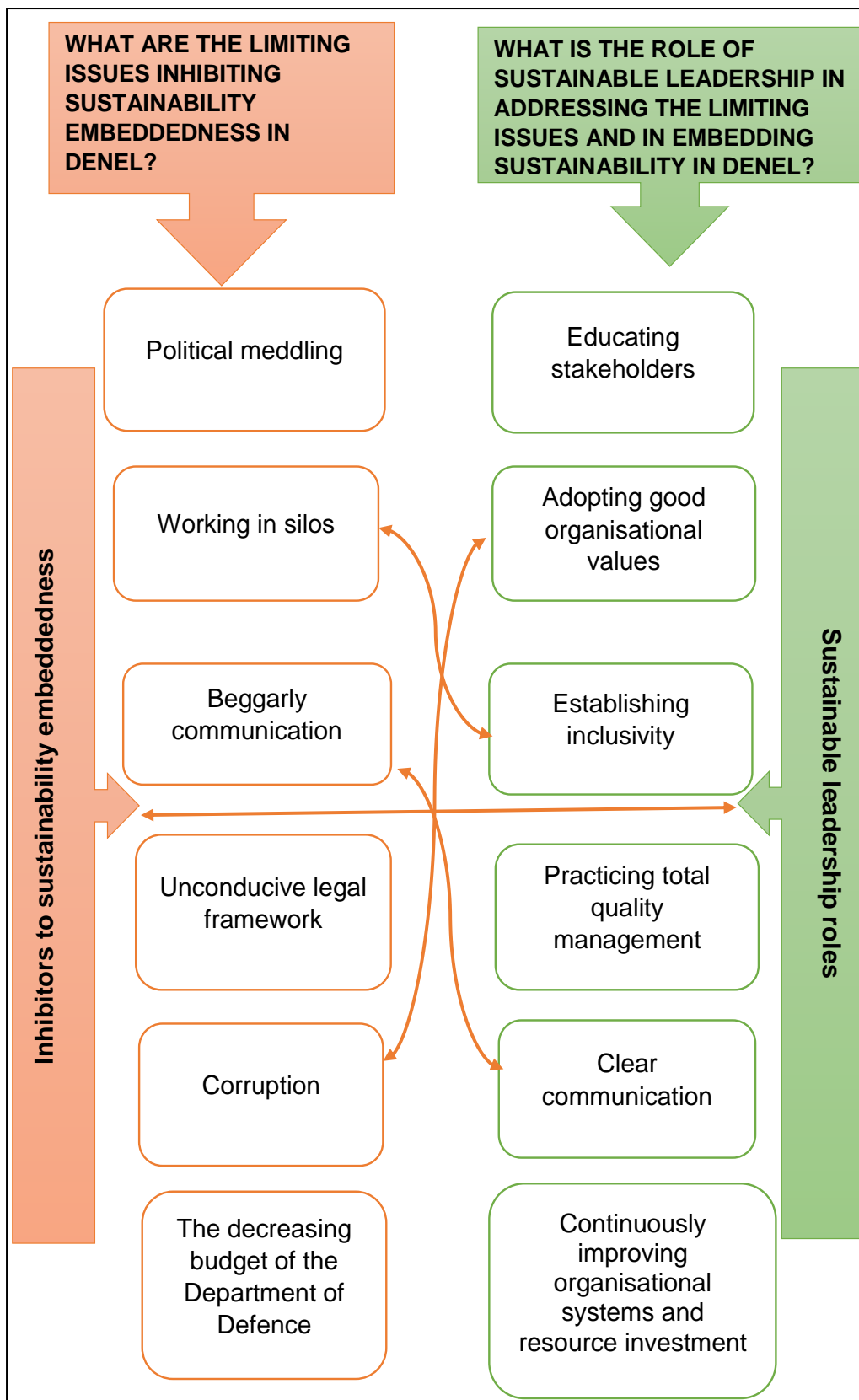


Figure 5.2: The links between the research questions, themes and findings

Source: Own compilation

5.5 Benefits of the study

This study embarked on a single case study design. Although the results of the study cannot be generalised, the findings of the study may offer useful information to other organisations in the defence as well as other industries. The findings of the study may enlighten other organisations regarding inhibitors to sustainability embeddedness and the roles of sustainable leadership in embedding sustainability. The study highlights the various roles sustainable leaders may use to embed sustainability within Denel. Denel will benefit by knowing the identified inhibitors to sustainability embeddedness and the various sustainable leadership roles to embed sustainability. The findings of the study may potentially be transferrable to other SOEs in other industries. The recommended solutions are discussed in the following section.

5.6 Recommendations

This section presents recommendations for managers as well as recommendations for future studies.

5.6.1 Recommendations for managers

The findings of this study revealed that there are six inhibitors to sustainability embeddedness and six sustainable leadership roles in sustainability embeddedness. The inhibitors to sustainability are the hindrances to embedding organisational sustainability and these inhibitors should be thoroughly understood by sustainable leaders in order to properly address them.

Firstly, it is recommended that managers should incorporate sustainability embeddedness into the organisational policies and procedures to enable the advancement of sustainability initiatives (Sharafizad et al., 2022; Le Roux & Pretorius, 2016). Managers should establish a clear definition of organisational sustainability and also introduce sustainability control measurements across the organisation to mitigate unsustainable practices. Furthermore, managers should formulate and implement organisational sustainability policy workshops to ensure a high-level of understanding

of sustainability policies among employees. These workshops will assist employees to properly apply organisational policies and further stimulate efficiency and agility.

Secondly, managers could develop a code of ethics and strict hiring processes to implement across the entire organisation. Managers should encourage a code of ethics by establishing clear guidelines that delineate the type of behaviour expected, outlining potential punishment for unethical behaviour, and also enact a reward system which promotes good organisational behaviour. The organisation's code of good ethics and strict hiring processes will assist managers to deal with issues of corruption and political interference (Mishra & Aithal, 2022). Furthermore, sustainability should be incorporated into the orientation processes for new employees. This will ensure that new employees understand the organisational sustainability objectives and what is expected of them.

Thirdly, it is recommended that managers refocus the organisational resources on revenue generators as well as sustainability targets to circumvent the reduced budgets and to further advance sustainability objectives. Refocusing organisational resources will assist managers to concentrate on both revenue generation and the advancement of organisational sustainability targets. Furthermore, it is recommended that investment into research and development programmes is increased, since research and development support the advancement of sustainability objectives (Sarpong, Boakye, Ofori & Botchie, 2023). Managers should incorporate an integrated approach to sustainability and ensure more financial resources are directed towards organisational sustainability objectives.

Fourthly, managers should strive to ensure that clear communication regarding sustainability objectives reaches all employees across the entire organisation through regular feedback meetings and allowing engagements or discussions. They should also recognise employees and be mindful of how they communicate. Furthermore, managers may establish inclusivity by making sure that every employee is made to feel welcome and part of the whole organisation. This will help strengthen cooperation and common understanding regarding sustainability objectives among employees.

Fifthly, managers within the South African defence industry should incorporate sustainability plans within their organisational strategies by further adopting and implementing sustainability plans in the day-to-day running of their organisation. This will limit the inhibitors to sustainability and further advance the achievement of sustainability objectives. Furthermore, sustainability system checks should be introduced to assist with monitoring and evaluation of implementing sustainability strategies.

Finally, managers are advised to initiate and implement a process of change management and have open discussions regarding organisational sustainability embeddedness and its implementation. Managers may implement change management by making sure all employees understand and recognise the change, (Wippermann, 2017) and by creating a roadmap for everyone within the organisation. Sustainability training should be introduced and be undertaken by all managers to assist them to adequately address issues relating to organisational sustainability and its implementation. When managers understand sustainability and its importance, this paves a way for successful adoption and implementation.

5.6.2 Recommendations for future studies

There is limited research on sustainability embeddedness, the inhibitors to sustainability embeddedness, and sustainable leadership roles in terms of sustainability within South Africa. This study was conducted within a single state-owned enterprise in the South African defence industry. It will be beneficial if future research is done in SOEs of other industries. Future research could also utilise other methods for data gathering, including in-depth observations over a period of time, and analysis of documents from the case organisation. Other studies may also employ quantitative and mixed method approaches to explore causal hypotheses within organisations. The interviews for this study were conducted virtually, therefore, future researchers may arrange for face-to-face interviews with participants to deeply detect responses. This study limited data gathering to the experiences of top level managers only. Future research could also look at the lived experiences of middle managers, lower-level managers, supervisors, and employees involved in sustainability embeddedness within other industries. Furthermore, future research could look at the

effects of budget cuts on organisational sustainability embeddedness and performance.

5.7 Contribution and links to the research

This study contributes to corporate sustainability and sustainability embeddedness by identifying the inhibitors to sustainability embeddedness and the roles of sustainable leadership in embedding sustainability. A scrutiny of the literature revealed a lack of research exploring the limiting issues that inhibit sustainability embeddedness within the South African defence industry (Madumi, 2018; Mashamaite & Raseala, 2018). This study fulfilled its aim to explore the limiting issues inhibiting sustainability embeddedness in Denel as well as the role of sustainable leadership in embedding sustainability. The study's findings equip the leaders with a deeper understanding of the limiting issues to sustainability and the various roles that sustainable leadership plays in addressing these issues. The findings of the study also assist managers to understand their roles and influence on sustainability embeddedness initiatives.

5.8 Limitations of the research

Firstly, this research was conducted following a single case study design within only one SOE in one industry. The study did not extend to other SOEs in other industries and therefore the results cannot be generalised. Secondly, this qualitative study limited data gathering to 12 participants only, and therefore cause and effect relationships could not be established from the results of the study. While other studies (Sajjad, Eweje & Raziq, 2023; Iqbal, Ahmad, & Halim, 2020; Erdil, Aktas & Arani, 2018) have demonstrated the relationship between sustainable leadership and sustainability embeddedness, this study was limited to exploratory research and did not aim to establish a cause and effect relationship between the concepts. Finally, the interviews were conducted virtually, and this limited the researcher's ability to observe the body language and eye contacts of the participants. Since the interviews were conducted virtually, the researcher could not guarantee that there would not be interruptions by other people at the participants' homes or workplace. Furthermore, the researcher could not guarantee that there would not be power interruptions or network failures due to loadshedding.

5.9 Researcher's concluding reflection

"The journey has definitely not been easy, but all the sacrifice has paid off very well in terms of my performance on-court"-*Rohan Bopanna*

It is so amazing that I should now reflect on this qualitative research journey. It is 01:25 am and I haven't slept well in months. This journey was filled with hardships, internal turmoil, and a sense of one's true deep reflection. I endured and persevered until the finish line. The excellent supervision and high standards of both supervisors (Dr Catherine Le Roux and Ms Lynette Cronje) tested my abilities, patience, and endurance. There were times I asked myself, why should I go through this traumatic and demanding journey? However, self-recollection made me realise others have passed through the same difficult journey and that I am not the first one to suffer. The above quote from Rohan Bopanna tells it all. I have learned to keep on writing one word after the other.

I felt a gap between having an honours degree and completing a master of commerce research degree. Having an honours degree might be a university's requirement for admission to a master's degree, however, this journey requires more than the university's admission criteria. The journey requires self-dedication, personal discipline and determination.

During the interviews, some participants did not want to open up at the start. However, after learning that I work within the Ministry of Defence office, they felt more comfortable. Working within the Ministry of Defence offered me advantages in terms of connections and relations with the case organisation. The assistance of my former work supervisor (Brigadier General Michael Kunene-Acting Chief of Staff) contributed by helping me to get in touch with other executives. He simply took a phone call and all begin to fall in place.

The literature review chapter required a deep and thorough interpretation of the work done by others authors and this was challenging and demanding. I am happy that the chapter finally came to close. The research methodology made me realise there is a method and a process for every step and there are good reasons behind all the steps.

It was only during presentation of findings and data analysis that many unfilled cracks started to fill-up. Using Atlas.ti software made my job simpler and more interesting. The Atlas.ti software was very helpful and saved me lot of time. At the start of this journey some of the work did not really make sense, but I can now see the light and the linkage. I have grown in this sociological and philosophical journey and I can attest that I am no longer the same. I hold a deep respect for researchers and their work.

Lastly, I would like to thank all the participants who offered me the opportunity to learn about their experiences and knowledge relating to the limiting issues inhibiting sustainability embeddedness and the roles of sustainable leadership within the organisation. Without your participation this study would have not reached the objective. I salute you all.

5.10 Dissertation conclusion

This study aimed to explore the limiting issues inhibiting sustainability embeddedness in Denel and the role of sustainable leadership in addressing the limiting issues. To support this exploration the study was guided by the following two research questions: (1) what are the limiting issues inhibiting sustainability embeddedness in Denel? (2) What is the role of sustainable leadership in addressing the limiting issues and in embedding sustainability in Denel?

A single qualitative case study was applied to gather in-depth data from the lived experiences of senior managers and executives at Denel. Semi-structured virtual interviews were used to gather data from the 12 participants. Two themes were identified which links to the study's research questions, and the themes provided the required answers to the research questions. A semi-structured interview guide was formulated to guide the development of interview questions aimed at gathering rich data from the experiences and knowledge of senior managers and executives at Denel. The interview questions helped by gathering data to answer the research questions. The current study answered the first research question and found that the inhibitors to sustainability embeddedness are: political meddling, working in silos, beggarly communication, unconducive legal framework, corruption, and the decreasing budget of the department of defence. Furthermore, the study answered

the second research question by identifying sustainable leadership roles which are: educating stakeholders, adopting good organisational values, establishing inclusivity, practicing total quality management, clear communication, and continuously improving organisational systems and resources investment.

This study concluded by making recommendations to managers as well as recommendations for future studies.

In conclusion, sustainable leaders play a key role in embedding sustainability and in addressing the limiting issues within the organisation. It is important for sustainable leaders to understand the inhibitors to sustainability embeddedness and their roles in embedding sustainability.

5.11 Chapter conclusion

This chapter provided a conclusion and the study's recommendations. The researcher provided a mirroring of the research questions and findings. The chapter discussed the relation of the research questions to literature, themes, and findings. Furthermore, the researcher reflected on the research questions, findings, and conclusion. The chapter discussed the benefits of the study and outlined the recommendations. In conclusion, the chapter explored the contributions and links to the research and further provided the study's limitations.

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LIST OF ANNEXURES

ANNEXURE A: LETTER OF PERMISSION FROM THE CASE ORGANISATION



DENEL GROUP

13 June 2022

Tel: [REDACTED]

PERMISSION TO CONDUCT RESEARCH

Dear Mr M.T. Phele,

I, [REDACTED] the Group Manager of Communication and Public Affairs at Denel, grant your permission to collect data at this site for your research project titled **"EXPLORING THE LIMITING ISSUES INHIBITING SUSTAINABILITY EMBEDDEDNESS IN DENEL"**.

I grant this permission as the authorised person to do so in this company and am aware of the following:

1. The study is conducted as a Unisa researcher and remains the property of Unisa.
2. You may use the name of the company in your research project.
3. All data and information collected will be solely in the possession of the researcher.
4. I will require feedback on the research upon completion of the study.
5. The research may be published in the public domain under the supervision of the supervisor.

The permission granted is strictly for your study purposes only.

I acknowledge the following:

1. The study will take interview format which will take 2-3 weeks to complete and all Covid-19 protocols will be adhered to.
2. Managers within Denel branches in Pretoria will be used for the study.
3. I understand that ethical approval will be obtained from the university prior the study and the confidentiality of the participants will be maintained at all times.
5. The interview schedule will be shared with me before the interviews.

I wish you the best and success in this research.

Regards,

[REDACTED]

Group Manager: Communication & Public Affairs

Denel SOC Ltd, Reg No 1992/001837/30, Nelsonplus Drive, Irene
P O Box 8322, Centurion, 6048, South Africa. Tel: +27 (0)12 671 2700, Fax: +27 (0)12 671 2751
Directors: Mrs G T Serobe (Acting Chairperson), Mr T H Magazi, Lt Gen. (Ret) T T Malarzina, Mr M M Mnsi, Ms T Molegabudi,
Ms. T Ramano
Mr K W Hlakoane 1 (Interim Group Chief Executive Officer), Ms T Sabela 1 (Interim Group Chief Financial Officer)

1 Ex-Officio Director
Group Company Secretary: Ms M R Gie

ANNEXURE B: ETHICAL CLEARANCE CERTIFICATE



**UNISA DEPARTMENT OF BUSINESS MANAGEMENT RESEARCH ETHICS
REVIEW COMMITTEE**

08 November 2022

ERC Reference #: 2022_CEMS_BM_146
Name: Mr MT Phela
Student #: 33856087
Staff #: N/A

Dear Mr MT Phela

**Decision: Approved with minor
corrections to the satisfaction of
the supervisor.**

Researcher(s): Name	Mr MT Phela
	E-mail address: [REDACTED]
	Telephone #: [REDACTED]
Supervisor(s): Name	Dr C le Roux
	E-mail address: [REDACTED]
	Telephone #: [REDACTED]
Co supervisor(s): Name	Ms L Cronje
	E-mail address: [REDACTED]
	Telephone #: Tel: [REDACTED]

Working title of research:
Exploring the limiting issues inhibiting sustainability embeddedness in Denel

Qualification: M Com

Thank you for the application for research ethics clearance by the UNISA Department of Business Management Ethics Review Committee for the above-mentioned research.



University of South Africa
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ANNEXURE C: PARTICIPANTS INFORMATION SHEET

Ethical clearance #: 2022_CEMS_BM_146

Research permission #:

INFORMATION SHEET

Dear Prospective participant,

You are invited to participate in a semi-structured interview conducted by Mocheke Tinnes Phela under the supervision of Dr Catherine le Roux and Ms Lynette Cronje, Lectures in the Department of Business Management towards a MCOM degree in business management at the University of South Africa.

You were selected to participate in this interview because you are one of the 20 senior managers and executives responsible for sustainability of Denel. You were not going to participate in this study if you were younger than 25 years of age. By participating in this project, you agree that the information you provide may be used for research purposes, including dissemination through peer-reviewed publications and conference proceedings.

It is anticipated that the information we gain from this interview will help us to provide the organisation and the academic body of knowledge with insights into the limiting issues inhibiting sustainability embeddedness within an SOE. You are, however, under no obligation to participate and you can withdraw from the study prior to completing the interview. If you choose to participate it will take up no more than 60 minutes of your time.

You will not benefit from your participation as an individual, however, it is envisioned that the findings of this study will benefit leaders by exploring the limiting issues associated with the sustainability embeddedness in the SOE. Since Denel has a strategic role to play in SA, this study will contribute to sustainability by identifying the limiting issues to sustainability embeddedness. We do not foresee that you will experience any negative consequences by participating in the interviews *OR* we foresee the following consequences in participating in the interviews [you will have to allocate time for interviews, which might inconvenience you in respect to your busy

schedule. However, you may choose date and time which is convenient to you. You may also experience some level of discomfort with the questions posed to you. You may choose to stop interviews and withdraw at any time]. The researcher(s) undertake to keep any information provided herein confidential, not to let it out of our possession and to report on the findings from the perspective of the participating group and not from the perspective of an individual.

The interview will be recorded via Microsoft Teams. The records will be kept for five years for audit purposes where after it will be permanently destroyed. Hard copies will be shredded and electronic versions will be permanently deleted from the web based electronic drive. You will not be reimbursed or receive any incentives for your participation in the survey.

This study is in a process to obtain approval from the Research Ethics Review Committee of the University of South Africa. A copy of the approval will be provided on the request once approval has been granted. The primary researcher, Mocheko Tinnes Phela can be contacted during office hours at [REDACTED]. The study leaders, Dr Catherine le Roux may be contacted at [REDACTED] and co-supervisor Lynette Cronje at [REDACTED] during office hours. Should you have any questions regarding the ethical aspects of the study, you can contact College of Economics Management Science (CEMS) Research Ethics and Integrity Advisor: Dr Marianne Engelbrecht at [REDACTED]. Alternatively, you can report any serious unethical behaviour at the University's Toll Free Hotline 0800 86 96 93.

Thank you for taking time to read this information sheet and for participating in this study.

**ANNEXURE D: INFORMED CONSENT
CONSENT TO PARTICIPATE IN THE STUDY**

I XYZ, confirm that the person requesting my consent to participate in this research has informed me about the nature, procedure, potential benefits and anticipate inconvenience of participation

I have read (or explained to me) and understood the study as explained in the information sheet. I had sufficient opportunity to ask questions and I am prepared to participate in the study. I understand that my participation is voluntary and I am free to withdraw at any time without penalty. I am aware that the findings of this study will be processed into research report, journal publications and or conference proceedings, but that my participation and identity will be kept confidential.

I agree to the recording of the interview.

If you would like to receive the findings of the study, please place an X in the yes box below. In an event you would not like to receive the findings of the study please place an X in the no box below.

YES			NO	
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I have received a signed copy of the informed consent agreement

Full names of the participant _____

Signature of the participant _____ Date: _____

Full name of the researcher: Mocheko Tinnes Phela

Signature of the Researcher: M.T Phela Date: 03/02/2023

ANNEXURE E: DENEL'S WORK PROFILE

DENEL Work Profile (Human Capital)									
Occupation level	Male				Female				
	A	C	I	W	A	C	I	W	Total
Top management	7	0	2	2	2	2	0	0	15
Senior management	11	5	5	17	7	2	2	3	52
Professionally qualified, experienced specialist and mid management	95	24	39	414	49	10	9	45	685
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents.	485	84	31	486	210	39	11	111	1457
Semi-skilled and discretionary decision making	438	52	0	29	213	47	5	81	865
Unskilled and defined decision making	38	5	0	1	13	6	0	0	63
Total	1074	170	77	949	494	106	27	240	3137
Temporary employees	95	5	1	1	90	2	1	0	196
Grand total	1169	175	78	950	584	108	28	240	3332

Source: Adapted from Denel Annual Group (2020:249)

ANNEXURE F: INTERVIEW GUIDE

Research Topic: **EXPLORING THE LIMITING ISSUES INHIBITING SUSTAINABILITY EMBEDDEDNESS IN DENEL**

Research Questions:

- (1) What are the limiting issues inhibiting sustainability embeddedness in Denel?
- (2) What is the role of sustainable leadership in addressing the limiting issues and in embedding sustainability in Denel?

Research Objective: to explore the limiting issues inhibiting sustainability embeddedness in Denel and explore the role of sustainable leadership in addressing the limiting issues.

Interview question	Probe
How do you understand the concept of sustainability?	<p>What are the advantages of sustainability?</p> <p>What are the disadvantages of sustainability?</p>
Describe your understanding of the term sustainability embeddedness within an organisation?	<p>In simple terms, explain what sustainability embeddedness means.</p> <p>How does sustainability embeddedness or adoption occur within an organisation?</p>
How would you describe a sustainable organisation?	<p>Do you think sustainability embeddedness is important at Denel?</p> <p>Why so? Kindly elaborate.</p>

In your opinion, where is Denel on the journey to a sustainable organisation and is sustainability embedded?	To what extent is sustainability embedded at Denel?
Do you think Denel is sustainable?	If Yes, in what way? If no, what can be done to improve sustainability? What are the methods that Denel follows in ensuring sustainability?
How would you describe a sustainable leader?	What are the characteristics of a sustainable leader?
Who do you consider as sustainable leaders in your organisation? And why?	What do these individuals do that cause you to see them as sustainable leaders? Do you consider yourself to be a sustainable leader at Denel and why?
What sustainable practices or initiatives should sustainable leaders use to embed sustainability in an organisation?	Do you see these practices occurring frequently? In what way?
In what way do you strive to embed sustainability at Denel within your position?	What practices do you employ to embed sustainability in Denel?
What needs to be improved or changed to facilitate improved sustainability embeddedness?	What needs to be done for Denel to become a sustainable organisation (embedded with sustainability)

<p>In your view, what are the main inhibitors interfering with sustainability embeddedness at Denel?</p>	<p>How do these inhibitors affect or limit sustainability embeddedness at the company?</p> <p>What do you think can be done to address or overcome these inhibitors?</p>
<p>What is your view on the current state of SOEs in South Africa?</p>	<p>In your opinion, is the state of SOEs progressing or getting worse?</p> <p>If it is getting worse, what do you think are the root problems for this SOEs to be getting worse?</p>
<p>In your view, what are the trends of SOE's in South Africa?</p>	<p>Do you think SOE's are fulfilling their operational mandate?</p>
<p>In your own view, why are SOE's such as Denel important?</p>	<p>Is Denel progressing as an SOE in terms of profit?</p> <p>If yes, do you think Denel will still be making profit 5 years into the future?</p> <p>If no, what do you think can be done to make Denel profitable?</p>

ANNEXURE G: CONFIDENTIALITY AGREEMENT



UNISA RESEARCH ETHICS 3rd Party Confidentiality Agreement (Transcriber, Co-coder, Statistician and/or Fieldworkers)

A. INSTRUCTIONS

Please read through the entirety of this form carefully before signing.

After completing the required fields, please sign the form. After this form has been signed by the transcriber, co-coder, statistician or fieldworker, it should be given to the principal researcher for submission to the relevant UNISA Research Ethics Committee.

The transcriber, co-coder, statistician and/or fieldworker should keep a copy of the *Confidentiality Agreement* for their records.

B. CONFIDENTIALITY OF A RESEARCH STUDY

Confidentiality is the treatment and maintenance of information that an individual has disclosed in a relationship of trust and with the expectation that it will not be divulged to others in ways that are inconsistent with the understanding of the original disclosure (the informed consent documentation) without permission. Confidential information relating to human participants in a research study may include, but is not limited to the personal information listed below:

- a) information relating to the race, gender, sex, pregnancy, marital status, national, ethnic or social origin, color, sexual orientation, age, physical or mental health, well-being, disability, religion, conscience, belief, culture, language and birth of the person;
- b) information relating to the education or the medical, financial, criminal or employment history of the person;
- c) any identifying number, symbol, e-mail address, physical address, telephone number, location information, online identifier or other assignment to the person;
- d) the biometric information of the person;
- e) the personal opinions, views or preferences of the person;
- f) correspondence sent by the person that is implicitly or explicitly of a private or confidential nature or further correspondence that would reveal the contents of the original correspondence;
- g) the views or opinions of another individual about the person; and

h) the name of the person if it appears with other personal information relating to the person or if the disclosure of the name itself would reveal information about the person.

As a third party you will have access to research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) that include confidential information. Participants have revealed information to the researcher(s) since they have been assured by the researcher(s) that every effort will be made to maintain their privacy throughout the study. That is why it is of the utmost importance to maintain confidentiality when conducting your duties as a transcriber, statistician, co-coder and/or fieldworker during the research study. *Below is a list of expectations you will be required to adhere to in your role as a third party in this study. Review these expectations carefully before signing this form.*

C. THIRD PARTY EXPECTATIONS

To maintain confidentiality, I agree to:

1. Keep all research information that I collect or that is shared with me confidential by not discussing or sharing this information verbally or in any format with anyone other than the principal researcher of this study;
2. Ensure the security of research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) while it is in my possession. This includes:
 - Keeping all data and/or transcript documents and digitized interviews on a password protected computer with password-protected files;
 - Closing any programs and documents when temporarily away from the computer;
 - Keeping any printed transcripts or data in a secure location such as a locked file cabinet;
 - Permanently deleting any digital communication containing the data.
3. Not make copies of research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) unless specifically instructed to do so by the principal researcher;
4. Give all research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) and research participant information, back to the principal researcher upon completion of my duties as a transcriber;
5. After discussing it with the principal researcher, erase or destroy all research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) that cannot be returned to the principal researcher upon completion of my duties in this study.

Name of 3rd party involved in research activities: Marianne Kapp

Research activity responsible for (transcribing interviews, co-coding of data, statistical analysis, collecting data, etc.): Transcribing interviews

Title of Research Study: Exploring the limiting issues inhibiting sustainability embeddedness in Denel

Name of Principal Researcher: Mocheko Tinnes Phela

By signing this form, I acknowledge that I have reviewed, understand, and agree to adhere to the expectations described above. I agree to maintain confidentiality while performing my duties as acquired by the principal researcher. I recognise that failure to comply with these expectations may result in legal action.



30 September 2022


Signature of 3rd party

Date

Marianne Kapp

Print Name

ANNEXURE H: TURNITIN RECEIPT




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