

https://dspace.org/

Investigating success factors for women senior leadership: A case study of the South African Department of Mineral Resources and Energy

Mamatsharaga, Winnie

2025

University of the Witwatersrand, Johannesburg

https://hdl.handle.net/10539/49222

Mamatsharaga, Winnie. (2025). Investigating success factors for women senior leadership: A case study of the South African Department of Mineral Resources and Energy [Master`s dissertation, University of the Witwatersrand, Johannesburg]. WIReDSpace. https://hdl.handle.net/10539/49222

Downloaded from a DSpace repository. https://dspace.org/

Investigating success factors for women senior leadership: A case study of the South African Department of Mineral Resources and Energy

Student name: Winnie Mamatsharaga

Student number: 1131087

A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in Energy Leadership

Johannesburg, 2025

SUMMARY

There is a general underrepresentation of women in leadership in both the private and public sectors globally. Similarly, there are more men than women in senior leadership in the energy sector. This has restricted the penetration and advancement of women into senior leadership. While there has been progress in absorbing women into the energy sector leadership. More still needs to be done.

The study investigated the key success factors for women in senior leadership positions within the South African energy sector. It aimed to identify the barriers that impede women's progression and to examine the enabling factors that support their success in leadership roles. This analysis was conducted through a case study of the South African Department of Mineral Resources and Energy (DMRE) and its associated State-Owned Entities (SOEs). Additionally, the study proposed actionable recommendations to promote the advancement of women in senior leadership roles in the energy sector.

A qualitative method was adopted to collect data. This process collected data through semi-structured interviews with a cohort of seventeen (17) women and men in senior leadership roles at the DMRE and its associated SOEs.

The study found that the factors contributing to women's success in senior leadership roles include professional development, mentorship, networking, personality traits, and leadership style. Specifically, the study highlighted resilience, adaptability, and other personality traits as vital tools for women’s success in senior leadership positions. Furthermore, the study highlighted that enabling factors such as mentorship and leadership development programmes, supportive and inclusive policies and practices, personal traits and attributes, and general enablers contribute to the success of women in leadership roles.

The study recommended that the sector develop strategies and plans to implement the enabling and success factors identified in the study to counter the identified barriers hindering women's advancement in senior leadership. the recommendations and strategies include gender diversity policies and strategies with targets and timelines, establishment of gender diversity committees, development of leadership development and mentorship programmes, offer

bursaries and scholarships to women in junior and middle management, increase targets for women's inclusion in senior leadership, enforce accountability and compliance and provision of resources. Both individual women leaders and the energy sector play important roles in the process of eliminating the identified barriers and implementing the enabling factors.

KEYWORDS

Leadership, women in senior leadership, energy sector, advancement, progression, enablers, barriers, success factors, gender parity, gender equality, patriarchy.

DECLARATION

I, **Winnie Mamatsharaga**, declare that this research report is my work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of **Master of Management in Energy Leadership** at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Name: **Winnie Mamatsharaga** Signature: 

Signed at: **Pretoria**

On the **27** day of **January** **2025**

DEDICATION

This study is dedicated to all women and men who support and are willing to advocate for gender equality and transformation in the energy sector. Special recognition goes to the Gender Mainstreaming and Transformation Unit within the Department of Mineral Resources and Energy for their leadership in driving transformation in the energy sector as a whole.

ACKNOWLEDGEMENTS

My heartfelt gratitude goes to everyone who helped and supported me throughout this Master of Management in the field of Energy Leadership research report journey:

My God – for partnership, leadership and guidance in the form of the holy spirit, knowledge and wisdom. I am nothing without God.

My Family - My Husband Taki, My Kids Mbofho and Dzanga, My Mother, Vho Sana, My Siblings, Nieces, Nephews, and My Confidant Esther—thank you for your support, prayers, words of encouragement, sacrifices and understanding throughout this journey.

My Supervisor - Dr Stanley Semelane, for the invaluable supervision, guidance, and support provided throughout this process. Your dedication and countless sessions have been instrumental in helping me achieve this significant milestone.

Mr Thabang Tsotetsi – for managing the programme, which was characterised by passion, unwavering support, and availability during our most critical moments. I also extend my appreciation to the Wits Business School, African Energy Leadership Centre staff, and my fellow students for their valuable support and engaging discussions throughout the program.

My Participants, thank you for your willingness to invest your time and resources in my study and participation. Your contribution is inestimable.

My Financial Sponsor, **EWSETA** - for the sponsorship extended to me and my fellow students. Your support is instrumental to our academic and professional growth. Thank you for your generous contribution.

To you all, I am humbled and grateful, **NDO LIVHUWA**!

TABLE OF CONTENTS

SUMMARY **2**

DECLARATION **4**

DEDICATION **5**

ACKNOWLEDGEMENTS **6**

LIST OF TABLES **11**

LIST OF FIGURES **12**

LIST OF ACRONYMS and ABBREVIATIONS **13**

CHAPTER 1. INTRODUCTION **14**

1.1 PURPOSE OF THE STUDY 14
1.2 CONTEXT OF THE STUDY 15
1.3 RESEARCH PROBLEM 17
1.4 RESEARCH OBJECTIVES 18
1.5 SIGNIFICANCE OF THE STUDY 18
1.6 DELIMITATIONS OF THE STUDY 19
1.7 DEFINITION OF TERMS 21
1.8 ASSUMPTIONS 22
1.9 STRUCTURE OF THE REPORT 23

CHAPTER 2. LITERATURE REVIEW **24**

2.1 INTRODUCTION 24
2.2 THEORETICAL FRAMEWORKS 24
2.2.1 SOCIAL ROLE THEORY 24
2.2.2 THE GLASS CEILING THEORY 25
2.2.3 GENDER REFORM FEMINISM 26
2.2.4 THE ROLE CONGRUENCY THEORY 26
2.3 AN OVERVIEW OF THE SOUTH AFRICAN LEADERSHIP LANDSCAPE 27
2.3.1 OVERVIEW OF THE SOUTH AFRICAN PUBLIC ENERGY SECTOR 28
2.3.2 PATRIARCHY IN THE ENERGY SECTOR 28
2.3.3 UNDERREPRESENTATION OF WOMEN IN THE ENERGY SECTOR 29
2.3.4 BENEFITS OF WOMEN IN SENIOR LEADERSHIP 30
2.4 BARRIERS HINDERING THE ACCELERATION OF WOMEN IN SENIOR LEADERSHIP IN THE SOUTH AFRICAN ENERGY SECTOR 31

2.4.1 Limited Leadership Development Opportunities 31
2.4.2 Glass Ceiling and Sticky Floor 32
2.4.3 Gender insensitive Culture, religion and gender stereotyping 32
2.4.4 Limited Mentorship Opportunities 33
2.4.5 Recruitment and promotional policies and practices 33
2.4.6 Proposition 1 34
2.5 The enablers to advance women in senior leadership in the South African energy sector 35
2.5.1 Promoting gender diversity and inclusion policies and practices in the workplace 35
2.5.2 Supporting work-life balance 36
2.5.3 Providing equal opportunities for career advancement and support programmes 36
2.5.4 Eliminating unconscious bias and stereotypes 37
2.5.5 Recognising and promoting female role models 37
2.5.6 Proposition 2 38
2.6 The Success Factors displayed by women senior leaders in the South African energy sector 38
2.6.1 Personality factors and leadership style 38
2.6.2 Work-life balance 39
2.6.3 Educational Background and Qualifications 39
2.6.4 Mentorship and Networking 40
2.6.5 Networking and Relationship Building 41
2.6.6 Embracing Change and Continuous Learning 41
2.6.7 Proposition 3 42
2.7 Conclusion of Literature Review 42
2.7.1 Proposition 1 43
2.7.2 Proposition 2 43
2.7.3 Proposition 3 43
2.7.4 Consistency table 44

CHAPTER 3. RESEARCH METHODOLOGY 45

3.1 Research approach 45
3.2 Research design 46
3.3 Data collection methods 47
3.4 Population and sample 48
3.4.1 Population 48
3.4.2 Sample and Sampling Method 48
3.5 The research instrument 50
3.6 Procedure for data collection 51
3.7 Data analysis and interpretation 51
3.8 Limitations of the study 53
3.9 Trustworthiness 54
3.9.1 Transferability 54
3.9.2 Credibility 55
3.9.3 Dependability 55
3.9.4 Confirmability 55
3.10 Ethical considerations 55
3.11 Consistency table 56

CHAPTER 4. FINDINGS AND DISCUSSION.....59

4.1 INTRODUCTION.....59
4.2 FINDINGS AND DISCUSSION PERTAINING TO PROPOSITION 1.....61
4.2.1 GENDER-INSENSITIVE CULTURE.....61
4.2.2 SOCIETAL PERCEPTIONS.....64
4.2.3 LIMITED DEVELOPMENT OPPORTUNITIES.....65
4.3 WOMEN & MEN PARTICIPANTS' PERSPECTIVES ON PROPOSITION 1.....67
4.4 CONCLUSION FOR PROPOSITION 1 FINDINGS.....68
4.5 FINDINGS & DISCUSSION PERTAINING TO PROPOSITION 2.....69
4.5.1 MENTORSHIP AND LEADERSHIP DEVELOPMENT PROGRAMMES.....69
4.5.2 SUPPORTIVE AND INCLUSIVE POLICIES AND PRACTICES.....71
4.5.3 PERSONAL ATTRIBUTES/ TRAITS.....73
4.5.4 GENERAL ENABLERS.....73
4.6 WOMEN & MEN PARTICIPANTS' PERSPECTIVES ON PROPOSITION 2.....74
4.7 CONCLUSION FOR PROPOSITION 2 FINDINGS.....75
4.8 FINDINGS & DISCUSSION PERTAINING TO PROPOSITION 3.....75
4.8.1 PROFESSIONAL DEVELOPMENT.....76
4.8.2 NETWORKING AND RELATIONSHIP-BUILDING.....78
4.8.3 MENTORSHIP PROGRAMMES.....79
4.8.4 RESILIENCE, ADAPTABILITY AND OTHER PERSONALITY FACTORS.....81
4.8.5 LEADERSHIP STYLES.....82
4.9 WOMEN & MEN PARTICIPANTS' PERSPECTIVES ON PROPOSITION 3.....83
4.10 CONCLUSION FOR PROPOSITION 3 FINDINGS.....85
4.11 COMPARISON OF LITERATURE REVIEW AND OWN FINDINGS.....86

CHAPTER 5. CONCLUSIONS & RECOMMENDATIONS.....88

5.1 INTRODUCTION.....88
5.2 CONCLUSIONS REGARDING RESEARCH OBJECTIVE 1.....88
5.3 CONCLUSIONS REGARDING RESEARCH OBJECTIVE 2.....90
5.4 CONCLUSIONS REGARDING RESEARCH OBJECTIVE 3.....92
5.5 FINAL CONSISTENCY TABLE.....93
5.6 PROPOSED INTERVENTIONS TO ACCELERATE WOMEN INTO SENIOR LEADERSHIP IN THE SOUTH AFRICAN ENERGY SECTOR.....96
5.6.1 PROMOTING GENDER DIVERSITY AND INCLUSION POLICIES.....97
5.6.2 SUPPORTING WORK-LIFE BALANCE.....97
5.6.3 PROVIDING EQUAL OPPORTUNITIES FOR CAREER ADVANCEMENT.....98
5.6.4 ELIMINATING UNCONSCIOUS BIAS AND STEREOTYPES.....98
5.6.5 RECOGNISING AND PROMOTING FEMALE ROLE MODELS.....98
5.7 RECOMMENDATIONS.....99
5.8 SUGGESTIONS FOR FURTHER RESEARCH.....101

REFERENCES.....102

APPENDIX A: PARTICIPANT INFORMATION SHEET (PIS) 116

APPENDIX B: PARTICIPANT CONSENT FORM 118

APPENDIX C: INTERVIEW GUIDE.....120

APPENDIX D: ETHICS CLEARANCE CERTIFICATE 123

LIST OF TABLES

Table 1. Consistency table: research questions and propositions 44

Table 2: Profile of Participants 50

Table 3: Braun & Clarke steps to do thematic analysis (Braun & Clarke, 2006). 53

Table 4. Consistency table: research questions, propositions, data collection and data analysis 57

Table 5: Comparison of literature review and findings 86

Table 6: Consistency table: research questions, conclusions and contribution to knowledge 94

Table 7: Study Intervention Proposals 97

LIST OF FIGURES

Figure 1: Structure of the research report 23

Figure 2: DMRE Gender and SMS Composition 28

LIST OF ACRONYMS and ABBREVIATIONS

AfDB	African Development Bank
BWASA	Businesswomen Association of South Africa
CEF	Central Energy Fund
CEO	Chief Executive Officer
DG	Director General
DMRE	Department of Mineral Resources and Energy
DoEL	Department of Employment and Labour
DOW	Department of Women
EEA	Employment Equity Act
EIGE	European Institute for Gender Equality
GDP	Gross Domestic Product
IASS	Institute for Advanced Sustainability Studies
IEA	International Energy Agency
IFC	International Finance Corporation
ILO	International Labour Organisation
IRENA	International Renewable Energy Agency
KZN	KwaZulu Natal
M & E	Monitoring and Evaluation
NERSA	National Energy Regulator of South Africa
NRWDI	National Radioactive Waste Disposal Institute
RO	Research Objective
SA Government	South African Government
SANEDI	South African National Energy Development Institute
S&P 500	Standard and Poor's 500 Index
SOEs	State-Owned Entities
StatsSA	Statistic South Africa
STEM	Science, Technology, Engineering and Mathematics
WEF	World Economic Forum

CHAPTER 1. INTRODUCTION

Chapter One is an introductory chapter that sets the scene for the study. It covers the purpose of the research and the context of why the study on success factors to advance women in senior leadership is necessary for the South African energy sector. The research problem, objectives, and significance will also be outlined, together with the boundaries or delimitations of the study in this chapter.

1.1 Purpose of the study

The study aims to explore success factors for women senior leaders in the South African energy sector. The study will investigate barriers hindering women from succeeding and examine factors that enable women leaders to succeed in leadership positions through a case study of the South African Department of Mineral Resources and Energy (DMRE) and its associated State-Owned Entities (SOEs).

According to the DOW (2015), the South African government has focused on legislative reforms since 1994 to eliminate institutional discriminatory laws and advance women's empowerment. Although progress has been made in advancing women's empowerment and gender equality, a significant amount of work is still required to accelerate women's leadership in South Africa, specifically in the energy sector.

Moreover, the ILO (2019) shows that increasing gender balance correlates with increased profitability, improved decision-making, increased innovation, and a better ability to gauge consumer needs. This eventually results in improved financial performance of an organisation. This means that if a dedicated effort towards women's leadership could be intensified, more women will likely have senior leadership opportunities.

Consequently, the study would examine factors that contribute to the success of women in senior leadership and attributes of successful women leaders through the case study of DMRE and its associated SOEs. This qualitative research would

also assess factors that create barriers to women's appointment, promotion and success in leadership positions.

1.2 Context of the study

Qualitative research takes into consideration the context within which individuals or groups operate. The purpose of the context is to offer a meaningful understanding of what is occurring in the real world. As a result, the researcher must comprehend the study background to properly relate to, analyse, and draw conclusions for the report (Korstjens & Moser, 2017).

According to Galsanjigmed and Sekiguchi (2023) and Dibobo et al. (2022), there has been an increasing recognition of the significance of gender diversity in leadership positions, particularly in historically male-dominated industries. Regardless of attempts to increase female representation in senior leadership roles, women continue to experience challenges in achieving success and advancing to top leadership positions (Minarova-Banjac, 2018).

According to Huang et al. (2019), women are not equally represented in senior leadership positions, and this gender gap is especially noticeable in traditionally male-dominated industries globally, but there is growing acknowledgement of the importance of gender diversity in leadership positions. The problem starts at the corporate pipeline or junior management level, making it difficult to achieve equal representation and gender parity at the senior leadership level (Dibobo et al., 2022). According to a report by Catalyst (2023), only 8.2% of the Chief Executive Officer (CEO) positions at the Standard and Poor’s 500 Index (S&P 500) companies are held by women. To address this issue, Huang et al. (2019) recommended that attention should be focused on the first promotion to manager and understanding the underlying aspects that limit women's progress into senior leadership roles.

The energy sector is a key industry that plays a critical role in the global economy. While women's participation in the energy sector is increasing, the number of women in senior leadership positions has been limited for a long time (Sumarno et al., 2024). Furthermore, the analysis by Glass and Cook (2016) shows that

women often lack the required support and authority to fulfil the organisation's strategic goals, and they do not stay longer in leadership positions when associated with men. Understanding the elements contributing to the success of women in senior leadership roles in the energy sector is vital for promoting gender diversity and creating more inclusive and equitable workplaces.

Considering the above, the context of this study is to understand success factors to advance women in leadership in the South African energy sector. According to Countrymeters (2023), there are more females than males in South Africa, with approximately 31 million (51.1%) females and 30 million (48.9%) males. Many as they are, if given the proper placement and recognition through employment, especially in senior leadership roles and entrepreneurial endeavours, women have the potential to significantly contribute towards economic development (SAGovernment, 2015). Women are providers and important to the welfare and life prospects of their children and families (Oláh et al., 2014).

In 2022, South Africa recorded that 47% of South African women were not economically active, with approximately 25,4% of females being classified as homemakers due to their inactivity, compared to 4.1% of males. The South African unemployment rate is also higher for women at 35,5% versus 32,6% for men. Therefore, the productive potential of women in the labour force remains unused and missed (StatsSA, 2022).

According to the AfDB (2015), several barriers hinder the participation of women in the mainstream economy. Regardless of the identified benefits such as improved business performance and contribution to the economy, women's participation in leadership is still relatively low. In South Africa, women contribute almost 50% to the national Gross Domestic Product (GDP), which is comparable to men's contribution (Ebnet, 2022).

A significant share of South African women devote time to free domestic and care work, which prevents women from advancing to senior leadership. According to Akuamoah-Boateng et al. (2003), the underrepresentation of women in senior leadership positions could be attributed to different complex factors, including patriarchal societal structures, negative gender power dynamics, and opposition

from other women. Despite these challenges, there are positive elements that contribute to the success of women in these positions, which play a critical role in helping women navigate the intricacies of their roles, overcome obstacles, and maintain their positions over time (Akuamoah-Boateng et al., 2003). Therefore, there is a need to support and empower women to be successful in senior leadership (AfDB, 2015).

1.3 Research problem

Historically, the energy sector in South Africa has been predominantly controlled by men, resulting in a lack of representation of women in high-ranking positions (Hanto et al., 2022). Although there have been several efforts and strategies to encourage gender equality, the representation of women in high-ranking posts in the energy sector is still significantly inadequate. Some of the barriers impeding the progress of women include patriarchal culture, limited mentorship and development opportunities, recruitment policies, the glass ceiling and the sticky floor. This discrepancy indicates that some fundamental obstacles and difficulties impede the progress of women in attaining top leadership posts in the energy industry (Elomäki & Ylöstalo, 2021). The absence of women in leadership positions not only inhibits diversity and inclusivity but also can hinder creativity and overall organisational effectiveness (Kulkarni & Mishra, 2022). Gaining insight into the key elements that contribute to the achievement of women in these roles is essential for devising effective approaches to promote gender diversity and equality in leadership

This study examines the precise characteristics that contribute to the success of women senior leaders in the South African energy industry. The research seeks to gain an understanding of the variables that facilitate or hinder women's progress in the energy industry. As such, upon identifying and analysing these characteristics, the research hopes to provide practical recommendations for policymakers and organisations to support and promote women's leadership in this field. The study will employ a case study technique to gain a thorough knowledge of the specific contextual factors that influence the development of women's leadership paths in this crucial sector.

1.4 Research objectives

The primary objective of this study is to investigate the success factors for women senior leaders in the South African energy sector, through the DMRE and its associated SOEs case study. The exclusion of women in senior leadership exists for several reasons; consequently, it is fundamental to understand key barriers and enablers that can accelerate women to senior leadership. The secondary objectives are:

1. To evaluate the energy sector barriers that hinder women's acceleration in leadership.
2. To examine energy sector enablers that advance women's senior leadership.
3. To determine and propose success factors that increase women in senior leadership.

The study objectives intend to understand the success factors, barriers, and enablers for women in senior leadership positions at DMRE and its SOEs.

1.5 Significance of the study

According to IASS (2022), the energy sector is male-dominated globally. The underrepresentation of women in senior leadership is a testament to the problem of the exclusion of women in leadership roles (O'Brien et al., 2023). Moreover, O'Brien et al. (2023) show that barriers and challenges that hold back women from advancing to senior leadership levels have existed for many years. A study conducted by George (2020) demonstrates that there are limited analyses of how women can succeed in senior leadership. This study will investigate the mechanisms that drive successful women in senior leadership positions.

This research seeks to evaluate whether potential discrimination against women in senior positions exists and how this could be eliminated to promote their advancement. The underlying reasons that continue to undermine women's leadership capabilities need to be understood. Understanding these factors will ensure that women are not excluded from leadership, particularly in the South African energy industry. Furthermore, the inclusion of women in leadership will

generate benefits that would lessen the gender disparity gap and eventually eliminate unequal treatment of women in leadership. Akkaya and Üstgörül (2020) asserted that the placement of women in leadership will not only increase business performance but also lead to peaceful and well-off families, humanities, and the environment. Moreover, this study will benefit women in the energy sector and contribute to enabling women's advancement in the energy sector, and fill a gap in energy leadership research, particularly in the South African public sector.

1.6 Delimitations of the study

According to Theofanidis and Fountouki (2018), delimitations refer to the intentional restrictions or boundaries that authors establish for their research. These limitations serve to define the scope of the study and make certain that its objectives are attainable. Therefore, the researchers possess the authority to impose delimitations in their work.

The study will focus on factors that contribute to the success of women at the senior leadership level in the South African energy sector, and the focus will be on DMRE and its associated SOEs only. This means that other women, particularly those located in the private sector, would not be considered. Furthermore, the study is exclusively biased toward the success factors that accelerate women's leadership. Interviews will only be conducted with senior leadership placed two levels down from the Director General (DG) or the Chief Executive Officer (CEO), with five (5) years of energy-related experience.

While there might be other factors that enable the advancement of women in leadership over men, the study would also consider success factors that drive women into senior leadership from a man's perspective. Also, the population size of the study, which is seventeen (17), is limited to DMRE and associated SOEs only. The population size is limited due to the limited number of women in senior leadership. This means that the study results might not be tested for reliability or lower error margins.

The study will not consider the natural strengths of women against those of men since the considered population is limited to those who are already in senior leadership. Furthermore, theories that argue the natural strengths of women

against those of men are excluded, as the study is limited to senior leadership management.

1.7 Definition of terms

Barriers – "a problem, rule, or situation that prevents someone from doing something, or that makes something impossible" (Oxford).

DMRE - Department of Mineral Resources and Energy, including the SOEs.

Empowerment - "the act or process of granting power, authority, or rights to perform specific tasks or duties".

Energy- Associated SOEs – the National Energy Regulator of South Africa (NERSA), National Radioactive Waste Disposal Institute (NRWDI), Central Energy Fund, South African National Energy Development Institute (SANEDI).

Enablers – "something or someone who enables the accomplishment of a specific goal" (Cambridge).

Equality – "The concept of equality entails treating individuals or groups fairly and without prejudice, ensuring they have equal access to opportunities, rights, and privileges, regardless of their background or situation" (Area).

Equity – "the quality of being fair or impartial" (Dictionary).

Gender disparity – it is a disparity in access to resources, level, and welfare between women and men, which frequently exists, with men typically having an

advantage due to institutionalised laws, justice systems, and social norms (EIGE, 2024).

Glass ceiling effect – the invisible obstacles that women experience when attempting to advance to leadership roles in an organisation (Galsanjigmed & Sekiguchi, 2023).

Leadership - "the act of convincing others to comprehend and concur on the actions that need to be taken and the methods to employ in achieving them" (Yukl, 2012).

Men in Senior Leadership Level – men at Director-General (DG) and Chief Executive Levels and two levels below at DMRE and associated SoEs (Chief Directors, Deputy Director General, Managing Director, Executive Director and Director-General).

Parity – "the condition of being equal, particularly the status or payment that is the same for all individuals" (Oxford).

Patriarchy – patriarchy, a form of societal organisation, occurs when sex-based political relations are institutionalised over time, leading to mental, social, spiritual, economic, and political structures. These relationships are perpetuated by interconnected institutions, which aim to establish and reinforce the subordinate status of women (Facio, 2013).

Sticky floor – the inability of women to overcome obstacles and barriers to allow them to advance to higher leadership positions (Galsanjigmed & Sekiguchi, 2023).

Success factors – "A success factor refers to any essential personal qualities, such as knowledge, skills, traits, motives, attitudes, values, or other characteristics, that set superior performers apart from those who are merely adequate in their job or role" (BuffaloState, n.d).

Women in Senior Leadership Level – women at Director-General (DG) and Chief Executive Levels and two levels below at DMRE and associated SoEs (Chief Directors, Deputy Director General, Managing Director, Executive Director and Director-General).

1.8 Assumptions

According to Simon (2011), assumptions in research are factors that can impact study validity if not addressed, as they're beyond direct control. The following assumptions were made:

- The study would conduct interviews with fifteen to twenty (15 - 20) women and men from the DMRE and its associated SOEs.

- The study would select women and men located in different parts of the energy business, for example, petroleum, nuclear, research, policy, and regulations, among others.
- The study would assume that participants will be honest in their responses.
- The qualitative case study would ensure a comprehensive analysis and understanding of success factors enabling women to advance to senior leadership.
- The participants will voluntarily partake in the research study, and the findings will be based on their own life and career experiences.

1.9 Structure of the report

The research structure is outlined in **Figure 1**:

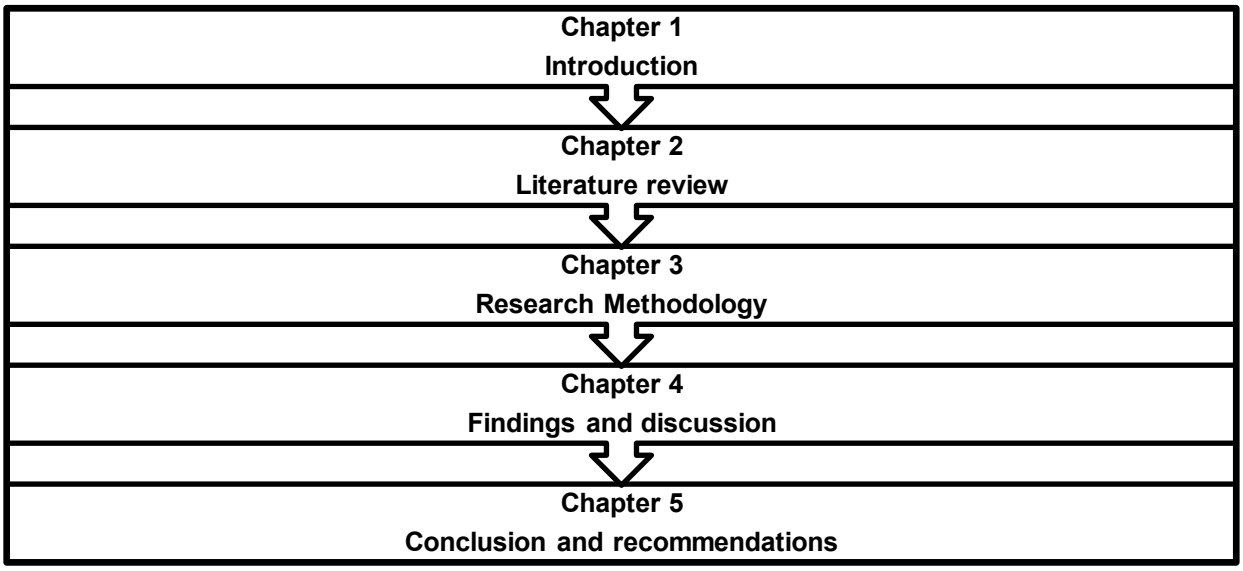


Figure 1: Structure of the research report

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

A literature review provides a thorough outline of previous literature about the research theme, theory, and method and adds or comes up with new knowledge (Paul & Criado, 2020). This section will dwell on the literature related to enabling factors for senior women to succeed in leadership positions, including the barriers preventing them from succeeding in those positions. The chapter will include the theoretical frameworks, background, sub-themes, and propositions.

2.2 Theoretical Frameworks

According to Varpio et al. (2020), a theoretical framework characterises the researcher's endeavours to incorporate theoretical concepts into a specific study. To create a theoretical framework, the researcher has to identify and describe the ideas and theories that will serve as the foundation for the research, establish logical associations between them, and relate these concepts to the current study being conducted (Varpio et al., 2020). Despite attempts to increase female representation in senior leadership roles, women remain underrepresented in senior leadership worldwide. The theoretical frameworks list is not exhaustive; however, for this study, the following theoretical frameworks underpin and are relevant to the success factors in advancing women in senior leadership study, which are social role theory, glass ceiling theory, gender reform feminism, and role congruency theory:

2.2.1 *Social role theory*

According to Bandura (1986), with social role theory, a person's behaviour is determined by the gender division of labour and the social roles they play in society. Within the realm of leadership, the theory suggests that cultural norms and gender stereotypes may present particular obstacles for women seeking to succeed in top leadership positions (Bandura, 1986). Furthermore, Gallagher et al. (2012) indicated that the societal biases, discrimination, and stereotypes that

perpetuate the belief that women are less capable than men, with nurturant roles and differentiated skills, present a negative effect on their capability to fulfil their social roles in society, work, and business as leaders. This contributes to the underrepresentation of women at the senior leadership level, as they must overcome those biases and challenges first before they can occupy or aspire to become senior leaders (Galsanjigmed & Sekiguchi, 2023).

According to Eagly's social role and gender stereotyping theory in Alqahtani (2019) research, women are often viewed as communal beings who are emotional, helpful, affectionate, sympathetic, and concerned about the welfare of others. On the other hand, men are viewed as agentic beings who are controlling, direct, assertive, aggressive, and independent of other people. These societal divisions of labour are responsible for the way women and men are defined in family and work settings.

Lawson et al. (2022) stated that the stereotyping of women is exacerbated by the language used to define them as less agentic. They further indicated that appointing more women, especially at senior leadership levels, can break down these communal and feminine (caring, weak, and kind) language barriers and promote a more positive agentic language associated with confidence and independence in women. This, in turn, leads to a systematic change and trade-offs in gender stereotyping.

2.2.2 *The Glass Ceiling Theory*

The glass ceiling refers to the unseen barrier that blocks women and minorities from progressing to the highest levels of leadership in organisations. This theory suggests that women face systemic barriers that constrain their opportunities for career advancement, such as unconscious bias, stereotypes, and discrimination. The Glass ceiling continues to exist in many organisations, making it hard for women to get into high-level leadership positions (Kagan, 2024). According to Kulik and Rae (2019), the disadvantage women experience through the glass ceiling is evidenced in the promotion and acceleration to the highest level of the organisation. According to the evidence of the disadvantage women experience through the glass ceiling in the advancement and acceleration of women to the

highest level of the organisation, Lantz-Deaton et al. (2018) demonstrated the association between the glass ceiling and the utilisation of mentorship programmes to assist and support women to advance and succeed in leadership positions. They stated that further work must be done to ensure that women advance and break the ceiling, with mentorship in one of the programmes to deal with that challenge.

2.2.3 *Gender Reform Feminism*

According to Tekere and Gibbs (2016), women and men can reach leadership roles in the business if they undergo the same developmental programmes. In addition, Phipps and Prieto (2021) show that discriminatory cultures and practices, lack of or insufficient opportunities to network and connect with managers and mentors, and limited leadership development opportunities are some of the difficulties that hamper or delay women's career progression. Therefore, for women to advance as leaders, enhance their capacity for inspiration and influence, and lean into their jobs, they must be involved at all levels and granted equal access to opportunities as males (Phipps & Prieto, 2021). Lorber (1997) alleged that gender reform feminism is the practical and best way to amend the past and tackle gender inequality and aims to promote planning and policy changes.

2.2.4 *The role congruency theory*

Role congruency theory implies that there is an observed mismatch between leadership and female gender roles (Funk, 2019). Due to this perceived incongruity, women tend to exhibit communal characteristics linked with ineffective leadership, whereas men tend to exhibit agentic characteristics correlated with effective leadership. Therefore, women often experience hurdles in being considered for leadership posts, which hinders their ability to attain success in senior leadership responsibilities, remarkably in traditionally male-dominated organisations (Eagly & Karau, 2002; Funk, 2019).

Lawson et al. (2022), indicated that employing women in leadership positions is related to organisations that characterise women as more leadership-compatible and more agentic. This change alleviates a critical barrier to women's advancement in organisations and society, i.e., the incompatibility of being a woman and being a leader. According to Koburtay and Syed (2019), gender equality policies, practices, and leadership development initiatives will meaningfully boost the rise and success of women leaders.

According to Galsanjigmed and Sekiguchi (2023), the removal of the identified barriers, such as gender division of labour, and unconscious and invisible barriers, as well as desisting from associating women with ineffective leadership, will contribute to the progression of women to senior leadership and gender reform. Likewise, the promotion of the enabling and success factors, such as equal access to training and development opportunities and support, will contribute to the advancement of women to senior leadership (Galsanjigmed & Sekiguchi, 2023).

2.3 An overview of the South African leadership landscape

In 2023, there were approximately over 31 million females and 30 million males living in South African (Countrymeters, 2023). South African government has advocated for the emancipation and empowerment of women to the leadership level from the cabinet to the government level. The Employment Equity Act (EEA), as amended calls for all organisations to develop their employment equity plans on how they will address the inequity in the work environment. Organisations were also obliged to develop affirmative action measures to address and accelerate the employment and promotion of women towards employment equity (SAGovernment, 1998). In 2023, the President of the Republic of South Africa signed the Employment Equity Amendment Bill of 2023, to accelerate the transformation by pushing economic sectors and organisations to set equity targets and develop transformation plans (DoEL, 2023).

In 2021, women accounted for 62.3% of the total national government employees. However, the percentage does not translate to the number of women

in senior leadership levels, as women remain underrepresented. The average percentage of women represented at Senior Leadership was 43.5% while the average percentage of men was 56.5% (BWASA, 2021).

At the State-Owned Entities (SOEs), the picture is no different. Women account for 38.3% of senior leaders' positions at SOEs (BWASA, 2021).

2.3.1 *Overview of the South African Public Energy Sector*

The South African energy industry plays a significant role in promoting economic and sustainable development. The Department of Mineral Resources and Energy (DMRE) has a higher percentage of female employees (56%) compared to male employees (44%). However, the percentage tells a different story, with only 36% of females holding senior leadership positions as compared to 64% of males (DMRE, 2024a), see **Figure 2** below.

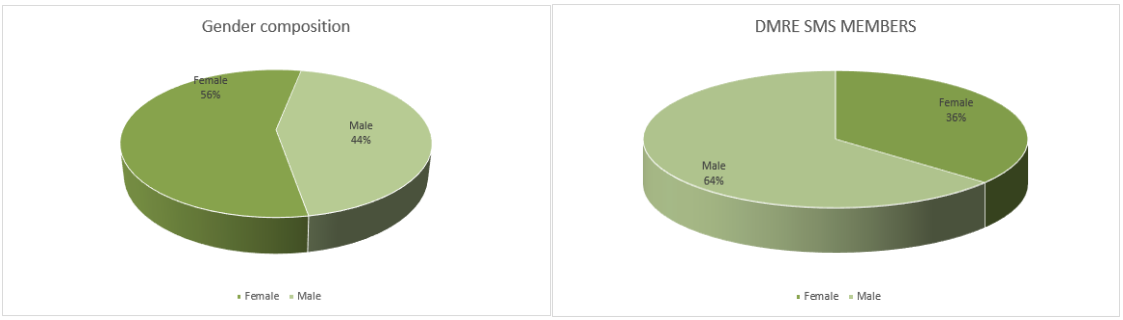


Figure 2: DMRE Gender and SMS Composition

On average, there are 18 (42%) women and 25 (58%) men in energy SOEs, indicating an under-representation of women senior leaders (DMRE, 2024b). This demonstrates a significant underrepresentation of women at DMRE and associated SOEs. As a result, evaluating success factors for women in senior leadership at DMRE and SOEs, in comparison with the men in senior leadership, is significant.

2.3.2 *Patriarchy in the Energy Sector*

Patriarchal beliefs in the energy sector often manifest in several ways, creating significant obstacles to women's progression. These beliefs are rooted in the view

that men are innately suited for leadership jobs, leading to a biased evaluation of women's capabilities and potential (Nefdt, 2019). Consequently, women, time and again, must work harder to demonstrate their worth and competence, facing higher standards and expectations than their male colleagues. Furthermore, the prevalence of male-dominated networks and mentorship opportunities can make it challenging for women to access the necessary resources and support to navigate the industry successfully, regardless of which organisation in the energy sector (Moosa & Coetzee, 2020; Nefdt, 2019). Moreover, women in leadership roles in any energy industry have negotiated a hostile, patriarchal environment of rivalry and competition (Nefdt, 2019). As such, addressing the influence of patriarchal beliefs and practices is crucial for creating an equitable and inclusive environment that fosters the success of women in senior leadership positions in the energy sector (Hoque, 2021).

To deal with these challenges, it is critical to implement targeted strategies that dismantle patriarchal obstacles and create more inclusive and accommodating conditions for women in senior leadership roles in the energy sector. Despite the significant impact of patriarchal beliefs on women in the energy sector, it is important to consider and address opposing perspectives to gain a full understanding of the factors prompting women's success in senior leadership positions. Addressing these entrenched patriarchal beliefs is crucial for creating a more accommodating and equitable sector, where women have equal opportunities to advance into senior leadership roles.

2.3.3 *Underrepresentation of women in the energy sector*

According to the IRENA survey, women make up 32% of full-time employees at renewable energy responding companies, which is significantly more than the average of 22% for the global oil and gas sector. Nonetheless, women are still not represented in science, technology, engineering, and mathematics (STEM) fields compared to administrative fields in the renewable energy sector. The statistics show that women involved in senior leadership level is also decreasing (IRENA, 2019).

According to the WEF (2022) recent data, the energy sector has the least females; that is 20% and ranks among the worst for women in leadership positions and women account for less than one in five senior positions in the energy industry, and their remuneration is 19% less than that of men in the same field.

It is crucial to encourage gender diversity in the senior leadership of the energy sector to attract more women into the workforce. Having more women in leadership roles would also provide more role models and mentors, which is important for retaining female employees (IEA, 2023).

2.3.4 *Benefits of Women in Senior Leadership*

Women in leadership roles help businesses maximise the benefits of many viewpoints and creative problem-solving, which boosts a company's performance as a whole (IEA, 2021). In more gender-equitable environments, there is a greater likelihood that the availability of a female CEO and women in leadership roles generally will have a beneficial relationship with a company's financial performance and increased bottom line (Hoobler et al., 2018; Mckinsey, 2020). Furthermore, ARAGAW (2018), in the study of the Ethiopian Electric Utility, warned that barriers faced by women due to the underrepresentation in leadership positions contribute to the organisation's ability to meet customer expectations, which hit back to the organisation's positive performance.

According to Lahti (2013), the availability of women in senior leadership positions is linked to four key factors, which are diversity, improved company performance, equality, turnover and the utilisation of all available resources and expertise. In addition, Mcilongo and Strydom (2021), show that companies with more women in leadership positions demonstrated progress in their decision-making, output and return.

Dixon-Fyle et al. (2020) confirm that, there is a firm business case for gender diversity in corporate leadership and that the case continues to improve. Moreover, an organisation with more employees who are diverse tends to perform better than organisations that are less diverse in profitability. Also, the

study by Lahti (2013) highlighted that organisations with more than three women in their leadership perform well in the work environment, vision, direction, control and values.

2.4 Barriers hindering the acceleration of women in senior leadership in the South African energy sector

Keywords: Barriers, gender insensitive, culture, gender stereotypes, policies

This section focuses on pieces of literature regarding the barriers hindering the advancement and acceleration of women to senior leadership in the energy sector. According to Born et al. (2018), the presence of women in a male-dominated setting has adverse effects on the involvement and progression of women in the environment. Moreover, the same study analysis by Born et al. (2018) shows that women leading in an organisation that is male-dominated display low confidence in their performance, they are less influential and are easily carried away by men during discussions. This serves as a barrier for women to participate and advance in senior leadership positions. Barriers hindering participation and acceleration of women in senior leadership in the energy sector include, but are not limited to the following:

2.4.1 *Limited Leadership Development Opportunities*

ILO (2017) states that leadership development is key to career progression. Women get unequal opportunities to participate in leadership development programmes. Furthermore, women get fewer opportunities to interact and engage with senior leaders than men, which hinders their advancement in senior leadership. Barkhuizen et al. (2022), showed that the absence of training and development prospects, ineffective training programmes and a lack of advancement due to training programmes hinder women from progressing into senior leadership. Women in senior leadership must undergo and invest in leadership development programmes to deal with changes in employee dynamics and talent investments.

2.4.2 *Glass Ceiling and Sticky Floor*

In their research on women in leadership and the glass ceiling effect in KwaZulu Natal (KZN) public and private sector, Khwela et al. (2020) discovered that the glass ceiling effect caused by sociocultural factors and patriarchal history barriers are some of the challenges to the progression of women in leadership posts in KZN, South Africa, though more observed in the non-government sector, compared to the government sector.

As women break the first layer of gender stereotypes and grass ceiling and advance to senior leadership, they face additional unconscious barriers brought by the organisational environment and structure which is characterised by masculinity (Galsanjigmed & Sekiguchi, 2023). According to Galsanjigmed and Sekiguchi (2023), while women are striving to advance to senior leadership, some find themselves on a sticky floor where they are unable to advance or experience limits in terms of moving to higher positions and therefore remain in low-level positions. Moreover, Warrell (2021) found that besides the invisible glass ceiling, women who graduate in number are failing to reach the top and get retained due to a leaky pipeline where there is a continuous decrease in the number of female employees at every phase of the career path.

2.4.3 *Gender insensitive Culture, religion and gender stereotyping*

According to ARAGAW (2018), there is a substantial gender gap in management between men and women, and women are significantly less represented in middle and upper management roles. The main causes of women's leadership issues are the educational gap, sociocultural attitudes, gender-insensitive organisational cultures, a lack of support and systems within the business, and gender-based violence (ARAGAW, 2018).

Despite opportunities for women to progress in leadership, gender stereotyping in a male-dominated environment is identified as one of the issues barring women from advancing to senior leadership (Tabassum & Nayak, 2021). Tabassum and Nayak (2021) demonstrated that gender-insensitive culture and stereotypes

cause women to be prejudiced, experience tokenism, disparate threat, labelled as emotionally unstable, weak and timid.

Furthermore, a study on the impact of religion and culture on Malaysian women by Baqutayan and Raji (2021) found that gender, religion, and culture contribute to women's leadership experience and how they approach it. The study further highlighted that the religious and cultural environment women find themselves in also determines how they behave as senior leaders and may hinder their access to such positions. This is confirmed by Shah (2017) that the female leadership roadmap does not only depend on their biological gender but also the society culture, religion and socio-political system they grew up in play a critical role, which may serve as hindrances to their advancement.

2.4.4 *Limited Mentorship Opportunities*

According to Mcilongo and Strydom (2021), Although South African public service has policies regarding gender equality and affirmative action, the departments have not established formal mentorship policies and guidelines or mechanisms to address the issue. Mentorship could be a means to develop, empower and inspire women to participate, progress and perform well in leadership positions. Coetzee (2017), indicated that because of limited opportunities for mentorship programmes and inflexible organisational structures and rules in the South African public services, women are forced to establish means to develop themselves to advance and perform well in those higher positions.

Mentorship was highlighted as one of the factors that are necessary for women during different stages of leadership careers. The availability of mentors can assist women to break anticipated barriers, provide women with chances to showcase their potential (Cheairs, 2023). Therefore, a lack of mentorship programmes could serve as a barrier to the success of women in leadership.

2.4.5 *Recruitment and promotional policies and practices*

Riccucci (2021) identified the institutional factors that create barriers for women to advance and prosper in leadership positions, which are recruitment and

promotional policies and practices, legal barriers, developmental practices, attitude, perception and stereotypes, and family, and parental commitments. Moreover, ARAGAW (2018), contends that the lack of hiring and promotion policies to advance women in corporations prevents women from assuming and holding managerial roles. George (2020) also confirmed that there are determined several barriers preventing women from advancing in the public sector. The barriers included (a) rigid office policies that made it difficult for employees to fulfil their caregiving responsibilities; (b) the difficulty of obtaining higher level and management positions; (c) the underrepresentation of women in STEM (science, technology, engineering, and mathematics) fields; (d) the disparity in average salary between men and women; (e) the significant influence of unconscious gender biases and stereotypes about women on hiring decisions; and (f) the belief that organisations were not dedicated to achieving equal opportunities for women.

Mbukanma and Strydom (2022), recommended that to promote the progression of women to higher positions, organisations should revise their recruitment and promotion policies, as well as provide opportunities and programs. However, it is key for women to robustly take part and contribute as well, as this is a shared responsibility.

2.4.6 *Proposition 1*

Based on the literature review, the study proposes that the barriers hindering the acceleration of women in senior leadership in the South African energy sector are limited leadership development and mentorship opportunities, a glass ceiling and sticky floor, gender insensitive culture, religion, and inflexible recruitment and promotional policies and practices.

2.5 The enablers to advance women in senior leadership in the South African energy sector

Keywords: enablers, diversity, inclusion, unconscious bias, stereotypes

The advancement of women in senior leadership positions is crucial for promoting gender equality and achieving inclusive development in the South African energy sector. Unfortunately, women are still least represented in senior leadership positions within the energy sector (IRENA, 2019). To address this issue and enable the advancement of women in senior leadership, certain enablers need to be put in place. The enablers are within individual and organisational control. This section focuses on the enablers to advance and accelerate women's participation in the energy sector as senior leaders, which are as follows:

2.5.1 *Promoting gender diversity and inclusion policies and practices in the workplace*

Various studies have linked gender diversity with positive financial performance, which inspires organisations to promote diversity and inclusion, particularly at the senior leadership levels (Hassan & Marimuthu, 2017). Organisations must create and implement procedures and policies that support gender equality and a diverse workforce. According to Vyas-Doorgapersad and Bangani (2020), South Africa's energy sector companies should create a diverse and welcoming workplace that supports and encourages women's advancement. These include creating affirmative action policies, establishing objectives for the promotion of women in senior leadership roles, and offering development and mentoring programs customised to the needs of women. In addition, enabling policies and practices that promote the advancement of women from the lower level serve as a pipeline to senior positions.

Cox and Dalton (2022) stress that organisations that develop and comply with gender equality regulations, particularly in senior leadership, offer women the chance to participate and contribute to the organisation's and country's mandate. Frail (2012) recommended that the best ways to facilitate women to advance to senior positions are to promote policies that offer equal compensation,

transparent review systems, and appoint women to leadership roles with profit and loss accountability.

2.5.2 *Supporting work-life balance*

One of the reasons why women don't apply for senior positions or aspire to be successful senior leaders is their inability to balance work and life, caused by social and unconscious bias (Alqahtani, 2021). The balance of such will allow women to participate, advance and stay in the senior positions. According to Sanders et al. (2015), there is a strong case for the benefit of work-life balance and the provisioning of flexible working agreements, together with progressive gender diversity policies and practices, which contribute to a positive organisation's reputation. Furthermore, employees who work flexible working hours are engaging, advocate for their organisation, commit to developing their careers to higher levels and tend to balance their careers with individual obligations.

2.5.3 *Providing equal opportunities for career advancement and support programmes*

Galsanjigmed and Sekiguchi (2023) showed that opportunities for self-development are essential for a worker's knowledge, development, and career advancement. When women have insufficient chances to develop themselves with men, it can constrain their career progression opportunities and hamper their whole career development. Providing leadership development opportunities, necessary skills and experiences to women can lead to better outcomes.

According to Kgoate (2022), the importance of implementing mentoring, coaching, training, and development programs to advance women's careers and other initiatives that support women and promote their participation as senior leaders cannot be overemphasised. In addition, Mangisa (2019) and Gustus (2023) stress that organisations should offer mentorship, coaching programmes and communication skills, to nurture and promote women in leadership. This applies to the women in senior leadership to develop the zeal, passion and

responsibility to mentor, support and advance others. Although mentoring was identified as an enabling factor to advance women to senior leadership and break the ceiling, women's abilities and talents were mentioned as having the potential to help them rise to the top (Liautaud, 2016).

2.5.4 *Eliminating unconscious bias and stereotypes*

The gendered social roles that define women as communal beings who are emotional and require jobs that are socially related, with men as agentic beings with leadership traits, are some of the unconscious biases and stereotypes that need to be eliminated to offer women opportunities to advance to senior leadership positions (Alqahtani, 2021). According to Thelma and Ngulube (2024), it is important to challenge and eliminate involuntary biases and stereotypes that hinder women's advancement in senior leadership positions. This can be achieved through awareness training and education and implementing policies and practices that advocate equal opportunity and fair evaluation for all employees.

2.5.5 *Recognising and promoting female role models*

Raising the visibility of successful women in senior leadership positions within the South African energy sector can inspire and motivate other women to aspire to reach similar positions. According to Barkhuizen et al. (2022), the availability of women as role models has lessened the gender stereotypes against women in leadership. Moreover, women's role models' visibility is vital to steer women's empowerment at all levels and present advantages such as better skills, chances for training, and improved self-confidence and motivation in pursuing leadership roles (Hill & Wheat, 2017).

In addition, Hill and Wheat (2017) discovered that women overcome obstacles preventing them from progressing to senior leadership positions by getting career guidance and inspiration from role models.

2.5.6 *Proposition 2*

Based on the literature review, study proposes that the enablers to advance women in senior leadership in the South African energy sector are promoting gender diversity and inclusion policies and practices in the workplace, supporting work-life balance, providing equal opportunities for career advancement and support programmes, eliminating unconscious bias and stereotypes and recognising and promoting female role models.

2.6 The Success Factors displayed by women senior leaders in the South African energy sector

Keywords: success factors, work-life, qualifications, networking, attributes, traits

Women present distinguishing perspectives, backgrounds, experiences, and capabilities that benefit the organisation's and economy's well-being (Kossek & Buzzanell, 2018). Women in senior leadership positions in the South African energy sector have several key success factors contributing to their effectiveness in leadership roles and their capacity to drive positive change within their organisations.

2.6.1 *Personality factors and leadership style*

According to Khashane (2021), there are certain personality factors (features, attributes, views, feelings and behaviours) that envisage leadership styles and how women cope in leadership positions. According to Wille et al. (2018), both women and men displayed typical leadership personality traits, which are decisiveness, high-level strategic thinking and assertiveness; however, these traits are more evident in women than men. Women's attitudes and confidence serve a critical role in their careers (Lahti, 2013). Moreover, the study by Farsani (2013) shows that the practices of leadership styles were found to be connected with personality traits and behaviours that correspond to the related leadership styles. Leaders who employed a transformational approach exhibited personality traits characteristic of this type of leadership. These individuals scored high in strategic thinking, a creative and innovative approach, and evaluating evidence

critically. In addition, they demonstrated moral commitment, a sense of duty, and perseverance, along with displaying reasonable resilience, ambition, and motivation (Farsani, 2013).

2.6.2 *Work-life balance*

A successful woman leader knows how to determine, prioritise and balance between individual and work life and this goes with the strength and support one receives from family and friends (Richards, 2017). Even though women in leadership still experience work-life balance crises associated with bearing children, and taking care of homes and families, they still demonstrate resilience, and nerve and believe that they are responsible for their career growth (Awung, 2019). Participants who had a healthy work-life balance also felt more in control of their lives and could find significance in their employment (Amon, 2017).

2.6.3 *Educational Background and Qualifications*

According to Meiksins et al. (2019), various studies demonstrated that successful women leaders possess strong academic qualifications in engineering, science, or public policy relevant to the energy sector. Williams (2022) shows that women with higher qualifications are hopeful, accept opportunities for promotions and growth with ease and therefore are more resilient to smash the glass ceiling compared to women with lower qualifications. Furthermore, leadership success is associated with continuous development (Mahmud, 2023).

In Finland, where more women are educated than men, women are becoming confident to take leadership positions equivalent to their education level. Education is regarded as a soundless mechanism for transformation (Lahti, 2013). According to Kumar (2016), education is key to empowering women because it provides opportunities to overcome challenges and improve their lives and those of others. Resilience and Determination

According to Abbey (2022), women leaders often display resistance when facing difficulties and setbacks. They demonstrate a determination to defeat obstacles and realise their goals to be successful and be well-represented despite

adversity. This is supported by Bridges et al. (2023), who showed that women's resilience and determination play a critical role in one's career development, advancement and retention, though it is more effective when used in conjunction with organisational support and gender equality practices. Moreover, Bridges et al. (2023), demonstrated the transformative ability, inclusivity, improved employee well-being, confidence in self, and sense of belonging brought by the intersection between individual and organisational support, predominantly in an environment that is male-dominant like energy.

2.6.4 *Mentorship and Networking*

Due to a restricted number of women in senior leadership in the male-dominated energy sector, women tend to feel isolated, insecure and discriminated against. The availability of effective mentorship programmes and role models is recommended and reported to assist and support women at that level (Marín-Spiotta et al., 2020).

According to Lahti (2013), mentorship, together with networking is considered a helpful and critical means to encourage and empower women to advance and remain in senior leadership. These include being a part of peer and professional mentorship networks in the relevant industry, which offer advantages that help women thrive and grow at their level. These advantages include easier access to data, tools, and chances for advocacy, psychosocial support and professional growth. Moreover, the sense of community and connection that mentorship networks provide is essential for job satisfaction and success, particularly for marginalised populations (Marín-Spiotta et al., 2020).

According to Cross et al. (2019), the success of mentorship lies in how the organisation is structured and how individuals interact with others. Women who have access to experienced, interested, and well-connected mentors and networks are valuable assets to their organisation. They are associated with a supportive work environment, positive career advancement, increased productivity, and higher retention rates (Cross et al., 2019).

2.6.5 *Networking and Relationship Building*

Building strong networks and relationships is essential for success in any leadership role. Women leaders actively engage with industry peers, stakeholders, and government officials to build partnerships, share knowledge, and advocate for their organisations' interests. According to Lahti (2013), networking and building relationships assist women in gaining skills and benefits such as access to information and opportunities. In addition, networking assists the participants to support each other and share experiences and knowledge.

Building a relationship and network can be an effective way to promote, advance and retain women in senior leadership. These assist with dealing with isolation, establishing rapport with colleagues, and learning from authentic leaders which are crucial for unlocking one's full potential. In addition, developing sincere relationships and harnessing connections can help overcome the obstacles women in senior leadership encounter at the level and generate opportunities for themselves and others (WorkplaceCulture, 2024). Internal and external women networks fulfil the function of support and professional development, which women in senior leadership need (Papafilippou et al., 2022).

According to Casad et al. (2021), the lack of supportive networks in STEM-related sectors contributes to gender inequality and women leaving the sector, together with stereotypes and an unfriendly working environment; hence their recommendations to encourage women to be part of women's internal and external networks for individual and professional support.

A study conducted by Veihmeyer and Doughtie (2017) indicated that while individual perseverance can aid in propelling women to senior leadership positions, having connections to professional networks and serving as a role model proves to be even more critical for their advancement and retention.

2.6.6 *Embracing Change and Continuous Learning*

Leaders who achieve success are known to embrace transformation and commit to lifelong learning as part of their individual and professional advancement

(Caves, 2018). Because of this commitment to change and continuous learning, the organisations they lead also grow (Caves, 2018). Furthermore, Mahmud (2023) confirmed that these leaders perceive change and challenges as chances for development and expansion and are willing to venture into uncharted territories while recognizing novel abilities and information in the transformation process.

2.6.7 *Proposition 3*

Based on the literature review, the study proposes that the success factors displayed by women senior leaders in the South African energy sector are personality factors, leadership styles, resilience and determination, educational background/ qualification, mentorship, networking, relationship building, embracing change and continuous learning.

2.7 Conclusion of Literature Review

This Literature review section introduces the theoretical frameworks and background concerning the factors that contribute to the success of women in senior leadership. The second part focused on the barriers hindering the acceleration of women in senior leadership in the South African energy sector. The third part focused on the enablers to advance women in senior leadership in the South African energy sector. The review was concluded by literature on the success factors displayed by women senior leaders in the South African energy sector. It is critical to mention that some of the enabling and success factors are interrelated, as they both promote the participation and advancement of women in senior leadership. Based on the literature reviewed, the study proposed the following, as depicted in the consistency **Table 1**:

2.7.1 *Proposition 1*

The barriers hindering the acceleration of women in senior leadership in the South African energy sector are limited leadership development and mentorship opportunities, a glass ceiling and sticky floor, gender insensitive culture, religion, and inflexible recruitment and promotional policies and practices.

2.7.2 *Proposition 2*

The enablers to advance women in senior leadership in the South African energy sector are promoting gender diversity and inclusion policies and practices in the workplace, supporting work-life balance, providing equal opportunities for career advancement and support programmes, eliminating unconscious bias and stereotypes and recognising and promoting female role models.

2.7.3 *Proposition 3*

The success factors displayed by women senior leaders in the South African energy sector are personality factors, leadership styles, resilience and determination, educational background/ qualification, mentorship, networking, relationship building, embracing change and continuous learning.

2.7.4 *Consistency table*

Table 1 shows consistency between research questions and propositions.

Table 1. Consistency table: research questions and propositions

RO #	Research Objective	Prop #	Proposition
1	To evaluate the energy sector barriers that hinder women's acceleration in leadership	1	The barriers hindering the acceleration of women in senior leadership in the South African energy sector are limited leadership development and mentorship opportunities, a glass ceiling and sticky floor, gender insensitive culture, religion, and inflexible recruitment and promotional policies and practices.
2	To examine energy sector enablers that advance women's senior leadership.	2	The enablers to advance women in senior leadership in the South African energy sector are promoting gender diversity and inclusion policies and practices in the workplace, supporting work-life balance, providing equal opportunities for career advancement and support programmes, eliminating unconscious bias and stereotypes and recognising and promoting female role models.
3	To determine success factors that increase women in senior leadership.	3	The success factors displayed by women senior leaders in the South African energy sector are personality factors, leadership styles, resilience and determination, educational background/ qualification, mentorship, networking, relationship building, embracing change and continuous learning.

CHAPTER 3. RESEARCH METHODOLOGY

This chapter gives factors on the research methodology to be utilised to achieve the research objectives and the steps to be followed to accomplish those objectives. The chapter covered the research approach suitable for the study, the research design, data collection methods and instruments, data analysis and interpretation. Factors that limit the study and ethical issues were considered to balance the risks and benefits of the study were also be discussed.

3.1 Research approach

According to Grover (2015), the research is classified into three approaches, which are mixed-methods, qualitative and quantitative. The research approach encompasses the plans and procedures for conducting research, spanning from broad assumptions to intricate methods of data collection, analysis, and interpretation (Grover, 2015).

This study followed the qualitative research approach. According to Busetto et al. (2020), qualitative research embraces examining the essence of phenomena, such as their various qualities, appearances in different contexts, and the viewpoints from which they can be perceived. Moreover, qualitative research does not involve measuring the range, frequency, or position in an objectively established chain of cause and effect. It focuses on data in the form of words rather than numbers.

This study aimed to explore the success and enabling factors that contribute to the success of women in senior leadership positions, and barriers that hinder their progress. The study took a narrative approach to identify patterns, attributes, and other elements that contribute to the success of women in senior leadership (Busetto et al., 2020). Qualitative research is the most suitable method for this study as it focuses on participants' experiences, thoughts, and feelings, rather than just numbers and statistics (Willig, 2019). This approach allowed the researcher to obtain a deeper understanding of women's experiences in senior leadership positions in the energy sector. The study has included the men as

participants to get their perspectives on success factors enabling the advancement of women in senior leadership.

3.2 Research design

According to Asenahabi (2019), the researcher makes use of a research design to transform a research problem into information to obtain solutions to research questions. Therefore, the research design consists of a plan, structure, and strategy, adopted by the researcher before collecting and analysing data to attain the objective of the research. The qualitative research design aims to provide significance, intention, and authenticity to the viewpoints or experiences of the participants.

This research utilised a case study qualitative research design to investigate and analyse the circumstances that accelerate and hinder women in senior leadership. The interviews were conducted with successful women and men leaders within the Department of Mineral Resources and Energy and associated State-Owned Entities under the Energy Ministry (Josselson & Hammack, 2021). Understanding these factors will contribute to the advancement of women in leadership. The study also described enablers and barriers that contribute to and hinder the success of women in senior leadership, understood their experiences, and provided recommendations grounded on the identified factors for future use and research (Priya, 2021; Woodside, 2010). Most related studies focused on barriers that limited women's participation in senior leadership. There are limited studies on the enablers and factors that contribute to women's participation, success, and retention in senior leadership positions, which resulted in an under-examination of the topic; therefore, a qualitative case study was used as a suitable research design. (Çakar & Aykol, 2021).

Furthermore, this study may be subjective, which is a disadvantage, as the researcher interpreted the results based on what the participants said in the interviews (Asenahabi, 2019).

3.3 Data collection methods

There are various techniques utilised in qualitative research to gather information (Nasri, 2023). These include in-depth interviews, document analysis, semi-structured interviews, focus groups, as well as participant observation to get a full and comprehensive view of the research context (Busetto et al., 2020; Nasri, 2023).

This study utilised semi-structured interviews as the main data collection method. During semi-structured interviews, the interviewer poses open-ended questions and has the chance to delve deeper into the responses or examine pertinent concepts that arise during the interviews, which may enrich the study; however, it may be difficult to avoid subjectivity (Adeoye-Olatunde & Olenik, 2021). According to Monday (2020), semi-structured interviews can help a researcher gain a clear description and additional information, such as perceptions that can only be obtained through face-to-face interaction and engagement. Moreover, semi-structured interviews may be more effective when used together with other methods, such as personal observations (Monday, 2020).

In addition, the semi-structured interview method offers an outstanding opportunity for the researcher to delve deeper into the interviewee's thoughts and experiences. It allows for a flexible approach, enabling the interviewer to seek clarification on any answers given, leading to a more comprehensive understanding of the subject being studied. This method also offers a level of structure to the interview, ensuring that critical information is gathered without limiting the interviewer's ability to study the subject in greater depth (Mashuri et al., 2022). In case of difficulty in reaching participants, a structured questionnaire was utilised as the secondary method of data collection.

The participants, women and men in senior leadership, were interviewed through face-to-face or online verbal interviews, and shared their experiences and insights on factors and enablers that contributed to their participation and success in their positions. The participants also shared their insights and experiences on barriers hindering women from participating in the energy sector senior leadership (Nathan et al., 2019).

3.4 Population and sample

The population refers to the group of people targeted with the same features as defined by the researcher. The sample is drawn from the population (Thomas, 2023). Obilor (2023) described a sample as a particular group that a researcher gathers information from. By obtaining data from a sample, researchers will find it easier to reach the population, reduce expenses, and save time. Researchers can study subjects from the population through a manageable sample and use their findings to draw conclusions that apply to the entire population (Thomas, 2023).

3.4.1 *Population*

The study population was based on the desired characteristics and criteria that they were senior women leaders from the energy sector (McCombes, 2023). The target population was from the Department of Mineral Resources and Energy (DMRE) and its associated State-Owned Entities (SOEs) in South Africa. Women and men at DG and CEO positions and two levels below, with experience of more than 5 years in the energy sector senior leadership positions, participated.

3.4.2 *Sample and Sampling Method*

According to Ahlin (2019), the selection of research participants is done using the sampling methodology. Sampling is the act, process, or method of choosing a representative segment of a population to determine the characteristics of the entire population (Obilor, 2023). This process is crucial to the research as it helps ensure that data is gathered from participants with relevant knowledge and suitability for the project. In addition, it is important that the sample chosen is representative of the overall population to ensure that the results can be generalised back to the population being studied (Marshall, 1996). A purposive sampling method was applied to choose participants with certain attributes (Ahlin, 2019). Obilor (2023) described purposive sampling as a technique where the participants are selected because they meet the objectives of the study as defined by the researcher. Therefore, it is the researcher's prerogative to select

the participants from the population. In this study, purposive sampling was drawn from the population of senior women and men leaders in the energy sector within DMRE and its SOEs. Purposive sampling was relevant because the study only focuses on public-sector senior leaders, with more than five years in senior leadership in the South African energy sector, excluding women and men in the private energy sector.

According to Bekele and Ago (2022), there is no common directive on the number of participants required in qualitative research; rather, “it depends” on various factors such as the research focus, research questions, resources and time available, inquiry domain, nature of the participants and so on. Sarfo et al. (2021) indicated that the sample size in the qualitative case study approach is normally small. Moreover, the researcher uses the purposive sampling technique to get comprehensive and rich information (saturation) from fit-for-purpose respondents; therefore, the focus is not on the number of participants but on the extensiveness and appropriateness of the information needed (Sarfo et al., 2021). According to Sharma et al. (2024), rule of thumb recommendations for a single case study sample size can vary from 5 to 35 and do not have a specified and clear rationale for sample size.

Seventeen (17) women and men in senior leadership in the South African DMRE and SOEs were interviewed, as in **Table 2**. The sample size was based on the extensiveness and appropriateness, rather than the number.

Table 2: Profile of Participants

Description of participant type	Number sampled
Women in senior leadership (5 years+ in leadership and energy sector (DMRE)	6
Men in senior leadership (5 years+ in leadership and energy sector (DMRE)	6
Women in senior leadership (5 years+ in leadership and energy sector (SOEs)	3
Men in senior leadership (5 years+ in leadership and energy sector (SOEs)	2
TOTAL number of participants	**17**

3.5 The research instrument

This study utilised the face-to-face and online semi-structured interview instrument, with a predetermined set of questions, in line with the research objectives. Magaldi and Berler (2020) defined the semi-structured interview as an exploratory conversation. Furthermore, they pointed out that this type of interview is typically performed with the assistance of a guide and is focused on the primary topic, providing a general outline for the discussion.

According to Ruslin et al. (2022), the semi-structured interview is more powerful because it enables researchers to gain detailed and comprehensive information from interviewees while staying true to the study's focus. Moreover, it offers researchers greater adaptability and flexibility compared to others.

The interviews were conducted in English. Participants were requested to participate through the participant information sheet and consent form (Appendix A and B). The interview guide was utilised to collect the data (Appendix C) below, with an opportunity to probe. In case of unavailability of the participants, a structured method using a questionnaire will be utilised.

3.6 Procedure for data collection

According to Rabionet (2011), there are six stages of conducting semi-structured interviews, which are:

- Selecting the type of interviews.
- Establishment of ethical guidelines to be considered throughout the interviews.
- Developing interview protocols from introducing yourself to the interviewee, building rapport, developing interview questions and probing during interviews,
- How to administer and record the interviews.
- How to analyse and summarise the interviews.
- How to report the interview findings.

In this study, the semi-structured interview was chosen to collect data to get in-depth information from fifteen to twenty women and men in senior leadership in the South African DMRE and its associated SOEs. The interaction with the participants was done directly through email and cell phones, where they were informed of the research study and asked for their participation, through face-to-face or online. The participants were allowed to participate voluntarily and were advised to sign a consent form. The interview questions were open-ended, and the whole process will be recorded. Thematic analysis was utilised to analyse the interviews.

3.7 Data analysis and interpretation

In this study, the data were analysed through thematic analysis. The thematic analysis involves a systematic approach to detecting, analysing, and reporting recurring patterns within a given dataset. This allows the researcher to extract meaningful insights from the data, which can then be utilised to develop a thorough understanding of the subject under investigation (Braun & Clarke, 2006).

Guest et al. (2012) indicated that thematic studies concentrate on locating and characterising hidden and obvious concepts within the data, or themes, rather than just counting explicit words or phrases. After that, codes are usually created to symbolise the themes that have been found and applied to or connected from the raw data as summary markers for additional analysis (Guest et al., 2012). In coding, the process involves systematically classifying, organising, and examining text to identify patterns. Creating a database to organise information is what compiling data entails. This task requires repeatedly reviewing and refining the data to ensure accuracy and familiarity for researchers. This stage also includes jotting down reflections during the process. The subsequent step, reassembling, involves reorganising these codes or developing higher-level codes to categorise the data. Finally, interpreting the data involves crafting a new narrative from the data and the coding process. Throughout each phase, coding requires posing questions, considering alternative explanations, and making comparisons.(Reyes et al., 2024).

Vaismoradi et al. (2013) asserted that thematic analysis is an independent and trustworthy approach to qualitative research. In addition, thematic analysis enables the researcher to link an occurrence analysis of a theme to content analysis of the entire work, which adds precision and complexity, improves the overall meaning of the research and provides a means of broadening one's understanding of any issue's possibilities (Alhojailan, 2012). However, the researcher must guard against using the interview questions as the themes, because it would mean that the information is summarised and structured, instead of being analysed (Clarke & Braun, 2013; Maguire & Delahunt, 2017). Braun & Clarke (2006) provided steps framework and guidance on doing thematic analysis in **Table 3**.

Table 3: Braun & Clarke steps to do thematic analysis (Braun & Clarke, 2006).

Steps	Description
1. Become familiar with the data	Researcher must immerse themselves, familiarise themselves, take notes of their observation, read, reread, and listen to the recording to get the gist of the data.
2. Generate initial codes	Organise data in an orderly way. This involves labelling significant characteristics of data relevant to the study into codes to capture the meaning.
3. Search for themes	The researcher codes the data to get the themes and compiles all the coded information pertinent to each theme.
4. Review themes	The researcher aligns the codes with the themes to check if the themes tell a meaningful, realistic, and convincing tale about the data and the relationship between the themes, including sub-themes.
5. Define and name themes	The researcher analysed themes to get the story of each theme, if it is aligned with the study, and get the essence of each theme and then gave names for each theme.
6. Write-up	Writing up includes blending the analytical narrative with data extracts to inform the reader of a convincing tale about the data while also placing it within the context of previously published works.

3.8 Limitations of the study

According to Simon and Goes (2013), limitations are factors and occurrences that develop during a study that lie outside the control of the researcher. Furthermore, limitations restrict the boundaries of the study and may occasionally have an impact on the results and conclusions that can be attained (Simon & Goes, 2013).

- In terms of collecting data, qualitative research has been criticised for that sampling may be based on convenience and purposive because of established links, location, and good responses from the participants. In this study, the sampling will be purposive and related to the subject of the study.
- This study may be restricted by the objectivity of the interviewees, being unconsciously influenced by the interview situation, environment and interviewee's condition at the time of the interviews. The same applies to the

interpretation of data and writing up, which may be influenced by the interviewer.

- It may be harder to generalise the findings from the smaller study sample of fifteen to twenty participants to the main population and determine the cause-and-effect connection between the study and the theory. The limitation in terms of the number of women in senior leadership in both DMRE and SOEs contributes to the small number of participants. However, the researcher hopes to tell a story about what has been studied.
- The face-to-face and online interviews and ethical issues, such as confidentiality, may unconsciously affect the way the participants respond to the interview questions (Diefenbach, 2009; Queirós et al., 2017).

3.9 Trustworthiness

Connelly (2016) defined the trustworthiness of the study as the intensity of confidence in the information, interpretation, and procedures utilised to confirm the quality of a study. Lincoln and Guba proposed the principles or criteria to gauge the trustworthiness of a qualitative study, which are transferability, credibility, dependability, and confirmability (Connelly, 2016; Lincoln & Guba, 1985).

3.9.1 *Transferability*

Transferability determines whether the study findings can be transferred or applied from one situation to another (Stahl & King, 2020). According to Nassaji (2020), considering the nature of qualitative research, with limited participants to generalise, the goal of transferability should not be for the researcher to make broadly applicable statements, but rather to give readers enough information to enable transfer should they choose to do so to other government departments and sectors in South Africa. The study shared the barriers, enablers and success factors that apply to all women in senior leadership to make the data transferable to different spheres of government and beyond.

3.9.2 *Credibility*

Credibility measures the level to which the research findings and conclusions are consistent with reality and believable (Nassaji, 2020; Stahl & King, 2020). Credibility could easily be determined using triangulation (Nassaji, 2020). Connelly (2016) suggested several methods to build credibility, including long-term interaction with participants, ongoing observation (when relevant to the study), reflective journaling, peer-debriefing, and member-checking. To determine credibility and accuracy in this study, comprehensive and information-rich interviews were recorded and transcribed, and the recordings were saved.

3.9.3 *Dependability*

Dependability relates to the instance whereby two different researchers get comparable conclusions when reviewing the same data; therefore, data remains stable during the duration of the study and over time (Connelly, 2016; Nassaji, 2020). The research, interview activities and documents were carefully documented and recorded to ensure the reliability, validity and dependability of the study.

3.9.4 *Confirmability*

According to Connelly (2016), confirmability relates to impartiality or the degree to which research interpretations, findings or conclusions are stable and consistent enough when repeated by any other researcher. The research must display the association between the data and the results (Stenfors et al., 2020). To ensure confirmability, all research activities, steps, and decisions, including data analysis, will be documented.

3.10 Ethical considerations

According to Arifin (2018), research must consider ethical issues all over the study to make sure of a balance between the research's possible risks and the benefits it brings. Stenfors et al. (2020) assert that ethical considerations are

fundamental to any qualitative study. The following ethical issues were considered during this study:

- Informed consent and voluntary participation – the participants will be asked to sign the informed consent form to ensure that they are aware of their participation, and they will be informed that the participation is voluntary.
- Anonymity and confidentiality – The participants were informed that their identity and the interviews would be kept confidential, and the record would be kept safe.
- Ethical approval was sought from the school. A request for participation was made to the participants individually.

3.11 Consistency table

Table 4 below shows consistency between research questions, propositions, data collection and data analysis.

Table 4. Consistency table: research questions, propositions, data collection and data analysis

RO #	Research Objective	Prop #	Proposition	Data collection detail	Data analysis method
1	To evaluate the energy sector barriers that hinder women's acceleration in leadership	1	The barriers hindering the acceleration of women in senior leadership in the South African energy sector are limited leadership development and mentorship opportunities, a glass ceiling and sticky floor, gender insensitive culture, religion, and inflexible recruitment and promotional policies and practices.	Interview guide questions 5, 6, 7	Thematic analysis
2	To examine energy sector enablers that advance women's senior leadership.	2	The enablers to advance women in senior leadership in the South African energy sector are promoting gender diversity and inclusion policies and practices in the workplace, supporting work-life balance, providing equal opportunities for career advancement and support programmes, eliminating unconscious bias and stereotypes	Interview guide questions 8, 9, 10	Thematic analysis

RO #	Research Objective	Prop #	Proposition	Data collection detail	Data analysis method
			and recognising and promoting female role models.		
3	To determine success factors that increase women in senior leadership.	3	The success factors displayed by women senior leaders in the South African energy sector are personality factors, leadership styles, resilience and determination, educational background/ qualification, mentorship, networking, relationship building, embracing change and continuous learning.	Interview guide questions 11, 12	Thematic analysis

CHAPTER 4. FINDINGS AND DISCUSSION

Following data collection, thematic analysis was conducted using the interview transcripts to identify and group key themes that address each research proposition. This involved a structured analysis where the identified themes were aligned with the study's focus, which are barriers, enablers, and success factors that impact women's advancement in senior leadership within the South African energy sector. The data was collected from seventeen (17) participants, women and men in senior leadership, from DMRE and its associated SOEs.

4.1 Introduction

This chapter presents the study findings and discussion and is structured to address each of the research objectives and propositions as derived from the collected data. The thematic analysis method was used to locate and interpret patterns and meanings that recur or are prevalent in line with the research objectives. The rationale for using this approach was to be able to explore in depth the influences on success and enabling factors, and challenges encountered in the advancement of South African women in senior leadership. In prioritising participants, the analysis uses literal extracts from interviews to provide an accurate, nuanced, in-depth account of their perspectives.

The study's objective is to explore success factors for women senior leaders in the South African energy sector. Findings have been presented in a clear and detailed manner to provide an account of the identified barriers, enablers, and success factors impinging on women's progress into senior leadership positions within the energy sector in South Africa. The findings will address the following research objectives:

Research Objective 1 (RO 1): To evaluate the energy sector barriers that hinder women's acceleration in leadership.

Research Objective 2 (RO 2): To examine energy sector enablers that advance women's senior leadership.

Research Objective 3 (RO 3): To determine and propose success factors that increase women's involvement in senior leadership.

To gather insights and diverse views, both women and men participants were asked the same questions. Male participants were asked to share their perspectives on advancing women in relation to their experiences and journeys as senior leaders in the energy sector. Male participants were requested to apply a gender and transformation lens when responding to the questions.

The first part of this chapter will focus on findings and discussions on the barriers that hinder women from blossoming into leadership positions, which is supported by Proposition 1, which states that barriers hindering the acceleration of women in senior leadership in the South African energy sector are limited leadership development and mentorship opportunities, a glass ceiling and sticky floor, gender insensitive culture, religion, and inflexible recruitment and promotional policies and practices. The second part is on the enabling factors for women's path to leadership, based on Proposition 2, which states that the enablers to advance women in senior leadership in the South African energy sector are promoting gender diversity and inclusion policies and practices in the workplace, supporting work-life balance, providing equal opportunities for career advancement and support programmes, eliminating unconscious bias and stereotypes and recognising and promoting female role models. The third part will dwell on the success factors identified for women in senior leadership positions, pertaining to Proposition 3, which states that the success factors displayed by women senior leaders in the South African energy sector are personality factors, leadership styles, resilience and determination, educational background/ qualification, mentorship, networking, relationship building, embracing change and continuous learning. The study findings will be compared with the previous research through a consistency table, bringing out areas of convergence and divergence of the present study with the literature.

4.2 Findings and Discussion Pertaining to Proposition 1

The first research objective is*: to evaluate the energy sector barriers that hinder women's acceleration in leadership*. Proposition 1 states that the barriers hindering the acceleration of women in senior leadership in the South African energy sector are limited leadership development and mentorship opportunities, a glass ceiling and sticky floor, gender insensitive culture, religion, and inflexible recruitment and promotional policies and practices.

The analysis aims to evaluate and understand the barriers hindering women from advancing to senior leadership positions. Participants were asked questions related to challenges women face in general, challenges specific to being women, organisational culture barriers and challenges about support, mentorship and leadership programmes. Participants were also asked to indicate how they overcame the identified barriers. Three themes were identified in line with the research objectives and participants' responses, which are gender-insensitive culture, social perceptions and limited development opportunities.

4.2.1 *Gender-Insensitive Culture*

Participants described the organisational culture in which they worked as insensitive to gender, where stereotyping was rampant, and the concept of a leader is implicitly associated with traditionally masculine traits, with invisible barriers and a lack of accommodation in terms of women’s traditional responsibilities. This lack of a proactive, gender-inclusive organisational culture was pinpointed as a major roadblock to women's advancement and success. Many participants expressed that not having significant diversity and several role models in the environment made them feel unwelcome, creating a chain effect (Castañeda, 2019).

Participants echoed lack of inclusion, not being involved in informal networks about the industry, not having a chance at high-level decision-making and management programs or finding adequate mentors to help them as some of the barriers hindering them from advancing into senior leadership roles, though some of the leaders participated in some informal mentorship and/or leadership

programmes (Ndweni & Ozumba, 2021). According to Albusays et al. (2021), these gaps not only hindered the growth of those in the sector but also hardened systemic inequities that have continued to manifest by creating breeding grounds for biases across recruitment, promotion, and workplace practices and policies. This is backed by O'Brien et al. (2023), who said that the career trajectories of women often face uncertainty due to the prevalence of male-dominated organisational cultures, despite support from these institutions. Additionally, addressing systemic gender bias and discrimination in male-dominated industries requires the involvement of top-level management. Key strategies include the Introduction of specific targets that focus on gender transformation, inclusivity, and empowerment at the top and executive leadership level performance agreements, establishing clear and attainable career paths, facilitating networking opportunities, implementing mentorship programs, tackling implicit biases and changing of mindset (O'Brien et al., 2023).

Participants also lamented the lack of other women in leadership roles because it meant they were not supported and not encouraged. For many women seeking to climb the ladder themselves, the lack of other women in leadership positions led them to spend more time making large-scale portraits for leaders to pursue. As such, this reduced representation frequently caused lowered aspirations, as many women believed they could not succeed in an organisation which lacked a clear diversity focus and whose leadership was homogeneous (Galsanjigmed & Sekiguchi, 2023).

Furthermore, evident prejudices within corporate cultures reinforced gender-based stereotypes regarding women's leadership capabilities. These preconceptions influenced perceptions of competence, forcing women to constantly prove their worth in ways unnecessary for their male counterparts. This dynamic inadvertently created valuable opportunities for individuals (Galsanjigmed & Sekiguchi, 2023). Some shared that their ideas would be ignored or undervalued in meetings, but later they were acknowledged when male counterparts presented the information to higher-ups. These microaggressions shattered their confidence and created an environment where women were subtly discouraged from participating and leading.

Workplaces were identified as not only passive in their failure to create gender-inclusive environments, but they also failed in their policies and practices. Others felt frustrated by inflexible organisational structures that did not support challenges faced specifically by women, who often juggle their professional duties with caregiver roles (Trinkenreich et al., 2022). In their pursuit of professionalism, organisations unknowingly shaped less gender-inclusive work cultures by sidelining flexible work arrangements with parental leave policies or the lack of transparent pathways for career progression.

In the final analysis, these findings underscore that without regular and lasting work on creating organisational cultures that include women, organisations are likely to reinforce cycles of exclusion that hold back women's advancement (Murphy et al., 2021). Male-dominated cultures limit opportunities for women, stalling their career progression as described by social role theory. Gender diversity training, encouraging allyship, and actively pushing women into leadership positions were cited as necessary to break these cycles and ensure equitable opportunities for all employees, supported by the gender reform theory.

Participants quote:

"The lack of high-ranked female leadership is responsible, as women at the top have no one to reach down and bring the others up, the masculine energy culture does not have a dedicated methodology to help female leaders thrive in the energy sector" ~ Participant 1

"The structural nature of the problem shows how organisations need to build inclusivity into their policies and practices" ~ Participant 5

"I still do not observe a strong culture of inclusion, particularly when it comes to access for women at entry levels affecting the leadership pipeline" ~ Participant 7

"Despite inclusivity efforts, the lack of female executives remains a concern. Organizations need actionable plans to address this imbalance" **~** Participant 10.

4.2.2 *Societal Perceptions*

The study brought forth validation of the glass ceiling and sticky floor effects; participants said that there are invisible barriers that restrict them from getting promoted beyond mid-level roles. Difficulty in promotion, getting organisational advancement through unwritten rules and perception, which disproportionately affects women.

Working in a male-dominated sector means spending most of the time engaging them as the main stakeholders and being resistant to engaging or being led by a woman. This goes further to the lack of recognition or appreciation of what women can contribute as leaders and professionals, and therefore underestimation of the capabilities of women. The negative aspects and thoughts that women are incompetent and incapable reduce women's aspiration to apply and rise to leadership, though it applies to both women and men (Sanchez & Lehnert, 2019).

According to some participants, the DMRE has an inclusive and accommodating organisational culture for both women and men, thereby reducing elements of social perception to some extent. It was also indicated that women are given more voice and platform to perform and lead, but because of male domination, men's voices are louder than those of women. A study by Begeny et al. (2020) revealed that gender bias and social perception persist even in sectors where women are represented, and discrimination can persist, perpetuated by those who think it is not happening. Deeply ingrained societal biases diminish women's credibility and hinder leadership opportunities.

The findings coincide with the Glass Ceiling Theory presented by Kulik and Rae (2019), who argued that women within male-dominated fields face great difficulties in their pursuit of career advancement. In addition, Phipps and Prieto (2021) stated that slower promotion rates for women and constrained mobility manifest the "sticky floor", where women are confined to a specific organisational level of mobility without a clear path for upward mobility.

These findings reinforce those systemic and invisible biases that limit women's mobility within the organisation, as defined in the glass ceiling theory. These

further underline the necessity of clear promotion policies that can ensure equal opportunities for advancement by reducing the impact of the glass ceiling effect. Therefore, addressing the challenge of gender inequality and social perception needs a holistic and inclusive approach, where both women and men are part of the solution to avoid unilateral focus and skewed problem solutions (Ringblom & Johansson, 2020).

Participants quote:

Participant 3 reflected ~ ***"Unless we have a reason to be, there is an impression that women cannot manage pressurising positions and so we need to double our efforts in proving ourselves**".*

These mindsets and perceptions maintain structural inequalities and inhibit the creation of a pipeline for women in leadership.

Participant 14 stated ~ ***"There's an underlying stereotype that women lack technical depth in energy leadership. Breaking these perceptions requires consistent performance and credibility"**.*

Participant 8 echoed ~ ***"So, you are not being treated as someone capable, someone who is knowledgeable, someone who is eager to be leading things as they come, someone who can't go beyond what men know already. So those are the challenges until you find your feet and know what your purpose is as a woman and a leader".***

"Women are not exposed to acting in higher positions and when promotions come, those that have been acting get a better preference and chance to be successful and promoted" as Participant 12 alluded.

4.2.3 *Limited Development Opportunities*

Some of the prominent challenges included no real leadership roles for women and systemic exclusion from important projects, opportunities or networks that would help with advancement. This tendency frequently sidelined women from decision-making and deprived them of opportunities to prove themselves in high-

stakes arenas. Meanwhile, unconscious bias and gender stereotypes also played a role in suggesting that women are weaker in handling leadership positions (Malhotra, 2018).

The absence of mentorship opportunities for women made it even more difficult to reach out to someone who could help them navigate career progression. Structural issues, such as unequal access to resources and training, also kept them from progressing professionally, leaving a patchy gender leadership gap. All these challenges affected not just individual women, but also were barriers to the development of organisations, as diversity at leadership levels has been shown to improve creativity and performance (Baker et al., 2019).

Some participants indicated that they were never exposed to any training and development programmes for some time, to the extent that they ended up resorting to training themselves using their resources, which served as a barrier towards their growth and development. Leaders in the energy sector are operating in contested and complex environments, which demand multifaceted and varied approaches in their managing and leading responsibilities, leadership development programmes become key enablers for their advancement and performance (Dopson et al., 2019).

A study on the impact of “grow your own” leadership development programmes indicated that leaders who underwent the executive leadership programme, with strong support and relationship building with peers, tend to be effective in their leadership roles, which underscores the importance of eliminating barriers related to leadership development (Tingle et al., 2019). These findings are in line with a study by Phipps and Prieto (2021), who indicated that limited networking and mentorship in women's lives block their rise to become leaders. Lantz-Deaton et al. (2018) also agree with the notion that even though some women managed to break the ceiling, more still needs to be done in terms of exposing them to mentorship programmes and therefore pointing up the role of mentorship in breaking glass ceilings. The participant experiences further reinforce these insights, as mentorship not only connects women with career opportunities but also provides an avenue for acquiring the skills needed in senior roles.

Participants quote:

Participant 8 explained ~ ***"You are in a boy's club and at times feel taken for granted or unable to manage challenges. It comes down to purpose and merit"***.

This is valuable information since it indicates that we need specific interventions to level the playing field for women in leadership.

Participant 10 explained ~ ***"Opportunities for leadership roles are limited. The challenge is creating a sustainable pipeline of female leaders to address these gaps"***.

Participant 4 echoed ~ **"*The policies on employment equity and bursaries are not integrated, implemented in silos and that impact negatively on the advancement of women in senior leadership".***

"In my 15 years in this sector, I have not had a formal mentor who mentored me through a leadership development path; instead, most of the development had to be self-guided", ~ Participant 4 protested.

4.3 Women & Men Participants' Perspectives on Proposition 1

In terms of barriers hindering women's advancement to leadership roles, both women and men agreed that the energy sector is male-dominated and there is limited representation of women in senior leadership. Some male participants indicated that women are being undermined, face gender bias in decision-making and are given limited opportunities to develop. Most male and a pocket of female participants indicated that they had never encountered any barrier concerning their gender. Instead, one male participant mentioned that "*most men have been sidelined so that women can be empowered*", whereas one female participant said, "*You become voiceless simply because you're a woman… being told that you are making an emotional decision*". Men significantly contribute to creating an inclusive professional environment that ensures equal career growth

opportunities for women. They can advocate for female colleagues by actively supporting and elevating them. Additionally, men can mentor women, providing a confidential space for discussions and career guidance with genuine concern for their success. Furthermore, men can sponsor their female counterparts by highlighting their achievements, advocating for them, and facilitating their involvement in committees or leadership roles, thereby promoting their professional advancement (Wood, 2021).

Regarding exposure to any mentorship, leadership development or any other support, both women and men participants indicated that they were exposed to some sort of support, either informal or formal programmes, and it has contributed to their careers. This exposure has impacted their careers in so many ways and therefore counteracted the effects of barriers to their advancement; hence most participants recommended and emphasised the importance of support programmes.

4.4 Conclusion for Proposition 1 Findings

In conclusion, the study's findings support proposition 1, as indicated in **Table 5**, revealing that multiple barriers, i.e., gender-insensitive culture, societal perception and limited development opportunities, hinder women's advancement to leadership positions in the South African energy sector. The study found similar barriers to those outlined in the literature review, which are limited leadership development and mentorship opportunities, a glass ceiling and sticky floor, gender insensitive culture, religion, and inflexible recruitment and promotional policies and practices. By quantifying the prevalence of each barrier, this discussion underscores the depth of challenges women face in progressing to senior leadership.

These findings call attention to the need for targeted initiatives, such as mentorship programs, inclusive cultural reforms, and flexible practices and policies, to support the advancement of women leaders in the energy sector. This highlights not just the systemic challenges and inequities that still exist, but also

illuminates ways in which women are resilient through these adversities; an approach they recognised was fundamental (Gilbert et al., 2021).

4.5 Findings & Discussion Pertaining to Proposition 2

The second research objective is: *to examine energy sector enablers that advance women into senior leadership*. The second proposition states that the enablers to advance women in senior leadership in the South African energy sector are promoting gender diversity and inclusion policies and practices in the workplace, supporting work-life balance, providing equal opportunities for career advancement and support programmes, eliminating unconscious bias and stereotypes and recognising and promoting female role models.

The analysis aims to outline the key enablers that are pivotal in women's advancement to leadership positions. Participants were asked questions related to key enabling factors that have contributed to their success in achieving a senior leadership position, personal attributes that played a role in their career progression, how they manage work-life balance and if their organisations supported it. Participants were also asked if any specific policies or practices in their organisations supported their advancement and recommendations on how to support women in senior leadership. Four themes were identified in line with the research objectives and participants' responses, which are mentorship and leadership development programmes, supportive and inclusive policies and practices, personal traits and attributes and general enablers.

4.5.1 *Mentorship and Leadership Development Programmes*

Women's formal mentorship and leadership development programmes were seen to be critical empowerment tools for enabling women's access and participation in senior leadership. Participants called for structured mentorship and leadership programmes, training on hard and soft skills, and relationship building with related communities of practice to support them as professionals. Such programs were appreciated not only for career advancement but also for building professional networks, which is particularly useful within the context of

male-dominated industries. Many participants reported that their mentors provided them with insights on how to navigate through organisational challenges and helped them gain access to opportunities that would otherwise be highly restricted, thus playing a key role in their rise within the leadership ladder.

Furthermore, participants showed that leadership development programs had helped especially when the content of such programs had been designed to address the obstacles women face working within the energy sector. This helped women develop the technical and managerial competencies needed to handle highly complicated leadership roles. Participants also stated that this type of targeted training was important for them in better preparing themselves for future responsibilities while increasing their confidence and effectiveness at executive levels.

The findings are aligned with the views expressed by Phipps and Prieto (2021), stating that the degree of access to developmental opportunities prescribes whether women will or will not advance to senior leadership. Lantz-Deaton et al. (2018) equally stated that formal support programs, when tailored for women, help develop in them the competencies that are effectively transformative for women to senior-level management. This is also in tandem with the advocacy of Gender Reform Feminism theory, which states that equal access to resources is one pathway to achieving gender parity in leadership (Tekere & Gibbs, 2016). Organisations need to implement mentorship programs to groom women for leadership roles and provide them with a support system. Organisations should formalise mentorship programs.

Participants quote:

"Structured mentorship programs can fast-track women's leadership by offering both technical and soft skills development". Participant 12 proposed.

"Training programs on emerging technologies should be made accessible to women, allowing them to lead in innovation" ~ Participant 14 recommended.

"I learned a lot from the Women Advancement Programme from personal development and technical know-how, working in groups and individually. This boosted my confidence, especially the voice training and presentation skills feedback" ~ Participant 16 boasted.

4.5.2 *Supportive and Inclusive Policies and Practices*

Gender diversity and inclusion policies are vital for the advancement of women in senior leadership. Most participants believed that organisations that actively apply policies in favour of gender diversity lead to an inclusive workplace for women while making them feel more capable of taking up leadership positions. The presence of diversity policies, therefore, acts as a signal of organisational commitment towards gender equity and not only encourages more women to aspire to a leadership role but also establishes an enabling infrastructure to make the progression possible. This is supported by Feeney and Stritch (2019), who pointed out that family-friendly policies and workplace environments that support families are essential for promoting women's career growth and progress in public service roles, as well as improving gender equality in government employment. The same view was shared by Galsanjigmed and Sekiguchi (2023) who stated that supportive work-life policies can encourage breaking down barriers posed by gender and thus be a contributor to women's career sustainability.

Furthermore, several participants reported work-life balance support as an important enabler in their career paths, though they don't have the luxury to differentiate between work and life. This was most desired in the form of flexible and hybrid work arrangements with supportive family policies that would allow women to attend to their personal and professional needs without having to give up on their career goals. As Shanmugam and Agarwal (2019) alluded, friendly policies such as flexible working hours and open and transparent career progression paths can be enablers of gender inclusivity. These arrangements help employees blend their professional and personal lives more conveniently by catering to varied requirements like parental, caregiving, or health needs and therefore balance their work and life. Employers who hire employees with flexible schedules, work-from-home and hybrid jobs tend to have better retention and

more satisfied workers (Santillan et al., 2023). Such policies further create an inclusive workplace by acknowledging the specific issues experienced by women and other underrepresented groups. In addition, flexible work practices also reflect an organisation's commitment to equity, making them the employer of choice for high-performing candidates from broad demographic and socio-economic backgrounds (Shanmugam & Agarwal, 2019).

Moreover, this finding agrees with the Gender Reform Feminism discussed by Tekere and Gibbs (2016), which calls for policy reforms toward achieving gender balance in the workplace. In the same view, Phipps and Prieto (2021) argued that diversity policies are effective ways through which women can make their way to the topmost levels since they create a framework for combating discriminatory practices and giving a representative presence at the leadership levels.

Participants quote:

Participant 5 remarked ~ ***"Workplaces that have policies for women, such as flexible work and career progression pathways really do make an impact"***.

It underscores how critical it is for organisations to walk the talk on inclusivity by ensuring inclusion via policies and processes.

As Participant 16 said ~ ***"It is still difficult to manage work-life balance. At senior leadership, there is no luxury of switching off, the workload is always high, pressures of deadlines and managing other people".***

Participant 15 stated ~ ***"Managing work-life balance in a senior leadership role requires effective time management and prioritisation. It is also important to have a supportive network and access to flexible work arrangements when needed".***

Participant 3 painted ~ ***"My role model played a very important role in my career development because even with her, when I started working in her office, I didn't understand how those offices worked, the protocol and everything".***

4.5.3 *Personal attributes/ traits*

Several participants mentioned resilience and determination as internal attributes necessary to sustain them during hard times caused by gender biases and poor representations in leadership. They mentioned that resilience is a characteristic that enables an individual to move forward even after falling and to maintain clear long-term career goals. This often emanates from early experiences in one's career and is very helpful in dealing with pressures from the industry. Some participants underscored commitment, honesty, hard work, and accountability as some of the attributes that played a role in their career progression. Fowler (2019) confirmed that leveraging internal strength and personal attributes, together with support networks and other enablers, can lead to the success of women in senior leadership. Moreover, Malone (2023) highlighted that unique lived experiences, resilience, fortitude and perseverance brought by women senior leaders contribute immensely to their success.

Participants quote:

Participant 15 said ~ ***My resilience has helped me navigate through challenges and setbacks, while my determination has driven me to pursue opportunities for growth and advancement".***

Participant 16 stressed ~ ***"Yes, resilience and determination including commitment and focus contributed to my success in leadership".***

Participant 10 indicated ***~ "You've got to be very resilient, and you need to be determined. Otherwise, one day you're going to wake up and not have a reason to go to work".***

4.5.4 *General Enablers*

Participants were asked about key enabling factors that have contributed to their successes. Many participants indicated that the qualifications, training and development programmes they went through to gain knowledge and skills, together with their personal attributes, networking and support systems, played a key role and enabled them to advance and succeed in their leadership journey.

A study by King et al. (2021) indicated that qualification and professional development contribute to the acquisition of knowledge and skills toward advancement in leadership. Better education contributes to better performance in women leaders (Williams, 2022).

Participants quote:

Participant 12 boasted: ~ ***"And I think it was more of knowledge and skills that I had made it where I am, in a way that you become kind of indispensable".***

Participant 3 said: ~ ***"I think first of all is qualifications because there are certain requirements that one needs to meet before you ascend to a higher position and be a leader. So, my advice is that as women, we should not stop studying".***

Participant 6 stressed ~ ***"I think in general; it's a lot of technical expertise and knowledge in energy technologies specifically and the ability to execute on projects".***

Participant 15 stated ~ "***I believe that my determination, continuous learning, and ability to build strong relationships have been key enabling factors in my journey to senior leadership. Additionally, the support of mentors and access to leadership development programs have played a significant role in my success".***

4.6 Women & Men participants' perspectives on Proposition 2

In terms of enabling factors that contributed to the advancement and success of women in senior leadership, both women and men displayed almost the same factors. Both genders emphasised the importance of professional qualification, knowledge, mentorship and support programmes in their journey to leadership. Participants explained that for one to rise and make it in the energy sector, resilience and determination combined with professional conduct become critical. The power and influence of work-life balance enabled by inclusive and sensitive gender policies and practices were also highlighted.

4.7 Conclusion for Proposition 2 Findings

The study's findings strongly support proposition 2, that mentorship and leadership development, supportive and inclusive policies and practices, personal attributes and traits and general enablers each represent a critical enabler for women's progress within the South African energy sector.

These enablers also support the individual's career and partly contribute to the workplace culture of transformation toward valuing gender diversity and inclusion, as highlighted in **Table 5**. The concurrence of these factors with the existing literature suggests that structured policies and supporting programs, combined with individual traits and role models, are necessary to create an environment that allows women to develop and thrive in senior leadership positions. Specifically, the findings painted that enabling factors like professional development, mentoring programs and inclusive organisational practices are critical in establishing pathways for women to excel in leadership positions (Galsanjigmed & Sekiguchi, 2023).

4.8 Findings & Discussion Pertaining to Proposition 3

Research Objective 3 (RO 3): *To determine and propose success factors that increase and sustain women in senior leadership.* Proposition 3 states that the success factors displayed by women senior leaders in the South African energy sector are personality factors, leadership styles, resilience and determination, educational background/ qualification, mentorship, networking, relationship building, embracing change and continuous learning.

The analysis aims to outline success factors presented by women senior leaders that are key or linked to their advancement. Participants were asked questions related to success factors possessed and displayed by women who have succeeded in their leadership roles. The questions ranged from the general success factors attributed to their success, personality traits, leadership styles, and the importance of work-life balance, networking and relationship building. Five themes were identified in line with the research objectives and participants' responses, which are Professional Development, Networking and relationship-

building, Mentorship Programmes, Resilience, Adaptability and other personality factors and leadership styles.

4.8.1 *Professional Development*

Professional development covering qualifications, skills, knowledge and training and development was recognised as foundational for women seeking leadership and success in the energy sector and therefore serves as an essential cornerstone enabling them to achieve and sustain progression. Many participants reiterated that formal qualifications are critical but lifelong learning and specialisation are necessary to develop the technical and managerial capabilities needed to succeed in such a competitive space, as confirmed by Ndweni and Ozumba (2021). Numerous participants mentioned that the energy industry frequently requires credentials to affirm abilities, especially for women who want to prove they belong in a male-oriented field. Higher degrees, certifications and/or specialised training increased not only their ability to perform technically but also helped them become more confident and valuable members of the organisation to which they were contributing. Studies indicate that providing women with greater access to professional growth opportunities may facilitate their advancement into leadership positions and the success thereof (Main et al., 2022).

Being current with modern technologies like renewable energy systems and smart grid developments was also identified as important to remain competitive. Participants said that rapid changes in the energy sector resulting from technological innovation and market dynamics have made it essential to learn continually about emerging developments (Popp et al., 2020). Undergoing specialised training in emerging technologies like energy storage systems, digital transformation, and decarbonisation strategies was viewed as key to staying competitive. Integrating technological advances into strategic decisions was identified as a particular strength among women leaders and their success.

It also emerged that mentoring programs were beneficial in steering career paths. Both the programs offered and the scholarship participants themselves recognise

how these initiatives gave them varied skills to manoeuvre through organisational hierarchies and face issues specific to women in leadership. The program enabled women to recognise avenues for growth, receive feedback, and gain clarity on how important strategic decisions were made by assigning emerging leaders with seasoned mentors. The support and practices to create a safe and enabling environment provided by these programs were reported to be crucial for overcoming isolation and impostor-like feelings that are frequently experienced when operating in a male-dominated industry (Murphy et al., 2021).

Having inclusive organisational policies was also identified as an important enabler for individual professional growth. The role of the organisation in dismantling systemic barriers by having certain policies regarding gender equity, flexible work accommodations, equal opportunities for training/advancement and promotion criteria explicitly documented were emphasised by participants (Gilbert et al., 2020). These measures not only created a more level playing field but also gave women leaders the confidence to step up and take on tough positions without the fear of discrimination or prejudice. Leadership development programs specifically for women, recruitment with an emphasis on diversity and gender-sensitive performance evaluation systems were viewed as necessary measures to foster an environment conducive to professional advancement.

Participants quote:

This was highlighted by Participant 7 ~ ***"The other part is to always keep reading and make sure you manage to keep yourself informed. There is no falling up when it comes to identifying as a woman and being senior. So, you must be competitive – and show that you know what you are doing".***

The focus on getting up to speed with industry developments highlights the participants' desire to achieve and sustain excellence.

Participant 14 went on to explain her experience as follows ~ ***"I have several certificates from international energy system optimisation to renewable energy development. This gave me a roadmap on how to find my way through leadership".***

From these perspectives, focused professional development builds competence and the confidence that comes with competence important currency in a challenging gender equity landscape.

Participant 2 indicated ~ ***"Continuous learning and aligning with cutting-edge technology have always been my focus. My executive management training helped shape my leadership skills in energy infrastructure".***

Participant 3 remarked ~ ***"Being intentional about learning helped me climb the ladder. My certifications in project management and financial management made me indispensable in critical projects".***

4.8.2 *Networking and Relationship-Building*

Networking opportunities were also identified by participants as a key element of their professional development. Many of the comments indicated that having a solid network of professional connections served to bring visibility and opportunities they would not otherwise have had. Being part of professional networks helps women to better overcome gender biases and become more visible in leadership circles. Also, the networks help them access resources, mentorship, and support from within the industry, which in turn improves their potential for career advancement. Participants indicated that by networking, they had the power to speak to major players in the industry and gain access to vital resources, as well as find new opportunities for career development (Pham, 2023).

Through networking, women broadened their exposure through industry conferences and joined professional associations while networking with peer groups of which paved pathways towards leadership opportunities. Networking was given particular importance to counteract the exclusion through informal male-dominated networks, which have been used as unofficial career ladders (Carbery et al., 2021).

These findings point to the importance of professional networking events, organisations, and initiatives that connect women leaders with influential mentors and peers.

Participants quote:

As Participant 6 indicated ~ "***Yeah, I think networking and relationship building is probably a complementary aspect of all of your skills and abilities. So networking is something that needs to be part of the tools in your toolbox".***

Participant 1 echoed ~ "***The reason that the department also had very clean audits was not just because we did good work, it was also because of the relationship that I built with the auditors and stakeholders***".

4.8.3 *Mentorship Programmes*

Another oft-cited success factor for participants is the mention of mentorship as one of the success variables. According to participants, mentorship aids in professional development, networking, and creating ways of achieving leadership positions. Formal and informal mentorship initiatives were highlighted as critical enablers of career progression and success, offering important support in difficult workplace environments (Bapat et al., 2021). Participants indicated that mentorship facilitates access to opportunities that might not otherwise be available to women such as strategic work, leadership roles, and connecting with powerful industry leaders. Mentorships connect personal goals and career pathways in an organisational context by teaching participants how to effectively navigate complicated systems in which they would need to operate as well as managing the intersection of power dynamics all while expanding their professional networks.

Also, mentorship was imperative in building resilience for participants in male-dominated spaces on top of fast-tracking their professional growth. Mentors served as living examples of how to overcome the hurdles life throws at us and stay on course toward our long-term career objectives. Mentors were described

by participants as a safe space to express frustrations about work, ask for guidance, and get validation of their experiences. The emotional connection became a crucial element of women building their confidence, and addressing the feelings of isolation many felt during their paths to leadership (Woehler et al., 2021).

In addition to providing mentorship, helping professionals forge connections shaped in significantly valued ways that participants reported anecdotally was essential for career growth (Longman et al., 2019). Participants were exposed to stakeholders, industry-wide events and partnership opportunities that expanded their horizons and opened doors through the guidance of mentors. Much of the value in mentorship came from its informal side, including flash mentoring or just unplanned moments to offer guidance words of encouragement and wisdom to practice or on how long a person carried with them.

It was also noted that, due to the technical guidance and emotional support that often comes with mentorship pairing this as a unique strength. For others, mentorship was less about climbing the career ladder and more about honing soft skills, be it communication, negotiation, or leadership. Many participants identified mentorship as a key influence in developing their leadership identities, enabling them to take on elevated positions to make influential decisions. These findings further pointed to the need for organised and accessible mentorship programs as a fundamental approach to achieving gender equity in leadership.

Participants quote:

Participant 1 explained ~ ***"This access to mentorship and leadership programs has been life changing. It gave me soft skills that go far beyond those learned in a classroom and are so essential for working your way up to senior roles".***

As a technical and emotional refuge, mentorship guides women to expand their networks and develop essential soft skills for thriving in leadership.

Participant 14 reflected ~ ***"I had mentors who believed in my potential. Their guidance helped me transition smoothly from technical roles to strategic leadership positions".***

4.8.4 *Resilience, Adaptability and other personality factors*

Most participants have enlisted resilience and adaptability as the required personal attributes that have enabled them to succeed at their respective leadership positions. The participants believe resilience has helped them to overcome problems such as gender bias, industry-associated stress and professional failures. Adaptability helped them cope with the changing demands of the energy industry.

Through the journey, some of the women identified resilience and adaptability as core traits within their skill sets in conjunction with a male-dominated world. Some expressed the unpaid emotional labour of having to repeatedly prove their worth in spaces that do not acknowledge or appreciate their contributions (Prieto-Rodriguez et al., 2022). Several identified this constant need to not only perform well but to exceed expectations just to get equal recognition as their male peers. A frequent part of this dynamic was the challenge to overcome some stale stereotype that girls have much less technical capability, and that ladies cannot take care of the pressures of management.

In decision-making situations, for example, female respondents noted that making mistakes was more readily condemned than if the male colleague had made an error. And that they must walk a fine line between being assertive but also approachable so that others do not perceive them as too aggressive or insecure. Balancing performance and perception as a leader require tremendous adaptability and emotional intelligence.

Moreover, among the responses received, resilience was described not only as survival through adversity but also as an opportunity (Bruno et al., 2020). Frequently, they created new strategies for overcoming systemic barriers like informal networks of support or pursuing further training to remain competitive in their fields. Their ability to adapt quickly to changing industry needs whether that

was incorporating recent technologies or adapting their leadership style for different team characteristics, amplifies the role of this attribute in appealing to leadership positions.

Participants quote:

As one participant explained ~ ***"You need to be good, but you also need to be clever in a boy's club. Resilience is about performing under pressure, but adaptation is about trimming the sail as necessary to stay ahead of the game".***

Not only did these traits lead towards women's success, but they also made them agents of change in their organisations, rewriting existing beliefs and advocating for a more inclusive workplace culture.

Participant 9 remarked ~ ***"In a male-dominated field, you must prove your technical capacity and capability. It means taking advantage of what you do best and showing up like an expert".***

This emphasises the need for inner strength and smartness to combat sexism and be leaders.

Participant 12 shared ~ ***"Resilience has been critical. As a woman, you need to be persistent and ready to show why you deserve a seat at the table".***

Participant 11 elaborated ~ ***"In male-dominated spaces, adaptability and a strong technical foundation were key to earning respect and recognition".***

4.8.5 *Leadership Styles*

Most participants realised a few prevailing styles of leadership, primarily transformational, which included participative and consultative methods. The respondents also clarified that these styles enabled them to handle the groups and assert their authority in the usual male-dominated environments. Their observation was, however in tandem with the research that indicated the participative and transformational styles build trust and teamwork, thus making it easy to develop leadership.

This observation also agrees with Eagly and Karau (2002) Role Congruity Theory, which says that transformational and participative styles of leading are perceived to be congruent with female leaders, thus acting to complete the perceived incongruity between gender and leadership. The literature supports that these styles facilitate an inclusive environment and make more workgroup engagement possible for leaders with varied teams. Furthermore, the prevalence of transformational leadership approaches was associated with how women leaders exercised their authority (Amakye, 2019).

Participant quote:

Participant 15 stated ~ ***"Transformational leadership, servant leadership, and collaborative leadership. These styles emphasise empowerment, mentorship, and the ability to build strong, cohesive teams".***

4.9 Women & Men participants' perspectives on Proposition 3

In terms of factors that contributed to the advancement and success of women in senior leadership, both women and men displayed almost the same factors. Male participants mentioned professional development, covering qualifications, informal and formal mentorship and development programmes, networking and relationship building, leadership styles and personality factors as critical to success in senior leadership (Castañeda, 2019). Some male senior leaders have not advanced for a longer period, however, that does not invalidate the success factors that made them succeed in their leadership roles, which are equally the same for women leaders. One male participant indicated, "*I joined the department in 2010, unfortunately, I've been in this position since that time. I think there were pockets of growth, for certain niches, but broadly, most of the people have been stagnant in those similar positions for quite some time*".

Both women and men agreed that work-life balance is critical for a leader to perform well and succeed in senior leadership. There are shared benefits that participants mentioned from assisting the leader to unleash their potential, maintaining well-being, making sound decisions, managing stress levels, and so on. These shared benefits do not undermine the fact that with women senior

leaders, maintaining a life-work balance is difficult as they are supposed to play equal roles at work as managers and leaders and at home as mothers, wives and home managers (Hampson, 2020). There was also an indication that women leaders are expected to perform beyond the standard to prove that they are leaders. One female participant indicated, "*To balance work and life as a woman, you have to sacrifice your life to provide the 150% required for you to be recognised. Once you are recognised, you can then now go for the life balance*". The other participant stated, "*It is not easy to balance, when one arrives home, one needs to take off those high heels and become a mother and wife - domestic workers/ helpers help to maintain balance*". The challenge to balance seems to be equally the same as male participants also shared their predicament and difficulty to balance, to the extent that one participant said that maintaining work-life balance is a myth.

For both women and men participants, networking and relationship-building present opportunities to connect, associate, share, influence, support and grow in the sector. Papafilippou et al. (2022) assert that networking with external groups can be beneficial and regarded as a force for change.

In terms of personality characteristics, both women and men showed that resilience and adaptability with pockets of professionalism are critical to the success of women in senior leadership. The ability to thrive in leadership positions can be enhanced through a combination of personal resilience and support from the organisation. Resilience encompasses adapting positively to work-related challenges, aligning one's professional activities with personal values, and engaging in self-reflection and goal setting. When coupled with organisational backing, these factors contribute to an individual's success in leadership roles. (Loffeld et al., 2022).

4.10 Conclusion for Proposition 3 Findings

The findings supported research proposition 3, which indicates that various success factors, such as professional development, leadership styles, and individual characteristics, such as resilience to external enablers like mentorship and networking, play a vital role in enabling women's rise and sustaining their positions in senior leadership in the South African energy sector. Such success factors are in line with previous literature underlining internal strengths and external networks as means through which one would be able to surmount specific hindrances within the industry upon which one is concentrating.

To sum up, these findings strongly suggest that professional development, including continuous learning, the building of resilience and adaptability, the provision of mentorship opportunities, and networking and leadership styles are indeed very important constituents in a woman's make-up to advance into decision-making positions, as confirmed in Table 5: Comparison of literature review and findings **Table 5**.

4.11 Comparison of literature review and own findings

This section compares the literature review and this study's findings, displayed in **Table 5**.

Table 5: Comparison of literature review and findings

RO #	Research Objective	Prop #	Proposition (Literature Review Response to RO)	Data Collection Detail	Findings from Own Study
1	To evaluate the energy sector barriers that hinder women's acceleration in leadership	1	The barriers that were anticipated to hinder the acceleration of women in senior leadership in the South African energy sector included limited leadership development and mentorship opportunities, a glass ceiling and sticky floor, gender-insensitive culture, religious factors, and inflexible recruitment and promotional policies and practices.	Interview guide questions 5, 6, 7	The study confirms the proposition and shows that the proposed barriers are prevalent. Participants highlighted that gender-insensitive culture, social perceptions and limited development opportunities are major obstacles towards women's advancement.
2	To examine energy sector enablers that advanced women's senior leadership	2	The enablers anticipated to support women in senior leadership in the South African energy sector included promoting gender diversity and inclusion policies, supporting work-life balance, equal career opportunities, support programs, eliminating unconscious bias, and promoting female role models.	Interview guide questions 8, 9, 10	Findings aligned with this proposition, with participants emphasising the importance of mentorship and leadership development programmes, supportive and inclusive policies and practices, personal traits and attributes and general enablers as essential enablers for women's advancement.

RO #	Research Objective	Prop #	Proposition (Literature Review Response to RO)	Data Collection Detail	Findings from Own Study
3	To determine the success factors that increased women's representation in senior leadership	3	The success factors identified in the literature as contributing to women's representation in senior leadership included personality factors, leadership styles, qualifications, mentorship, networking, relationship building, adaptability, and continuous learning.	Interview guide questions 11, 12	The study indicated that Professional Development, Networking and relationship-building, Mentorship Programmes, Resilience, Adaptability and other personality factors and leadership styles are key enabling factors for women to succeed in senior leadership roles. These findings confirm the proposition.

CHAPTER 5. CONCLUSIONS & RECOMMENDATIONS

5.1 Introduction

The study aimed to explore the success factors for women in senior leadership roles within the South African energy sector. The study also investigated the barriers that hinder women's advancement and the enablers that support their success in leadership positions, focusing on a case study of the South African Department of Mineral Resources and Energy (DMRE) and its associated State-Owned Entities (SOEs).

The literature review addressed the barriers to women's success, the enablers, and the success factors that facilitate women's advancement to senior leadership roles, along with the theoretical frameworks that underpin the study. The findings were based on data collected through qualitative interviews and analysed using thematic analysis.

This chapter will integrate the findings related to propositions 1 to 3 with the original research objectives outlined in Chapter 1. The chapter will begin with conclusions regarding research objective 1 (barriers), objective 2 (enablers), and objective 3 (success factors). A consistency table will follow, linking the research objectives, study findings, and recommendations for promoting women's advancement to senior leadership positions, as well as suggestions for future studies.

5.2 Conclusions Regarding Research Objective 1

The study objective is to evaluate the energy sector barriers hindering women's leadership acceleration. The underrepresentation of women in the male-dominated energy sector serves as a barrier towards their advancement. There is an alignment between the study findings concerning the barriers hindering women’s advancement to leadership positions and the literature discussed in Chapter 2 above. The study proposed that the barriers hindering the acceleration of women in senior leadership in the South African energy sector are limited

leadership development and mentorship opportunities, a glass ceiling and sticky floor, gender insensitive culture, religion, and inflexible recruitment and promotional policies and practices. The study found that gender-insensitive culture, social perceptions and limited development opportunities are the most prevalent obstacles hindering women's advancement to senior leadership.

The findings show that women in energy leadership experience an elevated level of diversity in the context. On an individual level, women frequently depend on their resilience and flexible mindset and focus on lifelong learning through their professional development or any informal and formal support programmes to navigate obstacles. Such traits allow them to function successfully in male-dominated environments and go on to do well in their roles, albeit not without systemic challenges. Nevertheless, these individual efforts are often stifled by organisational and societal systems that do not support their rise.

On the level of organisations, gender-inclusive policies, mentorship programs, and targeted recruitment are critical to achieving those goals. Opportunities for professional development, such as training in up-and-coming areas of technology and leadership skills, need to be provided to ensure women succeed at the upper levels. Women leaders perceive that formal mentorship programs are effective not only for guidance and networking but also to instil confidence and a sense of belonging in women. Organisations that take initiative-taking steps to create diversity, like offering scholarships for women in STEM and development programs focused on leadership pipeline roles, are showing how they can overcome gender imbalance at the very top.

But these are drops in the bucket; systemic barriers remain. Organisational cultures do not change; they perpetuate implicit biases and reinforce gender stereotypes. These cultures may expose women to situations which starve them of opportunities or create a workplace culture that makes women feel devalued and unwanted. In addition, societal perceptions still cast doubt on women as leaders and often require them to work harder to receive the same recognition level as men. These attitudes are steeped in traditional gender roles and reinforced stereotypes, making it even more difficult to achieve a leadership role.

To tackle these challenges, organisations need a simultaneous multi-pronged approach that does not just address an individual level but also the organisational and broad societal levels. Women at every level of the organisation should have access to mentorship programs that are institutionalised. There is an urgent need to step up the existing targeted recruitment efforts, which can help increase representation at each level and create a pipeline of women leaders for the future. Policies such as hybrid work opportunities and visible pathways for career progression can help create an equal opportunity space to accommodate the varying needs of women in the workforce.

Male participants showed support and alignment in terms of the barriers women face in the leadership journey, which stems from the fact that the energy sector is male dominated. Few male participants underwent mentorship and/ or leadership development programmes compared to women. However, they agreed that those are some of the critical elements to overcome the identified barriers toward the advancement of women to senior leadership, together with a conducive culture and gender-sensitive practices and policies.

In conclusion, the study findings on barriers, i.e., gender-insensitive culture, social perceptions and limited development opportunities hindering women from advancing to senior leadership concur with the barriers identified and proposed i.e., limited leadership development and mentorship opportunities, a glass ceiling and sticky floor, gender-insensitive culture, religion, and inflexible recruitment and promotional policies and practices. One takeaway from the analysis is that, as one tries to address these barriers, one must also focus on enhancing enablers that help women grow into positions of leadership.

5.3 Conclusions Regarding Research Objective 2

The study objective is to examine energy sector enablers that advance women into senior leadership. The literature review revealed and proposed the enablers that contribute to the advancement of women into senior leadership in Chapter 2 above. The study proposed that the enablers anticipated to support women in senior leadership in the South African energy sector included promoting gender

diversity and inclusion policies, supporting work-life balance, equal career opportunities, support programs, eliminating unconscious bias, and promoting female role models. The study findings are aligned with the proposition, with participants stressing the importance of mentorship and leadership development programmes, supportive and inclusive policies and practices, personal traits and attributes and general enablers as essential enablers for women's advancement to senior leadership. These findings were also confirmed by male counterparts who stressed the importance of professional qualification, knowledge, mentorship and support programmes in their journey to leadership. Participants stressed that for one to rise and make it in the energy sector, resilience and determination, combined with professional conduct, become critical. The power and influence of work-life balance and role modelling enabled by inclusive and sensitive gender policies and practices were also highlighted.

In conclusion, the study findings on factors enabling women to progress to senior leadership (i.e., mentorship and leadership development programmes, supportive and inclusive policies and practices, personal traits and attributes and general enablers) concur with the enablers identified and proposed in Chapter 2 above, which include promoting gender diversity and inclusion policies, supporting work-life balance, equal career opportunities, support programs, eliminating unconscious bias, and promoting female role models. The enablers, such as mentorship programs, inclusive organisational cultures and strong policy frameworks, are creating spaces for women to achieve leadership opportunities (Mate et al., 2019). However, developing these enablers requires leadership at all levels to be intentional. Organisations must be prepared to take a hard look at and change policies that may be unconsciously creating inequities. For example, hiring practices need to be revised, flexible work environments need to be in place, and transparent promotion criteria hit all that can easily improve women's chances in leadership.

However, the findings challenge the role congruency theory that women are communal beings and therefore not suitable for positions in leadership, because of the observed mismatch between leadership and female gender roles. Women have the potential to rise to leadership if provided with enablers such as work-life

balance, career opportunities, diversity and inclusion policies, role models and other support programmes.

5.4 Conclusions Regarding Research Objective 3

The third objective of the study is to identify and propose success factors that can increase the representation of women in senior leadership positions. Despite the underrepresentation of women in leadership roles within the energy sector, some have managed to advance and achieve success as senior leaders. This study aims to explore the factors that contributed to their success in these positions.

The research suggests that several factors identified in existing literature play a significant role in increasing women's representation in senior leadership and their success. These factors include personality traits, leadership styles, qualifications, mentorship, networking, relationship building, adaptability, and a commitment to continuous learning.

The findings of the study showed that factors, such as Professional Development, Networking and Relationship Building, Mentorship Programs, Resilience, and Adaptability, are key to the success of women in senior leadership. Additionally, various personality traits and leadership styles are critical for advancing employees towards senior leadership.

The findings align with and validate the previous studies' conclusions that leadership development programs incorporating social interactions and networking positively impact the experiences and effectiveness of women in leadership roles. Moreover, women leaders have a natural inclination to learn. The advancement of women into senior leadership positions is linked to transformational, authentic, and team leadership approaches.

To create effective development programs, it is crucial to conduct a thorough assessment of needs. Participants have recommended developing targeted programs specifically designed to support and nurture women. Achieving leadership success requires fostering and enhancing resilience-based characteristics. These traits can be cultivated by establishing diverse

relationships, including connections with mentors and coaches, and offering guidance and support to others.

5.5 Final Consistency Table

The consistency table on the contribution and the difference between the initial propositions based on the literature and study findings is shown in **Table 6**.

Table 6: Consistency table: research questions, conclusions and contribution to knowledge

RQ #	State Research Question or Objective	State literature-based proposition	State the conclusion or answer based on your research	Highlight key differences between your initial propositions and your findings – this is your contribution to knowledge
1.	To evaluate the energy sector barriers that hinder women's acceleration in leadership	The barriers that were anticipated to hinder the acceleration of women in senior leadership in the South African energy sector included limited leadership development and mentorship opportunities, a glass ceiling and sticky floor, gender-insensitive culture, religious factors, and inflexible recruitment and promotional policies and practices.	The study found that barriers such as gender-insensitive culture, social perceptions and limited development opportunities are hindrances for accelerating women into senior leadership.	The research findings align with the literature reviewed. The study emphasises the importance of development programs, whether structured or not, in helping women overcome barriers to advancement. It was also noted that men in senior leadership positions acknowledged these barriers, and some male participants reported facing similar challenges in their leadership journeys. Organisations play a significant role in eliminating barriers that hinder women's advancement through programmes and policies that promote diversity and inclusion.
2.	To examine energy sector enablers that advanced women's senior leadership	The enablers anticipated to support women in senior leadership in the South African energy sector included promoting gender diversity and inclusion policies, supporting work-life balance, equal career opportunities, support programs, eliminating unconscious bias, and promoting female role models.	Findings aligned with this proposition, with participants underlining the importance of mentorship and leadership development programmes, supportive and inclusive policies and practices, personal traits and	There is a clear alignment between the literature and the findings of the study. The importance of inclusive policies and practices, mentorship and leadership programs, and individual motivation cannot be overstated. Additional identified enabling factors include specific personality traits, especially resilience and determination.

RQ #	State Research Question or Objective	State literature-based proposition	State the conclusion or answer based on your research	Highlight key differences between your initial propositions and your findings – this is your contribution to knowledge
			attributes and general enablers as essential enablers for women's advancement.	However, one factor that was not clearly understood during the interviews was the concept of role modelling. However, its significance is covered by the mentorship and development factors, in line with gender reform theory.
3.	To determine the success factors that increased women's representation in senior leadership	The success factors identified in the literature as contributing to women's representation in senior leadership included personality factors, leadership styles, qualifications, mentorship, networking, relationship building, adaptability, and continuous learning.	The study found that Professional Development, Networking and relationship-building, Mentorship Programmes, Resilience, Adaptability and other personality factors and leadership styles as pivotal for the career progression and success of women in senior leadership in the South African energy sector.	The study findings confirmed that key enablers for women's advancement into senior leadership include professional development, mentorship, networking, personality traits, and leadership styles. Specifically, the study highlighted resilience, adaptability, and other personality traits as vital to the success of women in these leadership positions. The findings are in contrast with role congruency theory and literature that suggested that women are seen as communal beings while men are viewed as agentic beings. It is important to note that the enabling factors, which include mentorship and leadership development programmes, supportive and inclusive policies and practices, and personal traits and attributes, are critical in progressing women towards senior leadership and their success in those positions.

5.6 Proposed interventions to accelerate women into senior leadership in the South African energy sector

Based on the findings, the study proposes the following interventions:

- Gender Diversity Policies and strategies with targets and timelines that will ensure women are accelerated into senior leadership need to be put in place;
- Establish gender diversity committees to monitor and oversee the implementation of policies and advise the executives;
- Development of leadership development and mentorship programmes to accelerate women at junior and middle management levels to senior leadership roles;
- Offer bursaries and scholarships to women in junior and middle management to upgrade their qualifications in line with their organisation's skills gap;
- Conduct change and gender diversity management programmes for all staff, with emphasis on executive leaders;
- Increased targets for women's inclusion in senior leadership need to be incorporated into the performance agreements of executive leadership;
- Enforce accountability and compliance with penalties for implementing policies that advance women to senior leadership roles. These will include monitoring and evaluation (M & E), rewards and awards programmes for enforcing gender equality; and
- Provision of resources such as funding for gender diversity programmes and advancement of women. The interventions are summarised in Table 7 and expanded in the section 5.6.1 – 5.6.5.

Table 7: Study Intervention Proposals

Enabling environment	Capacity Building	Provision of Resources	Enforcement, M & E
• Development of Gender Diversity Policies & Strategies, with implementation plans • Establishment of Gender Diversity Committees • Development Employment Equity Plans with targets • Inclusion of Gender Diversity Programmes in the organisation's Strategic Documents, programmes and projects • Provision of reasonable accommodation to women employees	• Mentorship programmes • Leadership Development Programmes • Gender Diversity Advocacy and change management Programmes • Bursaries and Scholarship Programmes for Junior and Middle Managers • Energy Career Awareness Workshops and Expos • Creation of networking opportunities • Targeted recuitment of women from junior to senior leadership levels	• Gender Sensitive Budgeting • Appointment of Gender Diversity Coordinator	• Development of Monitoring and Evaluation tool • Development of Gender Diversity Enforcement System for compliance and non-compliance • Inclusion of Gender Diversity performance targets to Executive Leadership • Development of gender Diversity Awards Programme

5.6.1 *Promoting Gender Diversity and Inclusion Policies*

Implementing and enforcing gender diversity and inclusion policies in the workplace is crucial. These policies should aim to create an environment where women feel valued and supported. This includes setting clear targets for gender representation at all levels of the organisation and regularly monitoring progress towards these targets.

5.6.2 *Supporting Work-Life Balance*

Organisations should provide support for work-life balance to help women manage their professional and personal responsibilities. This can include flexible working hours, remote work options, and providing childcare facilities or

subsidies. Such measures can help reduce the stress and burnout that often come with balancing work and family duties.

5.6.3 *Providing Equal Opportunities for Career Advancement*

Ensuring that women have equal access to career advancement opportunities is essential. This includes offering leadership development programs, mentorship opportunities, and training sessions that are specifically designed to help women develop the skills and confidence needed for senior leadership roles.

5.6.4 *Eliminating Unconscious Bias and Stereotypes*

Organisations need to actively work towards eliminating unconscious bias and stereotypes that can hinder women's progress. This can be achieved through regular training and awareness programs that educate employees about the impact of bias and how to counteract it.

5.6.5 *Recognising and Promoting Female Role Models*

Highlighting and promoting successful female leaders within the organisation can inspire and motivate other women to aspire to leadership roles. This can be done through internal communications, awards, and recognition programs that celebrate the achievements of female leaders.

These proposed interventions aim to create a more inclusive and supportive environment for women in the energy sector, ultimately helping to increase their representation in senior leadership positions.

5.7 Recommendations

The main challenge highlighted in the literature is the male dominance of the energy sector, where women are significantly underrepresented in senior leadership roles. That is 36% versus 64% and 42% versus 58% of women versus men in senior leadership in DMRE and SOEs, respectively. The study found that this trend also applies to the Department of Mineral Resources and Energy (DMRE) and its associated State-Owned Enterprises (SOEs). This situation indicates a need for the DMRE and its SoEs to implement targeted recruitment and development programs to cultivate a pipeline of female talent, promoting them from middle management to senior leadership positions.

To address the identified barriers (i.e., gender-insensitive culture, social perceptions and limited development opportunities) that prevent women from advancing to senior leadership positions, the sector needs to develop programs and mechanisms to eliminate these obstacles. It is recommended that the sector develop strategies and plans to implement the enabling factors identified in the study to counter the barriers hindering women's advancement in senior leadership. Both individual women leaders and the energy sector play important roles in the process of eliminating the identified barriers and implementing the enabling factors, as there are barriers stemming from the organisational environment as well as those that are within individual control. The identified enabling factors, which include mentorship and leadership development programmes, supportive and inclusive policies and practices, and personal traits and attributes, are the nearest solution to lessen the exclusion of women in senior leadership. Although the lessons are drawn from the DMRE and its associated SOEs case study, these recommendations can be replicated in other sectors such as private, petrochemicals, information technology and mining, among others.

The study findings highlighted the key success factors exhibited by women in senior leadership roles. The success factors identified include Professional Development, Networking and relationship-building, Mentorship Programmes, Resilience, Adaptability and other personality factors and leadership styles as pivotal for career progression in the energy sector. As a result, it is recommended

that both women currently in senior leadership positions and those aspiring to advance in their careers participate in leadership and mentorship programmes, and those in senior leadership advise those who are in junior and middle management on how to advance their careers toward senior leadership.

Eliminating barriers to women's advancement, such as gender-insensitive culture, social perceptions and limited development opportunities and applying enabling factors for success, such as mentorship and leadership development programmes, supportive and inclusive policies and practices, will lead to an increase in the number of women in senior leadership roles. The findings underscore that developing and implementing the enabling factors such as mentorship and leadership development programmes, supportive and inclusive policies and practices, amplified by the identified success factors such as professional development, networking and relationship-building, resilience, adaptability and other personality factors and leadership styles contribute to the advancement of women in senior leadership. Though the impact of role models in leadership did not come clearly during the interviews, the study found that mentorship and leadership development programmes play a significant role in advancing women to senior leadership.

Additionally, it is critical to ensure that the women leadership development programme targets are measurable over time, where progress is not achieved, punitive measures such as non-compliance penalties on the performance of executive leadership need to be introduced. Setting organisational targets will not only help women attain senior leadership positions but also ensure they remain in leadership, preventing a decline in representation due to bias toward men's leadership. An increased participation of women in senior leadership is likely to promote gender equality and transformation in the energy and other sectors. Enabling increased women's participation in senior leadership will promote inclusive leadership and enhance business performance.

5.8 Suggestions for further research

The research aimed to address the objectives outlined in Chapter 1, although it was conducted through the DMRE and its associated SOEs, the findings could be replicated in other sectors and achieve a significant impact. Moreover, there is a need for increased research on the contribution that women in senior leadership could make as role models who have overcome leadership barriers. This means that women in senior leadership need to share insights on how women can further advance their involvement in senior leadership.

The study involved male participants who applied their gender perspectives to understand the success factors displayed by women in senior leadership roles. As such, it is recommended that a research study be conducted that compares the success factors between male and female senior leaders.

Finally, the findings revealed that some male leaders have also not participated in leadership development programs or progressed in their careers either. Therefore, the issue of advancing into senior leadership needs to be examined outside the gender lens to ensure that advancement to senior leadership does not become biased toward women only. Therefore, a research study focusing on unbiased advancement towards senior leaders needs to be explored to ensure that the acceleration of women into senior leadership is balanced.

REFERENCES

Abbey, S. L. (2022). *Developing Resilience and Deploying Resilient Leadership Behaviors among Women Mid-Level Healthcare Leaders* Grand Canyon University].

Adeoye-Olatunde, O. A., & Olenik, N. L. (2021). Research and scholarly methods: Semi-structured interviews. *Journal of the american college of clinical pharmacy*, *4*(10), 1358-1367.

AfDB. (2015).*). Empowering African Women: An Agenda for Action: Africa Gender Equality Index 2015*. Retrieved from https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/African_Gender_Equality_Index_2015-EN.pdf

Ahlin, E. M. (2019). Semi-structured interviews with expert practitioners: Their validity and significant contribution to translational research.

Akkaya, B., & Üstgörül, S. (2020). Leadership styles and female managers in perspective of agile leadership. In *Agile business leadership methods for Industry 4.0* (pp. 121-137). Emerald Publishing Limited.

Akuamoah-Boateng, R., Bolitho, F. H., Carr, S. C., Chidgey, J. E., O'Reilly, B., Phillips, R., Purcell, I. P., & Rugimbana, R. O. (2003). Psychosocial barriers to female leadership: Motivational gravity in Ghana and Tanzania. *Psychology and Developing Societies*, *15*(2), 201-221.

Albusays, K., Bjorn, P., Dabbish, L., Ford, D., Murphy-Hill, E., Serebrenik, A., & Storey, M.-A. (2021). The diversity crisis in software development. *IEEE Software*, *38*(2), 19-25.

Alhojailan, M. I. (2012). Thematic analysis: a critical review ofits process and evaluation. WEI international European academic conference proceedings, Zagreb, Croatia,

Alqahtani, T. (2019). Barriers to Women's leadership. *Granite Journal: A Postgraduate Interdisciplinary Journal*, *3*(2), 34-41.

Alqahtani, T. H. (2021). Women's leadership in higher education in the Kingdom of Saudi Arabia. *Journal of Entrepreneurship & Organization Management*, *10*(1), 1-5.

Amakye, S. (2019). *Breaking the glass ceiling: experiences of women leaders in private corporate organisations in Ghana* The University of Bergen].

Amon, M. J. (2017). Looking through the glass ceiling: A qualitative study of STEM women's career narratives. *Frontiers in psychology*, *8*, 238179.

ARAGAW, M. (2018). *Women leadership challenges in the case of Ethiopian electric utility: trends and emerging patterns* St. Mary's University].

Area, U. W. o. N. C. Equality meaning. https://unitedwaynca.org/blog/what-is-quality/#:~:text=Equality%20is%20the%20state%20of,opportunities%2C%20regardless%20of%20their%20circumstances

Arifin, S. R. M. (2018). Ethical considerations in qualitative study. *International journal of care scholars*, *1*(2), 30-33.

Asenahabi, B. M. (2019). Basics of research design: A guide to selecting appropriate research design. *International Journal of Contemporary Applied Researches*, *6*(5), 76-89.

Awung, M. (2019). *Career advancement strategies of women in leadership at universities of technology in South Africa*

Baker, M., Ali, M., & French, E. (2019). The impact of women's representation on performance in project-based and non-project-based organizations. *International Journal of Project Management*, *37*(7), 872-883.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall, Inc.

Bapat, P., Bhat, S., Chakraborty, C., Chirmule, N., Kadam, R., Kashyap, S., Masurkar, S., Paul, R., Rao, D., & Reddy, R. (2021). Mentoring during the COVID-19 pandemic: a perspective from graduate students in biomedical science studies in India. *Proceedings of the Indian National Science Academy*, *87*(2), 320-323.

Baqutayan, S. M. S., & Raji, F. (2021). The Impact of Religion and Culture on Leadership Styles of Women Policy-Makers in the Education Industry. *Journal Of Science, Technology And Innovation Policy*, *7*(1), 18-26.

Barkhuizen, E. N., Masakane, G., & van der Sluis, L. (2022). In search of factors that hinder the career advancement of women to senior leadership positions. *SA Journal of Industrial Psychology*, *48*(1), 1-15.

Begeny, C. T., Ryan, M. K., Moss-Racusin, C. A., & Ravetz, G. (2020). In some professions, women have become well represented, yet gender bias persists—Perpetuated by those who think it is not happening. *Science advances*, *6*(26), eaba7814.

Bekele, W. B., & Ago, F. Y. (2022). Sample size for interview in qualitative research in social sciences: A guide to novice researchers. *Research in Educational Policy and Management*, *4*(1), 42-50.

Born, A., Ranehill, E., & Sandberg, A. (2018). A man´ s world?–The impact of a male dominated environment on female leadership.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101.

Bridges, D., Wulff, E., & Bamberry, L. (2023). Resilience for gender inclusion: Developing a model for women in male-dominated occupations. *Gender, Work & Organization*, *30*(1), 263-279.

Bruno, L., Lima, O., Araújo, P. C., Maduro, M., & Lobato, E. (2020). Resilience and leadership effectiveness. *International Business & Economics Studies*, *2*(4), 1-14.

BuffaloState. (n.d). Human Resource Management. https://hr.buffalostate.edu/success-factors

Busetto, L., Wick, W., & Gumbinger, C. (2020). How to use and assess qualitative research methods. *Neurological Research and practice*, *2*(1), 14.

BWASA. (2021). South African Women in Leadership Census. In.

Çakar, K., & Aykol, Ş. (2021). Case study as a research method in hospitality and tourism research: A systematic literature review (1974–2020). *Cornell Hospitality Quarterly*, *62*(1), 21-31.

Cambridge. Enabler meaning. In *Cambridge Dictionary*.

Carbery, C., Arrigoni, A., Clayton, T., Kyriakidou, N., Gatewood, C., Shafique, S., & Halliday, S. (2021). Women and Networking: A Systematic Literature Review (1985-2021).

Casad, B. J., Franks, J. E., Garasky, C. E., Kittleman, M. M., Roesler, A. C., Hall, D. Y., & Petzel, Z. W. (2021). Gender inequality in academia: Problems and solutions for women faculty in STEM. *Journal of neuroscience research*, *99*(1), 13-23.

Castañeda, T. (2019). *Transitions at the Top: A Narrative Research Study Exploring Women's Executive Career Changes through Critical Reflection* Northeastern University].

Catalyst. (2023). Pyramid: Women in the United States Workforce (Infographic)

https://www.catalyst.org/research/women-in-the-united-states-workforce/

Caves, L. (2018). Lifelong learners influencing organizational change. *Studies in Business and Economics*, *13*(1), 21-28.

Cheairs, R. (2023). *Breaking Barriers for Females in Executive Leadership Positions* University of Arizona Global Campus].

Clarke, V., & Braun, V. (2013). Teaching thematic analysis: Overcoming challenges and developing strategies for effective learning. *The psychologist*, *26*(2), 120-123.

Coetzee, M. (2017). Fairness as it relates to employment equity for women. *South African board for people practices women's report*, *2017*, 26-31.

Connelly, L. M. (2016). Trustworthiness in qualitative research. *Medsurg nursing*, *25*(6), 435.

Countrymeters. (2023). South Africa Population. In.

Cox, R., & Dalton, W. (2022). *Enablers and constraints women encounter in advancing to senior managerial positions: Case of South African Military Health Institutions in the Western Cape* Stellenbosch: Stellenbosch University].

Cross, M., Lee, S., Bridgman, H., Thapa, D. K., Cleary, M., & Kornhaber, R. (2019). Benefits, barriers and enablers of mentoring female health academics: An integrative review. *Plos one*, *14*(4), e0215319.

Dibobo, K. C., Ngonyama-Ndou, T., & Mncwabe, S. H. (2022). Managing gender and racial diversity in the workplace. *Journal of Contemporary Management*, *19*(2), 467-482.

Dictionary. Equity meaning. In *Dictionary.com*. https://www.dictionary.com/browse/equity

Diefenbach, T. (2009). Are case studies more than sophisticated storytelling?: Methodological problems of qualitative empirical research mainly based on semi-structured interviews. *Quality & Quantity*, *43*, 875-894.

Dixon-Fyle, S., Hunt, V., Dolan, K., & Prince, S. (2020). Diversity wins.

DMRE. (2024a). *MIS for May 2024*. Retrieved from https://depdmr.sharepoint.com/:x:/s/RecordManagement/EZ6B15hOfABGtPeXF1-yzjcBr33cfUWDSZBiP7P7N7BYEg?e=dKmUmd

DMRE. (2024b). *State Owned Enterprises*. Retrieved from https://www.energy.gov.za/files/links/links_soe.html

DoEL. (2023). *Employers advised to use current employment equity legislation as reporting season opens this week – Department of Employment and Labour*. Retrieved from https://www.labour.gov.za/employers-advised-to-use-current-employment-equity-legislation-as-reporting-season-opens-this-week-%E2%80%93-department-of-employme

Dopson, S., Ferlie, E., McGivern, G., Fischer, M. D., Mitra, M., Ledger, J., & Behrens, S. (2019). Leadership development in higher education: A literature review and implications for programme redesign. *Higher Education Quarterly*, *73*(2), 218-234.

DOW. (2015). *Status of women in the South African Economy*. South Africa Retrieved from https://www.gov.za/sites/default/files/gcis_document/201508/statusofwomeninsaeconomy.pdf

Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological review*, *109*(3), 573.

Ebnet. (2022). The representation of women in the South African economy. https://www.ebnet.co.za/the-representation-of-women-in-the-south-african-economy/#:~:text=Women%20are%20said%20to%20spend,%25%20and%2039%25%20of%20GDP

EIGE. (2024). *Gender Disparities*. https://eige.europa.eu/publications-resources/thesaurus/terms/1181?language_content_entity=en

Elomäki, A., & Ylöstalo, H. (2021). From promoting gender equality to managing gender equality policy. *International Feminist Journal of Politics*, *23*(5), 741-762.

Facio, A. (2013). What is patriarchy. *Translated from the Spanish by Michael Solis*, 1-5.

Farsani, M. E. (2013). Relationship between leadership styles and personality traits among woman physical education teachers Maryam Eslami Farsani, Aida Azadi 2, Fakhroldin Asadi Farsani 3, Shahram Aroufzad 4. *European Journal of Sports and Exercise Science*, *2*(1), 17-21.

Feeney, M. K., & Stritch, J. M. (2019). Family-friendly policies, gender, and work–life balance in the public sector. *Review of Public Personnel Administration*, *39*(3), 422-448.

Fowler, C. A. (2019). *Nevertheless, she persists: Women leadership in higher education* Ohio University].

Frail, C. D. (2012). Keeping more women in the leadership pipeline Drivers, facilitators and enablers to women's advancement. *The University of Guelph, Ontario*.

Funk, K. (2019). If the shoe fits: Gender role congruity and evaluations of public managers. *Journal of Behavioral Public Administration*, *2*(1).

Gallagher, K. S., Grübler, A., Kuhl, L., Nemet, G., & Wilson, C. (2012). The energy technology innovation system. *Annual review of environment and resources*, *37*, 137-162.

Galsanjigmed, E., & Sekiguchi, T. (2023). Challenges women experience in leadership careers: an integrative review. *Merits*, *3*(2), 366-389.

George, T. N. (2020). *Minority Women Leaders' Experiences of Shattering the Glass Ceiling in Public Administration* Walden University].

Gilbert, E., O'Shea, M., & Duffy, S. (2021). Gender equality mainstreaming and the Australian academy: paradoxical effects? *Discover Psychology*, *1*, 1-7.

Gilbert, G. M., Anandh, S., Nachiar, S. S., & Prakash, P. (2020). Gender egalitarianism in work place. IOP Conference Series: Materials Science and Engineering,

Glass, C., & Cook, A. (2016). Leading at the top: Understanding women's challenges above the glass ceiling. *The Leadership Quarterly*, *27*(1), 51-63.

Grover, V. K. (2015). Research approach: an overview. *Golden Research Thoughts*, *4*(8).

Guest, G., MacQueen, K. M., & Namey, E. E. (2012). Introduction to applied thematic analysis. *Applied thematic analysis*, *3*(20), 1-21.

Gustus, A. I. (2023). *The Experiences of Women Executive Leaders in a Leadership Development Program* Walden University].

Hampson, S. C. (2020). Mothers do not make good workers: the role of work/life balance policies in reinforcing gendered stereotypes. In *Gender, Sexuality, and the Law* (pp. 128-149). Routledge.

Hanto, J., Schroth, A., Krawielicki, L., Oei, P.-Y., & Burton, J. (2022). South Africa's energy transition–unraveling its political economy. *Energy for Sustainable Development*, *69*, 164-178.

Hassan, R., & Marimuthu, M. (2017). Does corporate diversity really matter in the plantation sector? Empirical evidence from a world Islamic leading country and market reaction. *International Journal of Financial Studies*, *5*(3), 17.

Hill, L. H., & Wheat, C. A. (2017). The influence of mentorship and role models on university women leaders' career paths to university presidency. *The Qualitative Report*, *22*(8), 2090-2111.

Hoobler, J. M., Masterson, C. R., Nkomo, S. M., & Michel, E. J. (2018). The business case for women leaders: Meta-analysis, research critique, and path forward. *Journal of management*, *44*(6), 2473-2499.

Hoque, M. (2021). Patriarchy: Meaning, origin, theories, and relationship with SDG10. In *Reduced Inequalities* (pp. 641-651). Springer.

Huang, J., Krivkovich, A., Starikova, I., Yee, L., & Zanoschi, D. (2019). Women in the Workplace 2019. *San Francisco: Retrieved from McKinsey & Co. website: https://www. mckinsey. com/featured-insights/genderequality/women-in-the-workplace*.

IASS, I. f. A. S. S. (2022). Opportunities and barriers for women in South Africa's energy transition. In.

IEA. (2021). *Women in senior management roles at energy firms remains stubbornly low, but efforts to improve gender diversity are moving apace*. https://www.iea.org/commentaries/women-in-senior-management-roles-at-energy-firms-remains-stubbornly-low-but-efforts-to-improve-gender-diversity-are-moving-apace

IEA. (2023). *Gender and Energy Data Explorer*. https://www.iea.org/data-and-statistics/data-tools/gender-and-energy-data-

explorer?Topic=Senior+Management&Indicator=Number+of+senior+managers+by+sex+%28country+of+headquarters%29

ILO. (2017). *Breaking barriers: Unconscious gender bias in the workplace*. ILO Retrieved from https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---act_emp/documents/publication/wcms_601276.pdf

ILO. (2019). *Women in Business and Management: The Business Case for Change*. Geneva: ILO

IRENA. (2019). *Renewable Energy: A Gender Perspective*. IRENA.

Josselson, R., & Hammack, P. L. (2021). *Essentials of narrative analysis*. American Psychological Association.

Kagan, J. (2024). The Glass Ceiling: Definition, History, Effects, and Examples. . https://www.investopedia.com/terms/g/glass-ceiling.asp

Kgoate, O. M. (2022). *Women leadership in the mining industry* University of Johannesburg].

Khashane, K. E. (2021). *Demographic and personality factors predicting leadership style and coping strategies of working women in the public sector: A case of Vhembe District in Limpopo Province*

Khwela, B. C., Derera, E., & Kubheka, Z. (2020). Women in leadership and the glass ceiling effect: A comparative study of the private and public sectors in KwaZulu-Natal, South Africa. *International journal of social sciences and humanity*, *12*.

King, R., Taylor, B., Talpur, A., Jackson, C., Manley, K., Ashby, N., Tod, A., Ryan, T., Wood, E., & Senek, M. (2021). Factors that optimise the impact of continuing professional development in nursing: A rapid evidence review. *Nurse education today*, *98*, 104652.

Koburtay, T., & Syed, J. (2019). A contextual study of female-leader role stereotypes in the hotel sector. *Journal of Sustainable Tourism*, *27*(1), 52-73.

Korstjens, I., & Moser, A. (2017). Series: Practical guidance to qualitative research. Part 2: Context, research questions and designs. *European Journal of General Practice*, *23*(1), 274-279.

Kossek, E. E., & Buzzanell, P. M. (2018). Women's career equality and leadership in organizations: Creating an evidence-based positive change. In (Vol. 57, pp. 813-822): Wiley Online Library.

Kulik, C. T., & Rae, B. (2019). The glass ceiling in organizations. In *Oxford Research Encyclopedia of Business and Management*.

Kulkarni, A., & Mishra, M. (2022). Aspects of women's leadership in the organisation: Systematic literature review. *South Asian Journal of Human Resources Management*, *9*(1), 9-32.

Kumar, R. (2016). Women are the real architects of society–women empowerment. *South Asian Journal of Marketing & Management Research*, *6*(3and4), 42-52.

Lahti, E. (2013). Women and leadership: factors that influence women's career success: female leaders' reflections on their career development and leadership.

Lantz-Deaton, C., Tabassum, N., & McIntosh, B. (2018). Through the glass ceiling: is mentoring the way forward? *International Journal of Human Resources Development and Management*, *18*(3-4), 167-197.

Lawson, M. A., Martin, A. E., Huda, I., & Matz, S. C. (2022). Hiring women into senior leadership positions is associated with a reduction in gender stereotypes in organizational language. *Proceedings of the National Academy of Sciences*, *119*(9), e2026443119.

Liautaud, M. (2016). *Breaking Through: Stories and Best practices from companies that help women succeed*. John Wiley & Sons.

Lincoln, Y. S., & Guba, E. (1985). G.(1985). naturalistic inquiry. beverly hills. In: CA: sage.

Loffeld, T. A., Black, S. A., Carter, M., Sterling, E., & Humle, T. (2022). What makes conservationists persevere? Resilience strategies at work. *Oryx*, *56*(5), 681-690.

Longman, K. A., Drennan, A., Beam, J., & Marble, A. F. (2019). The secret sauce: How developmental relationships shape the leadership journeys of women leaders in Christian higher education. *Christian Higher Education*, *18*(1-2), 54-77.

Lorber, J. (1997). The Variety of Feminisms and their Contribution to Gender Equality. https://diglib.bis.uni-oldenburg.de/pub/unireden/ur97/kap1.pdf

Magaldi, D., & Berler, M. (2020). Semi-structured interviews. *Encyclopedia of personality and individual differences*, 4825-4830.

Maguire, M., & Delahunt, B. (2017). Doing a thematic analysis: A practical, step-by-step guide for learning and teaching scholars. *All Ireland journal of higher education*, *9*(3).

Mahmud, A. A. (2023). Leading into the Future of Work: The Three Pillars of Success. https://www.linkedin.com/pulse/leading-future-work-three-pillars-success-md-abdullah-al-mahmud/

Main, J. B., Wang, Y., & Tan, L. (2022). Preparing industry leaders: The role of doctoral education and early career management training in the leadership

trajectories of women STEM PhDs. *Research in Higher Education*, *63*(3), 400-424.

Malhotra, R. K. (2018). Challenges of Women Leaders at the Workplace: An Empirical Study. *PSYCHOLOGY AND EDUCATION*, *55*(1), 486-493.

Malone, T. M. (2023). Human Capital Advantage from Fortitude, Resilience, and Perseverance of Minority CEOs in STEM Organizations: A Phenomenological Study.

Mangisa, T. (2019). *An investigation of the policy implementation measures for the advancement of women into leadership positions in the workplace in contemporary South Africa: A case of the Department of Education in the Nelson Mandela Bay Municipality* Master's thesis in Public Administration, The Nelson Mandela University …].

Marín-Spiotta, E., Barnes, R. T., Berhe, A. A., Hastings, M. G., Mattheis, A., Schneider, B., & Williams, B. M. (2020). Hostile climates are barriers to diversifying the geosciences. *Advances in Geosciences*, *53*, 117-127.

Marshall, M. N. (1996). Sampling for qualitative research. *Family practice*, *13*(6), 522-526.

Mashuri, S., Sarib, M., Rasak, A., Alhabsyi, F., & Syam, H. (2022). Semi-structured Interview: A methodological reflection on the development of a qualitative research instrument in educational studies. *Journal of Research and Method in Education*, *12*(1), 22-29.

Mate, S. E., McDonald, M., & Do, T. (2019). The barriers and enablers to career and leadership development: An exploration of women's stories in two work cultures. *International Journal of Organizational Analysis*, *27*(4), 857-874.

Mbukanma, I., & Strydom, K. (2022). Challenges to and enablers of women's advancement in academic careers at a selected South African University. *International Journal of Learning, Teaching and Educational Research*, *21*(12), 44-64.

McCombes, S. (2023). Sampling Methods | Types, Techniques & Examples. https://www.scribbr.com/methodology/sampling-methods/

Mcilongo, M., & Strydom, K. (2021). The significance of mentorship in supporting the career advancement of women in the public sector. *Heliyon*, *7*(6).

Mckinsey. (2020). Diversity Wins: How inclusion matters. https://www.mckinsey.com/featured-insights/diversity-and-inclusion/diversity-wins-how-inclusion-matters#/

Meiksins, P., Layne, P., Beddoes, K., & Deters, J. (2019). Women in engineering: A review of the 2019 literature. *SWE Magazine*, *65*(2), 4-38.

Minarova-Banjac, C. (2018). Gender culture in diplomacy: a feminist perspective. *Culture Mandala*, *13*(1), 20-44.

Monday, T. U. (2020). Impacts of interview as research instrument of data collection in social sciences. *Journal of Digital Art & Humanities*, *1*(1), 15-24.

Moosa, M., & Coetzee, M. (2020). Climbing the illusive ladder: Examining female employees' perceptions of advancement opportunities at a higher education institution. *Journal of Psychology in Africa*, *30*(5), 397-402.

Murphy, K., Strand, L., Theron, L., & Ungar, M. (2021). "I just gotta have tough skin": Women's experiences working in the oil and gas industry in Canada☆. *The Extractive Industries and Society*, *8*(2), 100882.

Nasri, U. (2023). Exploring Qualitative Research: A Comprehensive Guide to Case Study Methodology. *Al-Hikmah: Jurnal Studi Islam*, *4*(3), 72-85.

Nassaji, H. (2020). Good qualitative research. In (Vol. 24, pp. 427-431): Sage Publications Sage UK: London, England.

Nathan, S., Newman, C., & Lancaster, K. (2019). Qualitative interviewing.

Ndweni, M. P., & Ozumba, A. O. (2021). The need investigate career progression of female professional employees in the South African construction industry. IOP Conference Series: Earth and Environmental Science,

Nefdt, A. (2019). A persisting minority–narratives of women in corporate leadership. *Agenda*, *33*(1), 129-141.

O'Brien, W., Hanlon, C., & Apostolopoulos, V. (2023). Women as leaders in male-dominated sectors: A bifocal analysis of gendered organizational practices. *Gender, Work & Organization*, *30*(6), 1867-1884.

Obilor, E. I. (2023). Convenience and purposive sampling techniques: Are they the same. *International Journal of Innovative Social & Science Education Research*, *11*(1), 1-7.

Oláh, L. S., Richter, R., & Kotowska, I. (2014). *The new roles of men and women and implications for families and societies. Families and societies*.

Oxford. Barriers meaning. In *Oxfor Learners Dictionary*.

Papafilippou, V., Durbin, S., & Conley, H. (2022). Women's formal networking: The relationship between networking activities and power. *Gender, Work & Organization*, *29*(5), 1712-1741.

Paul, J., & Criado, A. R. (2020). The art of writing literature review: What do we know and what do we need to know? *International business review*, *29*(4), 101717.

Pham, T. (2023). What really contributes to employability of PhD graduates in uncertain labour markets? *Globalisation, Societies and Education*, 1-12.

Phipps, S. T., & Prieto, L. C. (2021). Leaning in: A historical perspective on influencing women's leadership. *Journal of Business Ethics*, *173*(2), 245-259.

Popp, D., Pless, J., Hascic, I., & Johnstone, N. (2020). Innovation and entrepreneurship in the energy sector. In *The Role of Innovation and Entrepreneurship in Economic Growth*. University of Chicago Press.

Prieto-Rodriguez, E., Sincock, K., Berretta, R., Todd, J., Johnson, S., Blackmore, K., Wanless, E., Giacomini, A., & Gibson, L. (2022). A study of factors affecting women's lived experiences in STEM. *Humanities and Social Sciences Communications*, *9*(1), 1-11.

Priya, A. (2021). Case study methodology of qualitative research: Key attributes and navigating the conundrums in its application. *Sociological Bulletin*, *70*(1), 94-110.

Queirós, A., Faria, D., & Almeida, F. (2017). Strengths and limitations of qualitative and quantitative research methods. *European journal of education studies*.

Rabionet, S. E. (2011). How I learned to design and conduct semi-structured interviews: an ongoing and continuous journey. *Qualitative report*, *16*(2), 563-566.

Reyes, V., Bogumil, E., & Welch, L. E. (2024). The living codebook: Documenting the process of qualitative data analysis. *Sociological Methods & Research*, *53*(1), 89-120.

Riccucci, N. M. (2021). *Managing diversity in public sector workforces*. Routledge.

Richards, H. S. (2017). *Success factors of women in leadership roles and breaking through the glass ceiling: A phenomenological qualitative study* Nova Southeastern University].

Ringblom, L., & Johansson, M. (2020). Who needs to be "more equal" and why? Doing gender equality in male-dominated industries. *Equality, Diversity and Inclusion: An International Journal*, *39*(4), 337-353.

Ruslin, R., Mashuri, S., Rasak, M. S. A., Alhabsyi, F., & Syam, H. (2022). Semi-structured Interview: A methodological reflection on the development of a qualitative research instrument in educational studies. *IOSR Journal of Research & Method in Education (IOSR-JRME)*, *12*(1), 22-29.

SAGovernment. (1998). *Employment Equity Act, 55 of 1998*. Retrieved from https://www.gov.za/documents/employment-equity-act

SAGovernment. (2015). *Power of Women in the Economy*. Retrieved from https://www.gov.za/blog/power-women-economy

Sanchez, C. M., & Lehnert, K. (2019). The unbearable heaviness of leadership: The effects of competency, negatives, and experience on women's aspirations to leadership. *Journal of Business Research*, *95*, 182-194.

Sanders, M., Zeng, J., Hellicar, M., & Fagg, K. (2015). The power of flexibility: A key enabler to boost gender parity and employee engagement. *Bain and Company*.

Santillan, E. G., Santillan, E. T., Doringo, J. B., Pigao, K. J. F., & Von Francis, C. M. (2023). Assessing the Impact of a Hybrid Work Model on Job Execution, Work-Life Balance, and Employee Satisfaction in a Technology Company. *Journal of Business and Management Studies*, *5*(6), 13-38.

Sarfo, J. O., Debrah, T., Gbordzoe, N., Afful, W., & Obeng, P. (2021). Qualitative research designs, sample size and saturation: is enough always enough. *Journal of Advocacy, Research and Education*, *8*(3), 60-65.

Shah, S. (2017). Is she in the wrong place? Exploring the intersections of gender, religion, culture and leadership. In *Educational Leadership as a Culturally-Constructed Practice* (pp. 75-94). Routledge.

Shanmugam, M. M., & Agarwal, B. (2019). Support perceptions, flexible work options and career outcomes: a study of working women at the threshold of motherhood in India. *Gender in Management: An International Journal*, *34*(4), 254-286.

Sharma, S. K., Mudgal, S. K., Gaur, R., Chaturvedi, J., Rulaniya, S., & Sharma, P. (2024). Navigating Sample Size Estimation for Qualitative Research. *Journal of Medical Evidence*, *5*(2), 133-139.

Simon, M. (2011). Assumptions, limitations and delimitations. In: Dissertation and scholarly research: Recipes for success.

Simon, M. K., & Goes, J. (2013). Scope, limitations, and delimitations. In.

Stahl, N. A., & King, J. R. (2020). Expanding approaches for research: Understanding and using trustworthiness in qualitative research. *Journal of developmental education*, *44*(1), 26-28.

StatsSA. (2022). *Nearly Half of South African Women are out of the labor force in Q2: 2022.* South Africa Retrieved from https://www.statssa.gov.za/?p=15668

Stenfors, T., Kajamaa, A., & Bennett, D. (2020). How to… assess the quality of qualitative research. *The clinical teacher*, *17*(6), 596-599.

Sumarno, T. B., Yusgiantoro, I. B., Fitriyanti, V., & Khusna, V. A. (2024). Challenges in increasing Women's participation in the energy transition in

ASEAN and G7 countries: A qualitative approach based on the three tenets of justice. *Energy Policy*, *191*, 114163.

Tabassum, N., & Nayak, B. S. (2021). Gender stereotypes and their impact on women's career progressions from a managerial perspective. *IIM Kozhikode Society & Management Review*, *10*(2), 192-208.

Tekere, M. C. N. E. H., & Gibbs, R. H. (2016). Theoretical models of leadership and feminist theory that are pertinent to women leadership. *African Journal of Gender and Women Studies*, *1*(4), 28.

Thelma, C. C., & Ngulube, L. (2024). Women in Leadership: Examining Barriers to Women's Advancement in Leadership Positions. *Asian Journal of Advanced Research and Reports*, *18*(6), 273-290.

Theofanidis, D., & Fountouki, A. (2018). Limitations and delimitations in the research process. *Perioperative Nursing-Quarterly scientific, online official journal of GORNA*, *7*(3 September-December 2018), 155-163.

Thomas, R. (2023). Unraveling Research Population and Sample: Understanding their role in statistical inference. https://www.enago.com/academy/population-vs-sample/#:~:text=The%20research%20population%2C%20also%20known,which%20a%20sample%20is%20drawn.

Tingle, E., Corrales, A., & Peters, M. L. (2019). Leadership development programs: Investing in school principals. *Educational Studies*, *45*(1), 1-16.

Trinkenreich, B., Britto, R., Gerosa, M. A., & Steinmacher, I. (2022). An empirical investigation on the challenges faced by women in the software industry: A case study. Proceedings of the 2022 ACM/IEEE 44th International Conference on Software Engineering: Software Engineering in Society,

Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & health sciences*, *15*(3), 398-405.

Varpio, L., Paradis, E., Uijtdehaage, S., & Young, M. (2020). The distinctions between theory, theoretical framework, and conceptual framework. *Academic Medicine*, *95*(7), 989-994.

Veihmeyer, J., & Doughtie, L. (2017). KPMG women's leadership study: Moving women forward into leadership roles. KPMG LLP. In.

Vyas-Doorgapersad, S., & Bangani, A. (2020). The implementation of gender equality within the South African Public Service (1994–2019). *Africa's Public Service Delivery and Performance Review*, *8*(1), 1-10.

Warrell, M. M. (2021). *Women Rising: Internal Facilitators to Lead from the Top* Fielding Graduate University].

WEF. (2022). *Global Gender Gap Report 2022: Insight Report*. https://www3.weforum.org/docs/WEF_GGGR_2022.pdf

Wille, B., Wiernik, B. M., Vergauwe, J., Vrijdags, A., & Trbovic, N. (2018). Personality characteristics of male and female executives: Distinct pathways to success? *Journal of Vocational Behavior*, *106*, 220-235.

Williams, M. (2022). *Determining female employees' perception of the glass ceiling phenomenon in South Africa's business environment* North-West University (South Africa)].

Willig, C. (2019). What can qualitative psychology contribute to psychological knowledge? *Psychological methods*, *24*(6), 796.

Woehler, M. L., Cullen-Lester, K. L., Porter, C. M., & Frear, K. A. (2021). Whether, how, and why networks influence men's and women's career success: Review and research agenda. *Journal of management*, *47*(1), 207-236.

Wood, D. E. (2021). How can men be good allies for women in surgery?# HeForShe. *Journal of Thoracic Disease*, *13*(1), 492.

Woodside, A. G. (2010). Case study research: Theory, methods. *Practice*, *1*.

WorkplaceCulture. (2024). The Power of Networking and Building Relationships for Women of Color. https://positivehire.co/brand-building-networking/

Yukl, G. (2012). Leadership. *Cases in Leadership (3rd. ed. pp. 1–42). Thousand Oaks, CA: Sage*.

APPENDIX A: PARTICIPANT INFORMATION SHEET (PIS)

Dear Sir / Madam

My name is **Winnie Mamatsharaga**. I am a **Master's Student in Energy Leadership** at the University of the Witwatersrand, Johannesburg. My supervisor is **Dr Stanley Semelane.** I am conducting a research study about gender and energy leadership. The study title is "**Investigating Success Factors for Women Senior Leadership: A Case Study of the South African Department of Mineral Resources and Energy**."

I am inviting you to take part in an interview. If you decide to take part, your participation in this research study will last about 15 – 45 minutes. The interview will take place face-to-face or online.

With your permission, I would like to audio/video record the interview activity. This data will be stored in WBS for 20 years and/or deleted after 20 years. Only the researcher will have access to the data.

During the research activity, I will need to ask for some personal information about you.

The interview will be confidential and anonymous. When I share the results of the research study, I will not include your name or anything else that could identify you. With your permission, other researchers may use the data collected from this research study, but your name and any personal information will not be used or passed on.

If you decide to take part in the research study, it should be because you want to volunteer. You do not have to take part. You can stop being in the study at any time. You do not have to answer any questions if you do not want to. You will not get any direct benefits if you choose to join the research study. You will not lose any services, benefits or rights you would normally have if you decided not to join. Taking part in the research study will not cost you anything. You will not be paid for being in this research study.

The risks for this research study are no more than what happens in everyday life OR some of the questions asked may make you feel sad or upset. If this happens, I will stop the interview and continue another time.

This research study will be written up as a research report. The report will be available on the university library website. If you would like to receive a summary of this report, I will be happy to send it to you.

If you have any questions during or afterwards about this research study, feel free to contact me or my supervisor at the details listed below. If you have any concerns or complaints about the ethical procedures of this research study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), by telephone at +27(0) 11 717 1408, email: hrecnon-medical@ wits.ac.za.

Yours sincerely,

Researcher: Winnie Mamatsharaga

Email: 1131087@student.wits.ac.za

Phone numbers: 084 602 4222

Supervisory: Dr Stanley Semelane

Email: 1131087@student.wits.ac.za

Phone numbers: 065 856 3373

APPENDIX B: PARTICIPANT CONSENT FORM

Title of project: Investigating Success Factors for Women Senior Leadership: A Case Study of the South African Department of Mineral Resources and Energy.

Name of researcher: Winnie Mamatsharaga

I, ……., agree to participate in this research project.

I agree to the following:

(Please circle the relevant options below)

The research study was explained to me. I understand what this study is about.	YES	NO
I understand that I can volunteer to take part in the study.	YES	NO
I agree that the interview be audio-recorded.	YES	NO
I agree that direct quotations from my interview activity may be used by the researcher in their research report.	YES	NO
I agree that my participation will remain anonymous (my name or other identifying data will not be used by the researcher in their research report	YES	NO
I agree that other researchers may use the information I provide in my interview (depending on their own ethics clearance being obtained) but my name and any personal information will not be used or passed on.	YES	NO

Name of participant: _____

Signature: _____

Date: _____

Name of Researcher: _____

Signature: _____

Date: _____

APPENDIX C: INTERVIEW GUIDE

Thank you for your willingness to participate in the study on the success factors for enabling women into senior leadership: A case study of the South African Department of Mineral Resources and Energy. The study will investigate barriers hindering women from succeeding and examine factors that enable women leaders to succeed and retain leadership positions through a case study of the South African Department of Mineral Resources and Energy (DMRE) and its associated State-Owned Entities (SOEs). The study is part of the requirements for the Master of Management in Energy Leadership, at Wits Business School.

The interview will take 15 – 45 minutes to complete. This is an anonymous and confidential survey. You cannot be identified and the answers you provide will be used for research purposes only. There are no right or wrong answers.

Context setting and general questions

1. **Personal Details**
   a) Can you please state your name?
   b) Gender (male/ female)
2. **Educational Background**
   a) What is your highest level of education?
   b) Can you provide details about any additional certifications or training relevant to your role?
3. **Professional Background**
   a) Can you briefly describe your career progression leading to your current position?
   b) How long have you been working in the energy sector?
4. **Current Role**
   a) What is your current job title and what are your main responsibilities?
   b) How long have you been in your current position?

Barriers to advancement

5. **Challenges Faced**
    a) What challenges have you faced in your journey to a senior leadership position in the energy sector?
    b) Have you encountered any barriers specific to being a woman/ man in this industry? If so, can you elaborate?
6. **Organisational Culture**
    a) How would you describe the culture of your organisation in terms of gender inclusivity?
    b) Have you experienced or observed gender bias or stereotyping in your workplace?
7. **Support Systems and Mentorship**
    a) Have you had access to mentorship or leadership development programs? How have these impacted your career?
    b) What support systems (if any) are in place within your organisation to help women advance to senior leadership positions?
    c) How did you overcome the identified barriers to be where you are?

Enablers to advancement

8. **Key Enabling Factors**
    a) In your opinion, what are the key enabling factors that have contributed to your success in achieving a senior leadership position?
    b) How have personal attributes (such as resilience, determination, and leadership style) played a role in your career progression?
9. **Work-Life Balance**
    a) How do you manage work-life balance in your senior leadership role?
    b) Does your organisation provide support for work-life balance? If so, can you provide examples?
10. **Organisational Policies and Practices**
    a) Are there any specific policies or practices in your organisation that have supported your advancement?
    b) What changes or improvements would you recommend to further support women in senior leadership roles?

Success Factors

11. **Questions on success factors displayed by men/ women senior leaders in the South African energy sector public service.**
    a) In your experience, what are the success factors shown by men/ women senior leaders in the South African energy sector public service?
    b) From the success factors you mentioned, which ones relate to you and your success as a senior men/ women leader?
    c) What personality traits/ attributes are more associated with the success of men/ women in senior leadership?
    d) What are the leadership styles that relate well with the success of men/ women in senior leadership?
    e) Does work-life balance matter to the success of men/ women in senior leadership? please elaborate.
    f) Is networking and relationship-building critical to the success of men/ women in senior leadership?

Recommendations

12. **Recommendations**
    a) What recommendations do you have for organisations within the energy sector to better support and promote women into senior leadership roles?
    b) How can the sector as a whole improve gender diversity and inclusivity at the senior leadership level?
    c) What recommendation do you have for women who aspire to advance and succeed in senior leadership positions in the energy sector?

APPENDIX D: ETHICS CLEARANCE CERTIFICATE

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

Wits Business School Ethics Committee
Constituted under the University Human Research Ethics Committee (Non-Medical)

Ethics Clearance Certificate

Ethics protocol number: WBS/EL1131087/239
This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below).

Project title	Investigating success factors for women senior leadership: A case study o the South African Department of Mineral Resources and Energy
Investigator / Researcher	Ms Winnie Mamatsharaga
Nature of Project	MM (Energy Leadership)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed confidentialty.
Issue Date of Certificate	26/08/2024
Expiry date	Date of submission of the project / research report
Chairperson	Dr Ayanda Magida ☎ +27 11 717 3953 ✉ ayanda.magida@wits.ac.za

Declaration by Researcher

One copy must be signed by the Researcher and returned to the Chairperson of the Wits Business School Eth Committee.

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

Signature

28/8/2024
Date: