DEVELOPING A FRAMEWORK FOR CORPORATE ENVIRONMENTAL SUSTAINABILITY STRATEGIES FOR THE NAMIBIAN INDUSTRIES

A THESIS SUBMITTED IN PARTIAL FULFILMENT

OF

THE REQUIREMENTS

FOR

THE MASTER OF BUSINESS ADMINISTRATION MANAGEMENT STRATEGY DEGREE

OF

THE UNIVERSITY OF NAMIBIA

BY

HANNA MWATUKANGE

200305964

MAY 2022

SUPERVISOR: PROF. MARIA TSVERE (CHINHOYI UNIVERSITY OF TECHNOLOGY, ZIMBABWE)

ABSTRACT

The significance of environmental sustainability has emerged increasingly in the 21st Century. The aim of this study was to develop a framework for corporate environmental sustainability strategies for the Namibian industries through the identification of the adopted environmental sustainability strategies and challenges encountered in implementing environmental sustainability programmes by the selected industries. This study applied a qualitative research approach using a case study from 21 corporate industries by applying a purposive sampling method. The study used thematic analysis to analyse the data and descriptive analysis to interpret differences in the results. The findings of this study presented environmental sustainability measures to be adopted through strategies of awareness and education, product development, design and infrastructure, financial, supply chain, resource efficiency and technology. The challenges found to affect environmental sustainability adoption consisted of financial, technological, capacity, legislation and guidelines, increasing complexity, long-term business strategy and security. The proposed framework consists of five classification themes; strategic planning and development, corporate materiality assessment, strategy description, support structures and systems, including implementation tools. For future research, related studies in other geographical regions and industries shall complement the understanding of the environmental sustainability concept as well as studies quantifying the economic beneficiation of corporate sustainability adoption. The study suggests the need to financially invest in corporate environmental sustainability promotion and improving on corporate responsibility requirements with regards to environmental sustainability adoption at country level.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AFTA.....African Free Trade Agreement

CSE..... Colombo Stock Exchange

EMA .....Environmental Management Act

GDP.....Gross Domestic Product

SDGs..... Sustainable Development Goals

UNDP..... United Nations Development Programme

UNFCC.... United Nations Framework Convention on Climate Change

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to the following people for their support for making this thesis a success:

- Firstly, to the Almighty God; for the grace and wisdom in strengthening my faith for the seemingly impossible.
- My supervisor; Prof. Maria Tsvere for your continuous guidance and mentorship, may you continue doing it for others.
- My dear Husband, and supporting family (Dr. Neshuku, Shetu, Foibe and Maria) for extending their assistance in all possible ways.

DEDICATION

This research work is dedicated to my two beautiful daughters, Saara Ndeutya Mwatukange and Esther Magana Mwatukange. We made it! Always have faith!

DECLARATIONS

I, Hanna Fudheni Mwatukange, hereby declares that this study is my own work and is a true reflection of my research, that this work, or any part thereof has not been submitted for a degree at any other institution.

HMwatukange

16 May 2022

....

Signature Date

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Corporate environmental sustainability presents a growing phenomenon of globalisation and heterogeneity of businesses (Margarida & Franco, 2019). Business globalisation and the emerging relevance of the sustainable development concept in the 21st century have prioritised strategic management in research and business leadership (Margarida & Franco, 2019). Moreover, businesses, as stakeholders are considered significant to sustainable development (Mahajan & Bose, 2018). The emerging need for sustainability integration in business models calls for strategies towards commitment to sustainability (Melo, Sproesser, Campos-Silva & Souza-Piao, 2018). This integration provides added value for customer beneficiation, sustainability goals achievement, corporate image reinforcing, competitiveness and overcoming environmental challenges, decreasing expenses and quality enhancement (Chang, 2020; Lăzăroiu, Ionescu, Andronie & Dijmărescu, 2020; Johannsdottir & Mclnerney, 2018). Also noted from the business perspective were consideration of sustainability, results in the increase of turnover, customers, and their engagement as well as operational efficiency (Sanchez-Planelles, Segarra-Oña & Peiro-Signes, 2021). In addition, Naidoo and Gasparatos (2018) note primary motivations for implementing corporate environmental sustainability strategies to be the economic benefits of saving from reducing resource use, environmental policies, and stakeholder pressure.

A business case of corporate social responsibility, including environmental sustainability is well established in both academia and practise (Barnett, 2019). On the other hand, there are also noted arguments on the business case for corporate social responsibility, benefiting only the primary stakeholders and providing questions on broader societal demands (Barnett, 2019). However, with

existing disagreement on the corporate sustainability concept, the common definition of sustainability revolves around consideration of economic viability, social and environmental responsibility, well regarded as the triple bottom line (Swarnapali, 2017). Therefore, this necessitates for change in motives and strategic outlook (Dyliek & Muff, 2016). Two approaches are used in corporate sustainability theory, including the phenomena driven and theories-based studies (Swarnapali, 2017). According to Asongu and Othiambo (2021) environmental sustainability is key to achieving the sustainable development goals.

Kumar, Sureka, Lim, Mangla and Goyal (2021) reveal that the highest contributing countries to business strategy and environmental research were the United Kingdom, the United States and China. Moreover, their study indicated that business strategy and the environment are apparent in the thematic clusters of business strategy and sustainability; corporate governance and sustainability reporting; green marketing and pro-environmental behaviour innovation and environmental policy and management systems. Therefore, due to the particularities of each industry, specific research is beneficial to business strategy development and environmental performance (Kumar *et al.*, 2021).

Johannsdottir and Mclnerney (2018) narrate that industries can contribute to resolving some global challenges of the 21st century. Furthermore, they note the tackling of climate change challenges uptake by some financial institutions, but there is a need for further work. On this perspective, a national governance structure and institutional framework defining the depth of a nation's environmental quality or degradation is needed (Adekunle, 2020).

While sustainability remains a concept, there are factors that affect organisational sustainability and these include board composition, knowledge deficiencies, strategies and resources,

competition, and market tendencies (Sanchez-Planelles *et al.,* 2021). Climate change in Africa is an issue of concern (Adekunle, 2020). Namibia has committed to environmental sustainability both at global and national level through international agreements such as the United Nations Development Agenda 2030 (UNDP) Paris Agreement (UNFCC) and the Environmental Management Act of 2007 (EMA, 2007). Even with these agreements, Namibia has progressed extremely slowly with sustainable development promotion (Marenga & Matundu, 2019). Also, Littlewood (2015) highlighted limited work on sustainable development in the Namibian mining industry. It is against this background, that there is a need to address the promotion of strategies for sustainable development implementation in Namibia (Republic of Namibia, 2018).

1.2 STATEMENT OF THE PROBLEM

Sustainability at corporate level remains a challenge for successful implementation and continuous development (Biewendt, Blaschke & Böhnert, 2020) commitments towards environmental issues, stakeholder administration and business ethics, call for clarity from companies (Lăzăroiu *et al.,* 2020). The trends in consumption and production levels have changed both social and environmental requirements of organisations (Lăzăroiu *et al.,* 2020). Moreover, although policy in sustainable development has gained interest, global consumption and production trends remain unsustainable (United Nations, 2015). Similarly, Adekunle (2020) also highlighted challenges of environmental pollution, population growth, access to clean water and industrial development of African Nations that has led to the doubling of carbon emissions.

In Africa, the ongoing mining expansion, including the contribution of resource extraction to African economies necessitates the relevance of corporate social responsibility and sustainable development research (Swarnapali, 2017). According to Mahajan and Bose (2018) businesses

present less detail on business sustainability strategies. Currently, the situation regarding environmental change, consumer pressure, improving policy, industrialisation, and resource scarcity, challenge organisations to implement sustainable strategies (Melo *et al.,* 2018; Naidoo & Gasparatos, 2018). Research on business strategy and environmental research is noticeably less in developing countries such as Bangladesh, Indonesia, Asia, and Africa, therefore representing a contextual gap for business strategy and environmental research (Kumar *et al.,* 2021). Moreover, the design and implementation of corporate social responsibility is still unexplored, with corporate social responsibility frameworks remaining underdeveloped (Johannsdottir & Mclnerney, 2018).

Some effort towards corporate environmental sustainability strategies includes: sustainability reporting, new technologies in industrial processes and product development (Biewendt *et al.,* 2020). Other corporate environmental sustainability strategies include eco-labelling practices and green office programmes (Johannsdottir & Mclnerney, 2018). In Africa, it is not clear how big polluters are engaged. Also, the regulatory means for environmental sustainability are unclear, thus, establishing evidence-based patterns of unsustainable consumption behaviours and commitment to sustainability is a challenge (Adekunle, 2020). Engert, Rauter and Baumgartner (2016) emphasise that there is little empirical evidence of the level and impact of organisational commitment for strategy integration and economic impact. Moving forward, they recommend future research on empirical literature on practical strategy implementation by organisations, level of commitment towards strategy implementation and execution in listed companies, including application of quantitative methods.

Moreover, Rodriques and Franco (2019) also found little integration of corporate environmental sustainability strategies present in most global organizations. Despite the emergence of sustainability, only 21% of global company executives consider significantly contributing to the

United Nations sustainable development goals (Sanchez-Planelles *et al.*, 2021). Dhull and Narwal (2018) also emphasised that research on sustainability has not provided specific case studies in both the developed and developing countries. In Africa, the emerging concern for environmental sustainability is driven by emerging aspects of the energy crisis and the effects of global environmental pollution (Asongu & Othiambo, 2021). While literature on environmental sustainability has emerged enormously, Africa exhibits little empirical credibility relating to institutional environmental sustainability (Adekunle, 2020).

Namibia is one of the countries vulnerable to climate change and resource scarcity, leaning the country towards sustainable operations and investments (Rep. of Namibia, 2018). Despite this, challenges and gaps around industrialisation are still exhibited through weak performance indicators in sustainable innovation (Rep. of Namibia, 2018). This study aims at contributing to the existing work on corporate environmental strategies and sustainable development in Namibia.

1.3 RESEARCH OBJECTIVES

The primary objective of this study was to develop a framework for corporate environmental sustainability strategies for the Namibian industries. The secondary objectives were:

- To identify challenges in incorporating environmental sustainability strategies in the Namibian corporate industries
- To establish the environmental sustainability strategies adopted by Namibia's corporate industries
- To provide a framework for corporate environmental sustainability strategies for Namibian industries

1.4 SIGNIFICANCE OF THE STUDY

This research work is significant in developing a framework for corporate environmental sustainability strategies for the Namibian industries and therefore facilitating its implementation. The results obtained from this study should prove beneficial to the private sector, academics, and the national government in implementing environmental sustainability. Findings from this study shall provide insight for knowledge and practise, needed by both academics and business leaders.

1.5 LIMITATIONS OF THE STUDY

The results presented from this study come from a single study applying a qualitative research approach which may present implications for generalisation with other studies. Furthermore, the study applied a descriptive analysis method that validates differences in the results to mitigate the limitations of the study.

1.6 DELIMITATIONS OF THE STUDY

The study was limited to seven industries in Namibia comprising of financial, retail, manufacturing, energy, mining, water resources and telecommunication for the period 2015-2020. The limitation presented for this study may have implications of environmental strategies adoption in other industries and countries, including varying timescales due to industry specific requirements, countries' practices requirements and changing environments.

1.7 THESIS STRUCTURE

This thesis comprises of 5 Chapters. Chapter 1 covers the study background and context, problem statement, research objectives, significance of the study, scope of the research, study limitations and thesis structure. Chapter 2 provides the literature review and introduction of concepts. Chapter 3 presents the methodological approach and ethical principles. Chapter 4 provides the results and discussions. Chapter 5 summarises the study by providing recommendations and conclusions. The appendices are provided in the end.

1.8 CHAPTER SUMMARY

Corporate environmental sustainability is an emerging concept in business management and sustainability. The importance of environmental sustainability requires a framework for adoption and implementation. Chapter 1 introduced the study by providing the study background, problem statement, research objectives, study significance, study limitations and delimitations. Moreover, an overview of the thesis structure is also highlighted.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

The first chapter provided the background and objectives of the study concept. This chapter presents an overview of the business sustainability concept, providing strategy and sustainability definitions and literature on corporate environmental sustainability. The detailed account of evolution, developments and challenges with corporate sustainability and the environment are covered in this chapter.

2.2 DEFINITIONS

2.2.1. Strategy

Strategy is a plan of influence for action, a scheme for outwitting competitors, a pattern for a course of action, positioning in a specific environment, perception of worldviews (Johannsdottir & Mclnerney, 2018). Strategy signifies a fundamental aspect for developing organisational sustainability (Lăzăroiu *et al.,* 2020). When strategies are integrated in routine supply chains, organisations achieve sustainable development objectives whilst ensuring an environmentally-friendly break-through (Lăzăroiu *et al.,* 2020). The classification of strategy stems from being intended, deliberate, realised, unrealised or emerging ways of accomplishing objectives.

2.2.2 Sustainable Development

Sustainable development is defined as development meeting the needs of the present without compromising the future to meet theirs (World Economic Commission on Environment and Development, 1987). On the other hand, regarding the sustainability concept, according to Sideri (2021) sustainable development strategies aim at raising the quality of life for present generations without depleting the environment and resources at the future generation's expense, including

having social cohesion not being threatened by social and political inequalities. Thus, sustainable development is represented by the triple bottom line development of: economic- social-environmental (Sideri, 2021). Furthermore, Sideri (2021.p.2) cites a definition of sustainability *as "the design of human and industrial systems, ensuring that the human resource use of natural resources and cycles does not lead to a diminished quality of life, due either to future economic opportunities or to adverse impacts on social conditions, human health and the environment".*

2.3 PILLARS OF CORPORATE SUSTAINABILITY

Corporate sustainability is attained through three pillars: social, environmental, and economic and it is integrated in the organisational strategic management (Laurell, Karlsson, Lindgren, Andersson & Svensson, 2019). This is demonstrated in Figure 2.1, which illustrates a typical framework for corporate sustainability.

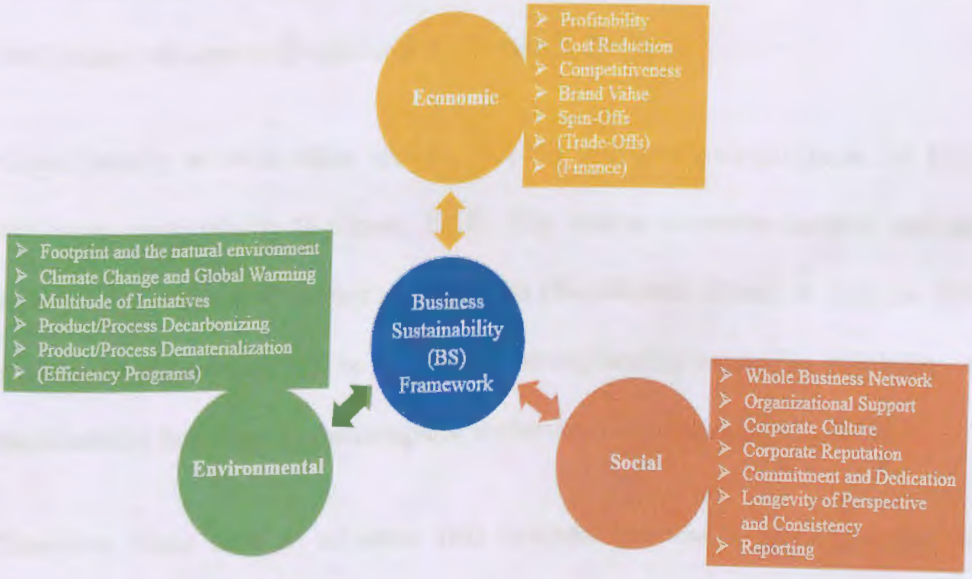


Figure 2.1: Typical Framework for Corporate Sustainability

Source: Adapted from Laurell et al. (2019)

2.4 ENVIRONMENTAL SUSTAINABILITY AND BUSINESS MANAGEMENT

On a global scale, environmental degradation continues to be a significant challenge to human survival (Amowine, Baah Boamah & Zhou, 2021). Thus, the importance of ecological sustainability is well established by literature. Environmental degradation is defined as the gradual depletion of the world's natural resources which has an influence on sustainable development, and due to increasing demand for fossil fuels in improving the world's economic output by the economic sector, a significant threat is posed to environmental quality (Amowine *et al.*, 2021).

Through business sustainability goals, environmental concerns and sustainable ambitions are integrated in policies and corporate strategies (Battaglia, Gragnani & Annesi, 2019). Over the years, as businesses contribute very substantially to society's sustainable development, attempts for sustainability in business have been noted (Dvořáková & Zborkova, 2014). This entails that their performance is in such a way that resources recovery in future tackles both social and environmental aspects (Dvořáková & Zborkova, 2014).

Consequently, as with other sectors, there is still not enough action by businesses towards achieving sustainability (Redman, 2018). The various corporate cultures and processes have to satisfy the dynamics of market prerequisites (Nicolăescu, Alpopi & Zaharia, 2015). In addition, time and resources should be devoted to strengthening enterprise reliability, confidence, and sustainability branding by the company leadership (Nicolăescu *et al.*, 2015).

Therefore, firms need to advance their business patterns in accomplishing strengthening of industrial sustainability (Nicolăescu *et al.*, 2015). Irrespective of size of business enterprise, it is judicious to consider environmental protection in the business enterprise plan (Ngare, Karanja & Kipkemoi, 2018). The necessity for companies to report on their environmental, social and

governance performance is presented within the corporate governance reform trend (Songi & Dias, 2019). In developing countries, small and medium enterprises are major drivers for economic growth and development (Ngare *et al.,* 2018). Furthermore, this is confirmed by a growing trend of new innovations and technology venturing, which is particularly the case with sectors such as energy, agriculture, transport, communication, and financial services sector (Ngare *et al.,* 2018).

At enterprise level, some strategies for environmental sustainability involving environmental concerns include the creation of environmental awareness, planning for mitigation of anticipated adverse environmental impacts, discrepancy adoption between economic and environmental principles of accounting and eco-industrial parks (Ngare, *et al.,* 2018). Moreover, in emphasising environmental aspects such as climate change can have an influence on different sectors including transportation, water resources, agriculture, energy, and tourism (Ngare *et al.,* 2018). Other environmental concerns from businesses are coupled to land degradation and soil erosion, natural resources dependency and pollution, of which this is particularly the case with small medium enterprises (Ngare et al, 2018). Contrary, the business nature of a business serve determinant to business approaches and sustainable business models (Nosratabadi *et al.,* 2019).

2.5 SUSTAINABILITY WITHIN THE AFRICAN CONTEXT

The sustainability concept has given rise to the sustainable development goals that govern states in the endeavour towards achieving the developmental agenda. As these sustainability steps and goals are coupled with difficulty, there is a potential for Africa to achieve its sustainable development goals, provided that proper strategy adoption and implementation is present (FORESIGHT AFRICA, 2019). The goals of sustainability provide time-bound targets for various sectors, including: health, education, employment, energy, infrastructure and the environment;

therefore, sustainability needs full ownership and integration in national plans and strategies, including the domestication and adoption to the national context (FORESIGHT AFRICA, 2019). In the context of Africa, it has been revealed that progress in the implementation of sustainability aspects has been uneven across countries, including the goals and targets (FORESIGHT AFRICA, 2019). Some lessons from Rwanda indicate six strategies for delivering on sustainable development goals and these include: national ownership and domestication of the sustainable development goals, implying integrating sustainability in national plans, strategies, domesticated and adopted in the national context. Also, strengthening statistical capacity and monitoring, which involves individual countries' ability to measure, evaluate and monitor progress, increasing implementation capacity which refers to availing systems and human resources. Furthermore, resource mobilisation and ease of doing business which ensures the provision of financial investment, human capital development and job creation referring to the investment in population productivity and implementation of the African Free Trade Agreement (AFTA).

In Africa, it has been noted that previous research has ignored the assessment of the dynamic sustainable total-factor ecological efficiency (Amowine *et al.,* 2021). Moreover, with the increase in economic output, growing demand, and increase in population provides for ecological challenges and adverse implications for energy use and ecological sustainability (Amowine *et al.,* 2021). Also, as African countries face severe environmental degradation with little progress towards achieving sustainable development goals, hence a need to ensure ecological efficiency (Amowine *et al.,* 2021). With regards to the sustainability report, Africa has been recorded to respond slowly, calling for a broader African reform strategy or harmonisation policy and urging future implementation (Songi & Dias, 2019).

2.6 ENVIRONMENTAL SUSTAINABILITY AND STRATEGY

The 21st century has made sustainability development a fundamental concept (Fousteris, Didaskalou, Tsogas & Georgakellos, 2018). Economic development and evolution are coupled with consideration towards processes, innovation and sustainable resource management (Mourao, Kubo, Santos & Mazucato, 2020). The relevance of sustainability in academics has emerged since 1996 to recent years, reaching a peak of 3 338 publications in the year 2019 (Sanchez-Planelles *et al.*, 2021). According to Fousteris *et al.* (2018) businesses could play their role in protecting the environment through sustainable business approaches of green business. Sideri (2021) also noted financial beneficiation and performance from integration of environmental practices integration in business strategies. A review on corporate sustainability by Swarnapali (2017) also highlighted the prioritisation of environmental protection, economic development, and social equity.

Swarnapali (2017) conducted a literature review on corporate sustainability by reviewing 50 articles over a 15-year period and applying a literature search approach. Their findings revealed that corporate sustainability is yet an evolving phenomenon with different approaches being used to define, measure, and theorise corporate sustainability. They also emphasised on the scope for further development with a similar approach to other industries in other countries and the development of a defined conceptual model of a relational approach to corporate social responsibility.

Naidoo and Gasparatos (2018) advocate for more in-depth qualitative and quantitative research from multi stakeholders' perspectives and case study from different regional and national contexts to track similarities and differences in corporate environmental sustainability adoption, identify challenges and best practises across the globe. Meanwhile, Papagiannakis, Voudouris and Lioukas

(2014) looked at the road to sustainability by exploring the process of corporate environmental strategy over time. Their study also revealed increasing culmination of environmental conduct, most integrated with business strategy and competitive advantage.

Iten (2020) carried out a qualitative research study based on the assessment of models suitable for strong sustainability into practice using the Scopus database. The study identified two approaches, including the Circular economy and Doughnut that can lead to strong sustainability and practical integration. Furthermore, the study emphasised that there might not be one specific strategy fitting all, however applying strong sustainability in practice is based on tailored solutions and innovative ideas of the company (Iten, 2020).

Nosratabadi, Mosavi, Shamshirband, Zavadskas, Rakotonirainy and Chau (2019) conducted a review of sustainable business models by applying a systematic database search and cross reference snowballing method to present the state of sustainable businesses models in individual application areas using the Thomson Reuters web-of-science and Elsevier Scopus using 66 articles considered for final analysis. Nosratabadi *et al.* (2019) note that the process of sustainable business model development forms innovative to business strategy in which different industries and businesses use sustainable business models for economic, environmental and social goals satisfaction.

Various authors have provided a business case on corporate environmental sustainability (Barnett, 2019; Nicolăescu *et al.,* 2015). The study of Barnett (2019) applied a qualitative case study approach in establishing a business case for Corporate social responsibility. Naidoo and Gasparatos (2018) conducted a literature review by examining the key drivers for adoption of corporate environmental strategies in the retail sector, their strategies and measures of performance using databases of web of science and google scholar and applying a literature review protocol of peer

reviewed journal papers. The review study findings revealed that the main drivers for corporate environmental strategies in the retail sector is driven by economic beneficiation derived from the cost savings of reduced resource and green house reduction measures, including environmental policies and stakeholder pressure.

Moreover, Naidoo and Gasparatos (2018) noted gaps of corporate environmental sustainability which include inadequate research on assessments of environmental impact and environmental benefits of corporate environmental sustainability, including them extend of implementation and progression. Additionally, they found neglecting of environmental issues among the retail sector, and consumer demand persisting to be the main driver of corporate environmental sustainability strategy and urging consideration (Naidoo & Gasparatos, 2018). Furthermore, there is lack of research on corporate environmental sustainability strategies by consumers and retail staff, and the application of big data in informing corporate environmental sustainability strategies and performance is under research (Naidoo & Gasparatos, 2018).

Sideri (2021) conducted a study on leveraging corporate social responsibility for sustainability by assessing performance implications of sustainability reporting in a National Business System. This study has highlighted the increasing interest of sustainability in the banking sector since the years of 2000's from perception of sustainability being extra lever to economic growth in the banking sector, thus stimulating sustainable development (Sideri, 2021). In findings from this study, it was highlighted that sustainable banking performance in national business system be enhanced. Also, Sideri (2021) provided sediments on sustainable financial institutions in mitigating risks and outperforming competitors, developing innovative sustainable products, communicate sustainability integration by sustainability reporting and creating initiatives for global networks participation.

Roy, Das, Ali, Raihan, Paul and Kabir (2020) evaluated strategies for environmental sustainability in supply chain of emerging economy using literature review method and questionnaires for collecting qualitative data. They applied the Data envelopment analysis method and have made recommendations for future research extension applying similar methods in diverse organisations and other decision-making techniques. Furthermore, Storopoli, Ramos, Quirino and Rufin (2019) researched on themes and methods in sustainability research by applying co-citation and bibliographic coupling analysis. Their results provided highlights for major themes guiding sustainability research which included; sustainable supply chain management, corporate social responsibility, sustainable tourism, sustainable classic supply chain, global and emerging economies sustainable supply chain, new sustainable supply chain, new sustainable supply chain structures, environmental responsibility.

In addition, Calisto, Umbelino, Goncalves and Viegas (2021) noted the increase in the adoption of sustainable management practices by tourism and hospitality business resulting from awareness of company-to-business relation with sustainability aspects and influence on competitiveness and economic performance. Meanwhile, it was also noted that owners and shareholders influence environmental sustainability policies and practices in hotel companies (Calisto *et al.,* 2021).

Tilt, Qian, Kuruppu and Dissanayake (2021) conducted a study focusing on the state of business sustainability reporting in Sub-Saharan African, an agenda for policy and practice. Their study used 48 Sub-Saharan African countries with the use of lens of New Institutional economics with data collected from global reporting initiative, sustainability reports and key informant interviews. The analysis results indicated that there are significant barriers to reporting, and suggesting voluntary frameworks mechanisms (Tilt *et al.,* 2021).

Also, Songi (2019) researched on sustainability reporting in Africa, by comparing the countries of Egypt, Equatorial Guinea, Kenya, Nigeria, Botswana and South Africa. The analysis results found that corporations in the selected study countries are gradually reporting on their environmental, social and governance performance and indicating a shift from voluntary to mandatory reporting on sustainability.

Another study was done by Bartniczak and Raszkowski (2019) focussing on sustainable development in African countries using an Indicator-Based Approach and recommendations for the future. The study looked at positioning of individual African countries using quantitative tools, with regards to sustainable development implementation for the years 2002-2016. The methodology for this study included the use of synthetic measures of development with the data retrieved from World Bank sources (Bartniczak & Raszkowski, 2019). Also, the findings from Bartniczak and Raszkowski (2019)'s study indicated that African countries situation of sustainable development implementation have improved significantly during the assessment period of 2002-2016. As a result, their future research directions suggested the following; permanent monitoring of country positioning with regards to sustainable development level to be emphasised, comparing Africa countries positioning with other countries or continents and analysing the sustainable development implementation situation in other African countries that were limited by this study to provide a comprehensive analysis of the situation.

According to Corporate Citizenship (2015) sustainability strategy provides for a framework for investment and performance focus involving both internal and external stakeholders. Moreover, the framework allows for the integration of initiatives that are priorities to the business and highlighting on opportunities and potential risks relating to strategy development and implementation (Corporate Citizenship, 2015).

Sanchez-Planelles *et al.* (2021) conducted a descriptive study which reviewed corporate sustainability to build a theoretical framework for corporate sustainability using snow-ball sampling method and secondary data from 138 publications from peer reviewed literature. Sanchez-Planelles *et al.* (2021) in another study noted that although sustainable methodologies serve as helpful tool to overcome challenges, a framework of business strategy, business model and process ranges across the organisation is needed. This framework developed sustainability practises to address complexity of sustainability integration in daily business, therefore facilitating for positive changes of learning from early adopters with limited resources and those at early strategy development to learn (Johannsdottir & Mclnerney, 2018).

The work of Johannsdottir and Mclnerney (2018) classified five main categories of commitment, configuration, core business, communication, and continuous improvement on environmental sustainability. Also, Rodriques and Franco (2019) reviewed literature on corporate sustainability strategies in organisations using bibliometric analysis of 17 documents and providing a framework for use to managers of various organisations.

A study by Naidoo & Gasparatos (2018) also provided classification of concepts of holistic sustainability, sustainable business models, sustainable methodologies, sustainable operations and sustainable oriented innovation. Sanchez-Planelles *et al.* (2021) provided that sustainable business models can be divided into four categories, including: the circular economy that replaces linear production, consumption systems to circular systems that reduce, reuse, recycle and recover goods; sustainable production that creates goods and services with processes and systems that are non-polluting, therefore saving energy and natural resources, also being economically viable, safe to communities and consumers; servitization which involves a process shift from product oriented

business to service oriented business; sustainable consumption being the customer decision to consuming products and services that are environmentally friendly.

Redman (2018) conducted a study on harnessing sustainable development goals for businesses for a framework for action considering three discrete levels of communication, tactical, and strategic. The study has found challenges of design and measurement, including opportunities for accountability and social aspects of sustainability. Moreover, the study provided for feasible pathways and approaches for sustainability science towards achieving sustainability achievement. Furthermore, it was revealed that businesses are sufficiently not taking on action to achieve sustainable development goals or sustainability (Redman, 2018). Similarly, Engert *et al.* (2016) have indicated growing literature research on sustainability concept, however there is still debase raising questions on how corporate sustainability strategy should be implemented, thus providing a challenge, and urging for further work (Engert *et al.,* 2016).

Kumar *et al.* (2021) reviewed the context of business strategy and environmental research using Scopus database and by applying big data analytics. Their study used surveys and in-depth interviews, focus group interviews and applying regression analysis, content, and thematic analyses. Furthermore, their study recommended future research to deliberate on business strategies and environmental performance in developing countries and across different industries and their adaptation.

Another study by Swarnapali and Luo (2018) on corporate sustainability disclosure of potential impact market value in Sri Lanka over a four year period using data collected from 220 companies listed on Colombo Stock Exchange (CSE) was conducted. Their study provided a confirmation of the positive relation between sustainability reporting and firm value. Latan *et al.* (2018) conducted

a study that examined the effect of combining corporate environmental strategy, top management and environmental uncertainty focusing on the role of environmental management accounting, on corporate environmental performance. The study used an online survey and collected their data with a sample size of 107 respondents. The results of their study provides empirical evidence of a positive and significant influence between corporate environmental strategy top management commitment and environmental uncertainty.

Moreover, Battaglia *et al.* (2019) conducted a study entitled: Moving Businesses towards sustainable development goals (SDG's): Evidence from an Italian Benefit-for-Nature corporation. The findings of this study revealed cooperatives to be active contributors to sustainability, specifically at local level as they are prone to being important role players in the transition of Sustainable development goals from national level to local, which provides a partnership among the interaction and local communities (Battaglia *et al.,* (2019).

On the other hand, van Zanten and van Tulder (2018) also conducted an exploratory survey study on European and North American multinational enterprises and sustainable development goals. Their study concluded for a more pro-active involvement study of multinational enterprises in sustainable development.

Dumitriu and Ahmed (2018) conducted a research on public private partnerships for the implementation of the 2030 agenda for sustainable development goals by applying both qualitative and quantitative approaches for data collection and analysis using questionnaires and interviews from participating organisations and private sector firms. Their findings call for private sector to change policies, mentalities, and practices towards implanting and making sustainability a key component of their business models. Additionally, Dvořáková and Zborkova (2014) worked on

looking at the integration of sustainable development at enterprise level, and its impact on non-financial reporting at enterprise level. Their research work was conducted among the Czech companies throughout the year of 2013. The results of Dvořáková and Zborkova (2014) have revealed that the impact of sustainable development led to business processes and provide how business are understood. For future research, Dvořáková and Zborkova (2014) intend to focus on the three pillars of sustainable development at enterprise level, including the management and evaluation of the economic, environmental, and social aspects.

Calisto *et al.* (2021) conducted a study on environmental sustainability strategies for smaller companies in the hotel industry using a qualitative research approach based on 40 company websites and in-depth interviews with 18 entrepreneurs and executives. Their results confirmed that environmental issues are not a response to societal challenges for most companies but to owner's response concerns. In addition, it was found that environmental sustainability practises in hotel chains are developed most for cost reducing reasons (Calisto *et al.,* 2021). Lastly, there is lack of studies on corporate environmental sustainability in developing countries particularly for retail sectors (Naidoo & Gasparatos, 2018).

Johannsdottir and Mclnerney (2018) conducted a Five C framework for implementing environmental sustainability strategies for insurance companies to integrate into their culture, core business, strategy and structure. Their study used a case study research design by conducting interviews, follow-up studies and secondary data. From this study, some strategies were highlighted of commitment to international initiatives, financial collaborations insurance associations, conferences, publications, eco-labelling, and green office programmes which are presented at regional and global level.

Amowine *et al.* (2021) conducted a study titled "Towards ecological sustainability: Assessing Dynamic Total-Factor ecology efficiency in Africa. Their study has focused on the comprehensively assessment of the ecological efficiency among 44 African economies for the periods 2010-2016 by integrating the ecological footprint and human development index. The results obtained from this study was threefold; the dynamic sustainable total-factor ecological efficiency for the 44 African countries indicated very low (0.403) which called for potential for improvement; the heterogeneity of the dynamic sustainable total-factor ecological efficiency across the five regional blocs is evident, with southern bloc having the highest efficiency score, with the northern central, western and eastern regions following; and that the bootstrap truncation regression provided a u-shape nexus between growth and dynamic sustainable total factor ecological efficiency in Africa(Amowine *et al.,* 2021).

Thakhathi, Roux and Davis (2019) looked at sustainability leaders influencing strategies for institutionalising organisational change towards corporate sustainability: A Strategy-As-Practice perspective. Their study used a qualitative case study method by researching the strategic change initiatives for sustainability in relatively large multi-level commercial organisations (Thakhathi, *et al.,* 2019). The findings from this study revealed that all seven influencing strategies are identified from literature were used, providing value for change management theory and practise. From this study, the unique socially situated practices underlying each influencing strategy were also provided (Thakhathi *et al.,* 2019). It was concluded that the seven influencing strategies were potentially of value to other organisations despite agents deploying the strategies differently as per their organisational change agenda.

However, business sustainability integration has also created debate among scholars (Sanchez-Planelles *et al.,* 2021). As such, some scholars consider sustainability to only reduce costs, improve

environmental, social and governance including business ratings while not providing competitive value (Sanchez-Planelles *et al.,* 2021). On the contrary, Groenewald and Powell (2016) found South African listed companies to have developed sustainable development practices, thus presenting a case for sustainability strategies in business.

Barnett (2019) provided emphasis that the broad outlook of the business arguments is presented by inconsistencies of methodological differences and interpretation biases, including variables and situational contingencies affecting businesses' financial performance and stakeholders' influencing capacity (Barnett, 2019). It is worth noting that, it is vital to point out that corporations' stakeholders, including both direct and indirect can influence the sustainability performance of a business, although pursuit of profitisation still remains the basic concern (Sideri, 2021).

The study by Battaglia *et al.* (2019) highlighted a few studies that investigated sustainable reporting and sustainable development, which indicated a research gap that requires a stream of research. In Namibia, the study by Marenga and Kakujaha-Matundu (2019) on Sustainable Development and Corporate Social Responsibility of foreign investors in Namibia found existing gaps in strategies promoting corporate social responsibility practices. Furthermore, Littlewood (2015) conducted an empirical case study research with four mining companies operating in Namibia on Corporate social responsibility, mining, and sustainable development in Namibia. The study findings highlighted that at least some companies having their strategic performance improved. However, limited works exist on corporate social responsibility and sustainable development.

2.7 GAP ANALYSIS

The following are highlighted for the gap analysis:

Knowledge gap

- Previous studies present strategies to be relied on in organisational tailored solutions and innovative ideas, there are still questions on the unique companies or industry adopted strategies globally present.
- There is still debate among scholars raising questions on how corporate sustainability strategy should be implemented and the value of its integration.
- Moreover, inadequate research is still presented on assessment of environmental impacts and environmental benefits of corporate environmental sustainability, including the extent of implementation and progression.

Theoretical gaps

- The concept of corporate environmental sustainability has been found by both theoretical and empirical studies to be evolving, urging the need to prioritise this research.
- Furthermore, international business research hardly covered the private sector's role in achieving sustainability, hence presenting questions on private sector performance.
- Though, a few studies have been conducted in Africa on the corporate environmental sustainability concept; the current studies conducted on the continent have not focused on Namibia.
- There is lack of studies on corporate environmental sustainability in developing countries for the retail sectors.

- The related studies in Namibia suggests for future work to be conducted on sustainable development strategies and corporate social responsibilities.
- Literature on environmental sustainability strategies has focused mainly on the industries of retail, insurance, banking, supply chain and hotels.

Methodological shortcomings

- Most of the literature presented on environmental sustainability strategies applied the literature review method and bibliographic analysis, thus providing limited empirical work on this study concept.
- The theoretical framework on corporate environmental sustainability only focused on some industries (insurance, retail, and banking).

Need for further research

- Authors in literature have suggested for both quantitative and qualitative research from multi-stakeholders' perspectives and case studies from different regional and national contexts to track similarities and differences in corporate environmental sustainability adoption and identifying inter-challenges and best practices globally.
- A framework for business strategy on environmental sustainability has been suggested by review of authors of empirical studies.
- Studies on business strategies and environmental performance in developing countries across different industries has been suggested by recent studies.
- Determining organisational challenges to corporate sustainability has been suggested by empirical research to serve as a tool in helping to overcome any challenges.

2.8 CHAPTER SUMMARY

This chapter focused on defining corporate environmental sustainability and understanding it as a concept. Emerging pressure on environmental sustainability integration in business models and challenges to its implementation and adoption is highlighted. Various authors confirm the relevance of corporate environmental sustainability in business management, however challenges of inadequate research on assessing the extent of environmental sustainability integration and the associated benefits is presented. Future research on corporate adoption of environmental sustainability strategies is suggested.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter provides the methodological aspects of the research project. The Chapter provides the research highlights of methods used and choices with consideration to research objectives and study phenomena. It presents on the research design, the study population, sample and sampling technique, data collection method and research instrument used, procedure, data analysis and research ethics.

3.2 RESEARCH PHILOSOPHY

Various research work involves applying different types of methodologies in relation to the research question or objectives. A research philosophy and theory development is unique to the individualism of a research. Hence, the research approaches and philosophies of this research study were guided by the principles elaborated by the concept of the research onion as demonstrated by Saunders, Mark, Lewis and Thornhill (2015) in Figure 3.1.

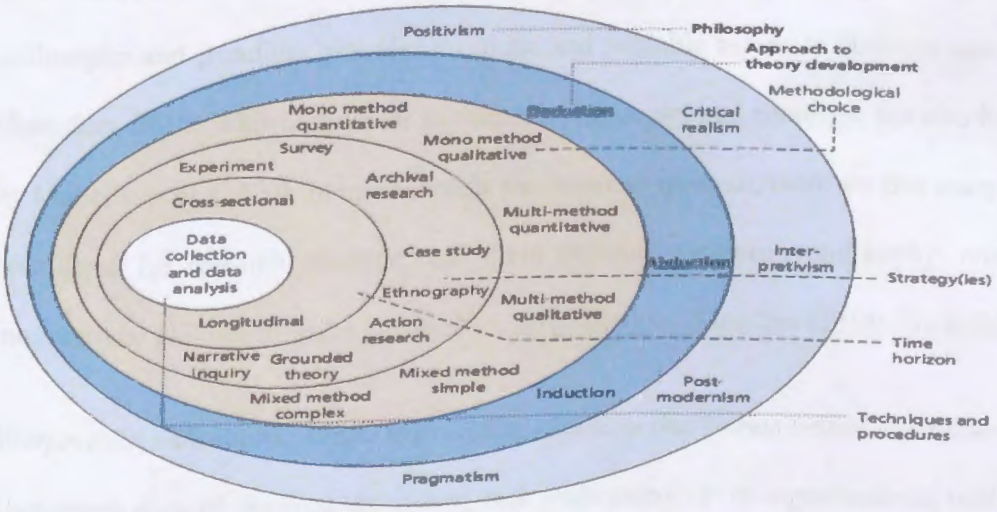


Figure 3.1: The research onion

Source: Saunders et al. (2015)

According to Saunders (2016) research philosophy is a system of beliefs and assumptions about the development of knowledge, which is initiated when a researcher is embarking upon a particular field of interest. An organised research context provides a credible research philosophy that provides the participant's choice of methodological research strategy, data collection techniques and analysis procedures (Saunders, 2016). Also, a research is classified based on time, purpose, settings, place and may be basic, applied, empirical, qualitative, or quantitative (Patel & Patel, 2019). Moreover, Muhaise, Ejiri, Muwanga-Zake and Karey (2020) have described research paradigm defining the research philosophical, theoretical, instrumental and methodological foundations.

In the 20th Century, business and management research has emerged drawing theoretical bases from different fields of disciplines, including: social sciences (which include: sociology, psychology, economics); natural sciences (including: chemistry, biology); applied sciences (including: engineering and statistics); humanities (including: literature theory, linguistics, history, philosophy) and the domain of organisational practice (Saunders, 2016). In addition, each research philosophy and paradigm provides a unique and valuable aspect to business and management (Saunders, 2016). This uniqueness in research philosophy and paradigm has also been indicated by Muhaise *et al.* (2020). In management and business research, there are five main philosophies considered for research adoption, and these include: positivism philosophy, critical realism, Interpretivist philosophy and a postmodernism philosophy Saunders (2016). By definition:

Interpretivist philosophy; relates to providing emphasis that human beings differ from the physical phenomena through the creation of new, rich understandings of organisational realities through individual lived experience.

The worldviews present research frameworks to be determined by the nature of reality, humanity, knowledge theory and methodologies. Moreover, qualitative researchers considers purposeful, convenience and theoretical approaches essential for sampling (Shah & Al-Bargi, 2013). On the other hand, there is criticism of incompatibility of qualitative and quantitative research approaches and generalizations, forming basis for multiple methods to be combined for complementary purposes (Antwi & Hamza, 2015).

This research study followed an interpretivist research philosophy as it aimed at understanding the fundamental meanings of corporate industries through the provision of current status information and explanation of the corporate environmental sustainability strategies study concept. According to Saunders (2016) some characteristics highlighted for interpretivist research philosophies in business and management research are the value-bound research involving in-depth investigations focusing on narratives and perceptions. In addition, interpretivist research provides a purpose of creating new rich ideas, understandings and interpretations of social worlds and contexts making it a suitable philosophy for this research study (Saunders, 2016).

Moreover, according to Saunders (2016) there are three approaches to theory development considered in research. These include: deduction (developing a theory and hypothesis and designing a strategy to test the hypothesis); induction (collecting data and developing a theory resulting from data analysis); and abduction (using data to explore a phenomenon, therefore identifying themes and providing patterns to generate new theories or modifying theories which are tested). Creswell (2014) also define research approaches as plans and procedures involving decisions on the type of research design, research methods and research problem. This research study applied an abductive approach for theory development, by applying themes and patterns to provide insights for environmental sustainability theory.

3.3 RESEARCH APPROACH: QUALITATIVE RESEARCH

Busetto, Wick and Gumbinger (2020) noted a definition of qualitative research as *"the study of the nature of phenomena", including "their quality, different manifestations, the context in which they appear or the perspectives from which they can be perceived", but excluding their range, frequencies and place in an objectively determined chain of cause and effect*". Hence, qualitative research provides for discovery of reasons for observed patterns (Busetto *et al.*, 2020).

3.4 RESEARCH DESIGN

This study adopted a case study research design, which is qualitative in approach to gain in-depth phenomena and knowledge on the industry aspects regarding corporate environmental sustainability strategies.

The qualitative case study assists in the exploration of a phenomenon within some context of various data sources (Rashid, 2019). Case study designs, study phenomena that are not easily distinguishable from contexts in qualitative methods (Yin, 2015) Also, case study designs are methods applied to in-depth investment in a single or more organisations (Easterby-Smith, Thorpe & Jackson, 2012). Moreover, case study research designs provide for a thorough overview of a matter (Yin, 2016).

3.5 TARGET POPULATION

A target population provides a spectrum of originality of a research study, by providing an indication of where the study sample will be drawn from. The research study population consisted of a total of 28 key economic industries of the Namibian economy as per the Gross Domestic Product, GDP (Humavindu & Stage, 2013).

For this study, the population included participants from selected corporate industries of financial, energy, retail, manufacturing, mining, telecommunications, and water resources. Similar listed industries were considered for a related study by Groenewald and Powell (2016).

3.5.1 Sample

According to Taherdoost (2020) sampling can be divided into two types, which can include probability sampling and non-probability sampling. Probability sampling provides an equal chance of every person or item in the population to be included in the sample. The different types under this category include: simple random sampling, systematic sampling, stratified sampling, stratified random sampling, cluster sampling and multi-stage sampling.

Non-probability sampling means that not all items participating have an equal chance for taking part in the research study. This type of sampling is usually associated with case study research designs and qualitative research. Also, in this case, the participating sample is not necessarily representative or randomly selected, however one has a clear rationale for inclusion of cases or individuals rather than others (Taherdoost, 2020). For this study, the sampling technique considered diverse representation of industries across the various Namibian geographic industries presented with sustainability concept in their nature and operations, therefore presenting expertise and able to provide insights in the sustainability field.

For this study, the sample size consisted of 21 corporate industries made up of a group of companies and sole companies having expertise and insights on environmental sustainability, derived from a total population of 28 key economic industries across the country. In addition to purposive sampling technique, the sampling of 21 corporate industries followed a stratified purposeful approach to allow for comparisons. This included executives and assigned management

expertise distributed across different industries in the field of corporate environmental sustainability strategies. The sampling strategy applied included ensuring inclusion of each industry type representation in relation to the industry types presented by the population. Thus, strategy consideration prioritised sustainability expertise and influence, and industry inclusion matrix pyramid.

3.5.2 Sampling Technique

A purposive sampling technique was applied in this study to get people with requisite knowledge of required information. Purposive sampling is a strategy in which settings, persons or events are deliberately selected to provide important information that cannot be obtained from others, therefore warranting inclusion (Taherdoost, 2020). In addition, purposive sampling method is based on knowledge and experience participants have on the subject context (Geoffrey & Indongo, 2017). Purposeful sampling is commonly used in qualitative research to identify and select information-rich cases on the phenomenon of interest (Palinkas, Horwitz, Green, Wisdom, Duan & Hoagwood, 2015). To further complement, this method of sampling was considered as it provides for convenience to exploratory research designs such as the one adopted for this study.

3.6 RESEARCH INSTRUMENTS

A research instrument is a tool used to collect data which may differ in complexity, interpretation, administration and design, based on the sort of information to be collected (Pandey & Pandey, 2015). This study used semi-structured questionnaires and the key informant interview guide as the research instruments to gather the required research data from various corporate industries. These are instruments that are commonly applied in qualitative research and particularly in case

study research design. Based on this suitability, this study used the instruments of questionnaires and an interview guide in the collection of the research study data (Busetto *et al.*, 2020).

3.7 PROCEDURE

The procedure involved acquiring permission obtained from the University and corporate industries to conduct the study. Participants were invited to partake in the study through interviews and responding to questionnaires. Thereafter, the questionnaires were provided to participants through emails to provide them a chance of providing insightful responses as per the research inquiries provided by the researcher. The key informant Interviewers were provided with an interview guide and the interviews were conducted on-line via zoom and telephone.

3.8 DATA ANALYSIS

Data analysis is a process of studying the prepared material to determine the inherent facts, derived from various angles in order to explore new evidences (Pandey & Pandey, 2015). Therefore, upon completion of the data collection stage, the following stage included the data analysis stage. Qualitative data can be analysed in three phases: these include - description, analysis, and interpretation. All these phases were considered in finalising the data analysis stage. The research project used the thematic analysis method for data analysis. Thematic analysis was used in previous studies which focused on a related concept and applied similar methodological approaches (Kumar *et al.* 2021). Therefore it was selected to be the best method for this study. The process included data coding, and themes provision presented by use of tables, charts, frequencies, graphs, and word cloud diagrams. The study used NVivo Software for data coding and themes provision for the collected data. Moreover, descriptive analysis was applied to validate differences in the results.

3.9 RESEARCH ETHICS

The researcher acquired an ethical clearance letter from the University to provide corporate industries prior conducting the study (Appendix A). The information obtained in this study is strictly for academic purposes. All documents used for secondary data have been acknowledged. The data will be kept under lock & key for 5 years and thereafter be destroyed by shredding and burning. The identities of participants and corporate industries were kept anonymous and the use of generic identities was used by providing codes responding to the industry type, expressed as (Industry A, B, C, D) matching the respondents. All participants were informed on the assurance of data confidentiality.

3.10 CHAPTER SUMMARY

Chapter 3 provided the research methodology applied in the study. The research adopted a qualitative approach and a case study research design to provide insights on environmental sustainability strategies for the Namibian industries. The study population consisted of 28 key economic industries and a sample of 21 corporate industries was used. The study used questionnaires and interview guides to collect primary data. Thematic and descriptive methods of analysis were used for data analysis.

CHAPTER 4: RESULTS AND DISCUSSIONS

4. I NTRODUCTION

This chapter presents the results of the research project. Responding to the study objectives of establishing environmental sustainability strategies adopted by the corporate industries, identifying challenges for incorporating environmental sustainability strategies and providing a framework for corporate environmental sustainability strategies for the Namibian Industries, the research went on to collect and analyse data, the results of which are presented in this chapter. This chapter is structured as follows:

Firstly, the biographical results are provided, followed by the results on environmental sustainability strategies adopted in the participating industry and challenges for environmental sustainability strategy implementation. Furthermore, a discussion is provided on the results which incorporate insights from literature on environment sustainability strategies. Lastly, a framework for corporate environmental sustainability strategy for the Namibian industries is presented and discussed.

4.2 RESULTS

4.1.1 Industry type

This study collected data from 21 corporate industries. In categorisation by industry, a third (33%) of the participants were in manufacturing and 24% in the energy sector. The remaining were thinly spread across other industries ranging from water resources to telecommunications, as shown in the Figure 4.1.

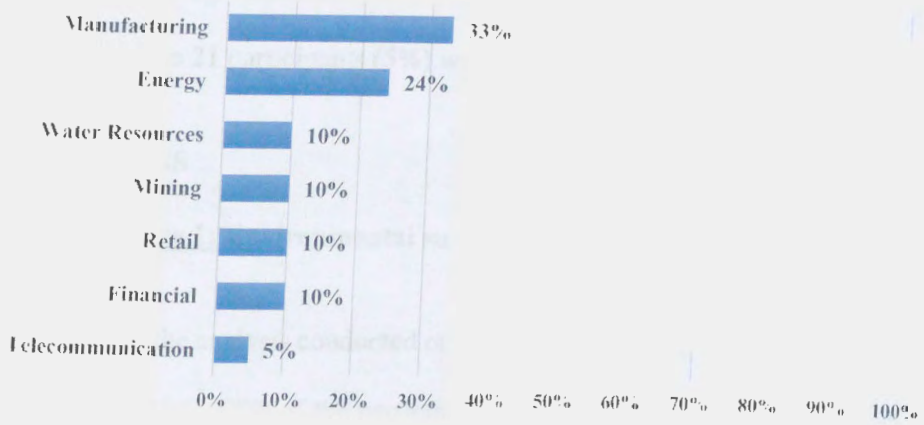


Figure 4.1: Industry type

The number of responses per industry used for the study is provided below in Table 4.1.

Table 4.1: The number of respondents per industry

Industry type		**N**
Financial		2
Energy		5
Retail		2
Manufacturing		7
Mining		2
Telecommunication		1
Water Resources		2
Gender		
Male	15	71%
Female	6	29%
Position		
Officer	1	5%
Manager	12	57%
Senior	8	38%

Of the 21 study participants, 15 (71%) were male and 6 (29%) were females. The study respondents categorised by corporates to partake in the study were also ranked in accordance with their

positions. On this, most of the participants were managers (57%) followed by seniors at 28%, while only one of the 21 participants (5%) was classified at an officer level (Table 4.1).

4.3 FINDINGS

4.3.1 Objective 1: Environmental sustainability & strategic integration

According to the analysis conducted on the integration of environmental sustainability at corporate level, all the 21 (100%) of the participants affirmed that environmental sustainability was part of their company's strategic plan, objectives, or vision (Figure 4.2).

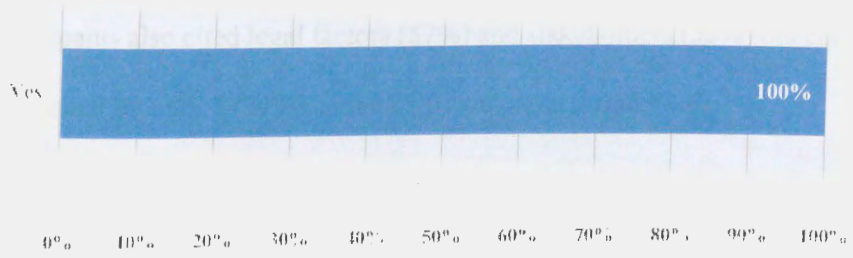
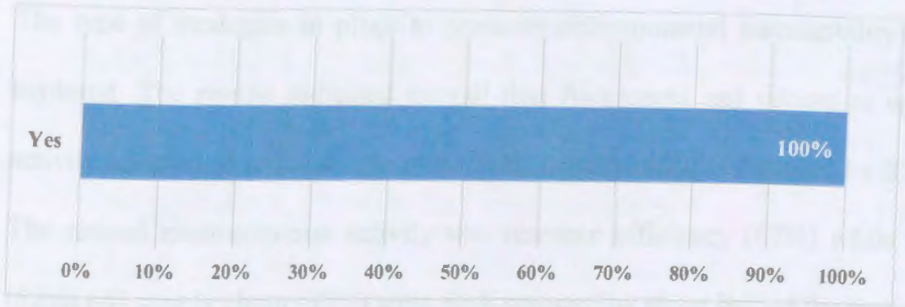


Figure 4.2: Inclusion of environmental sustainability in strategy

Targets or goals for environmental sustainability

The study also looked at whether corporates are setting targets or goals for environmental sustainability. Consistent with the above, the findings revealed that all the 21 (100%) participants affirmed that their companies set targets and goals for environmental sustainability (Figure 4.3).

Figure 4.3: Environmental sustainability target setting



Core drivers to implementing environmental sustainability

In relation to the core drivers to implementing environmental sustainability by the companies, resource efficiency (62%) and cost saving (62%) were the most cited factors. More than half of the participants also cited legal factors (57%) and stakeholders (52%) but corporate responsibility was mentioned by only 5 (24%) of the 21 participants (Figure 4.4).

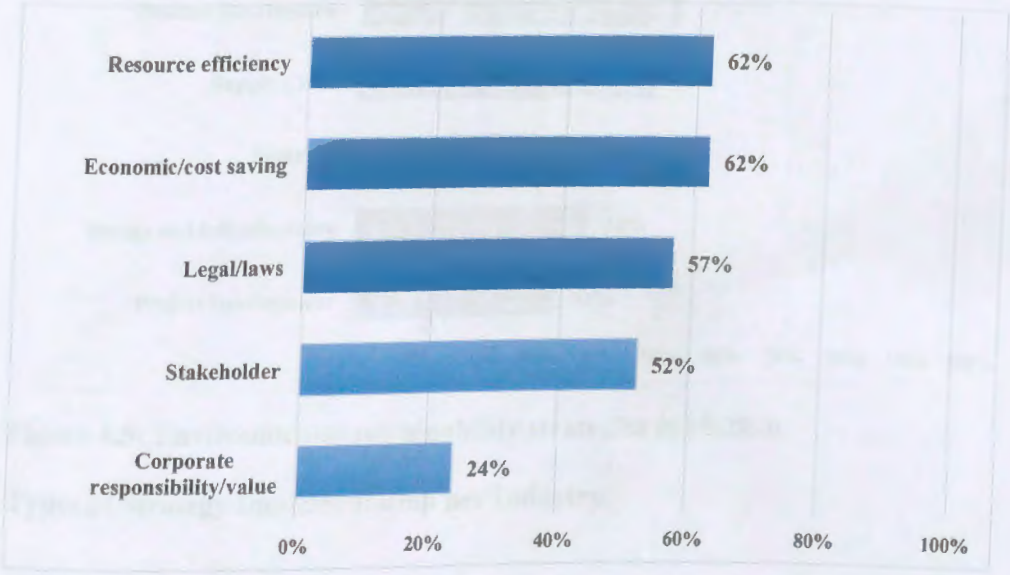


Figure 4.4: Environmental sustainability implementation core drivers

Environmental sustainability strategies in place since 2015-2020

The type of strategies in place to promote environmental sustainability since 2015-2020 was explored. The results indicated overall that Awareness and education was the most common activity adopted to promote environmental sustainability, as reported by 81% of the participants The second most common activity was resource efficiency (67%) while product development (52%) and supply chain (48%) were each reported by about half of the participants. Incorporating environmental sustainability at project development (33%) stage was least adopted, with design and infrastructure including financial strategies (38%) being fairly adopted as strategies (Figure 4.5).

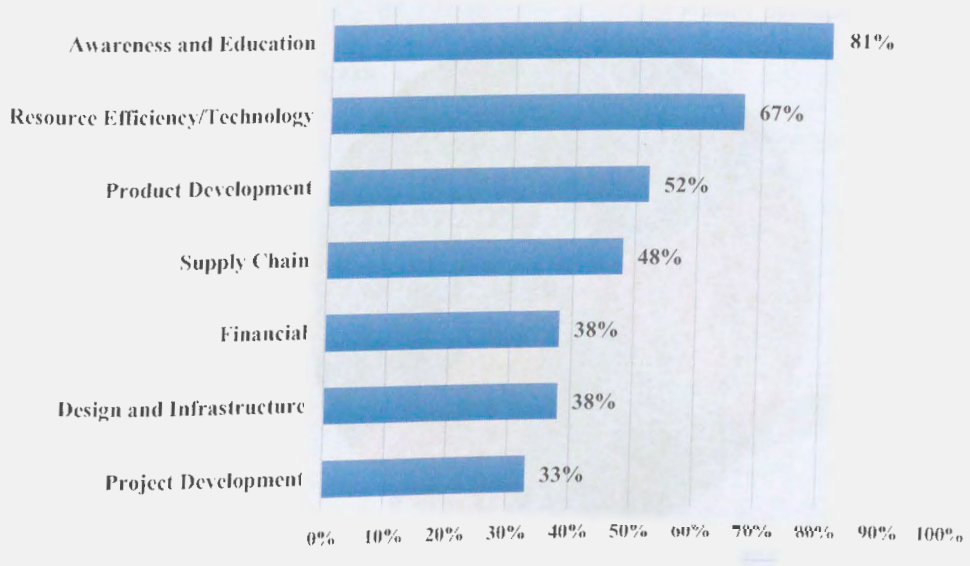


Figure 4.5: Environmental sustainability strategies 2015-2020

Types of Strategy Implementation per Industry

This study work included exploring the type types of environmental sustainability strategies in place to provide for industry specific insights status and strategy applicability.

Environmental sustainability strategies – Energy Industry

Figure 4.6 presents the Energy industry to apply five different types of strategy types in implementing environmental sustainability in their companies. Most of the companies are practising supply chain management (23%) as a strategy to promote environmental sustainability. This is then followed by activities for Designing and Infrastructure development with 18%, Resource efficiency or Technology with 18% and Product development with 17%. The remaining lowest strategies applied are those of financial and awareness and education with the scores of 12% each.

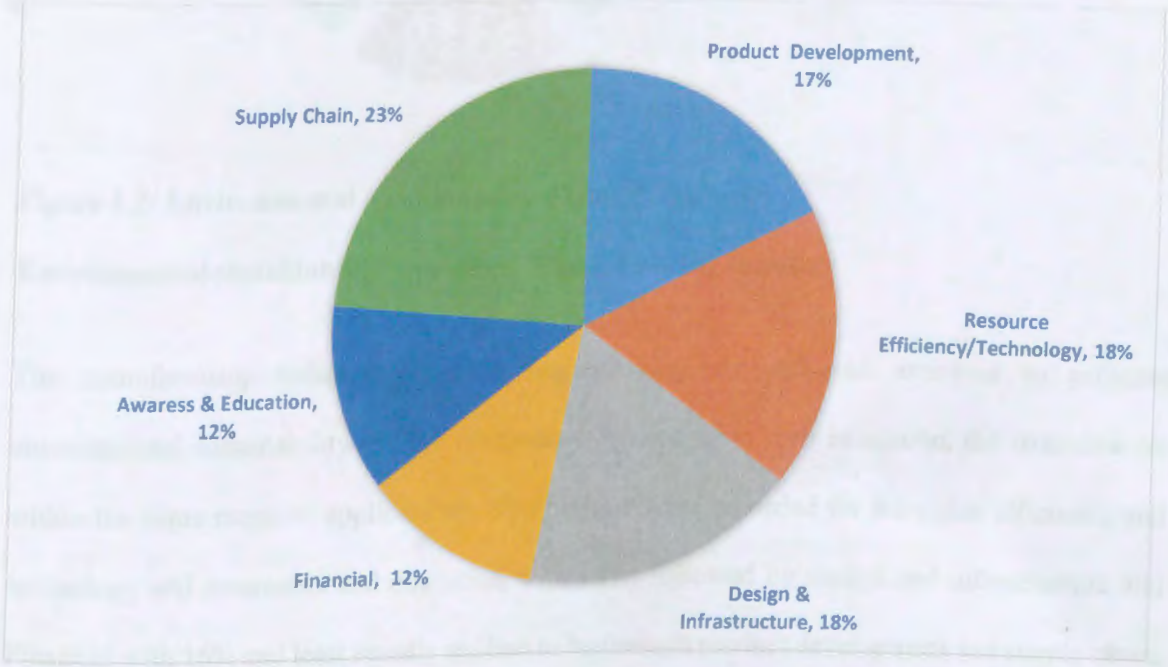


Figure 4.6: Environmental sustainability strategy- Energy Industry

Environmental sustainability strategies – Financial Industry

From the Financial industry, the participating companies provided four ways of practicing environmental sustainability at corporate level. This included mostly adopting Awareness and

Education (40%) as a strategy for environmental sustainability promotion, which is then followed by applying activities of product development, project development and Financial, each scoring 20% respectively (Figure 4.7).

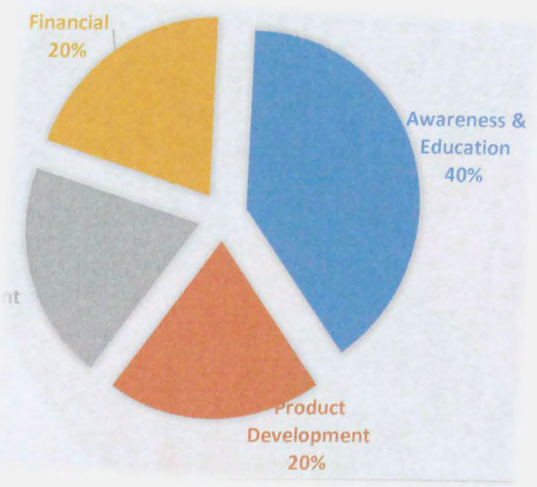


Figure 4.7: Environmental Sustainability-Financial industry

Environmental sustainability strategies- Manufacturing Industry

The manufacturing industry provided implementing six different activities to promote environmental sustainability in their companies. According to their indication, the strategies are within the same range of applicability. The highest score recorded for Resource efficiency and technology and awareness and education with 19%, followed by design and infrastructure and Financial with 16% and least equally applied to be through product development and supply chain, indicated with 15% as indicated in Figure 4.8.

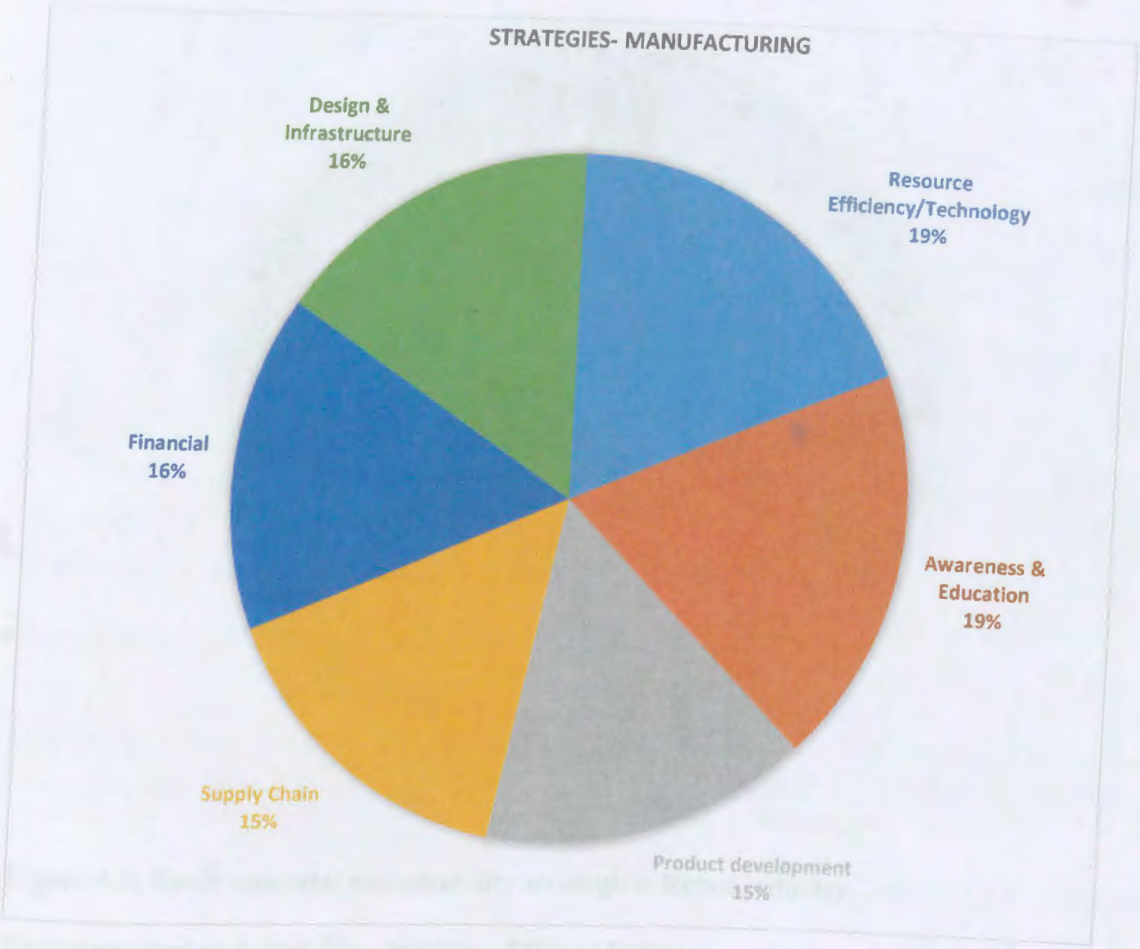


Figure 4.8: Environmental sustainability- Manufacturing industry

Environmental sustainability strategies – Retail industry

The participating industry corporates presented also adopting environmental sustainability in the retail sector through different activities. There are three activities provided as strategies for environmental sustainability adoption. According to the analysis, the applied strategies are adopted merely equal by the industries. Most companies are adopting product development to promote environmental sustainability, provided for 34%. The remaining two (awareness and education and supply chain) were provided to be adopted equally with each having 33% (Figure 4.9).

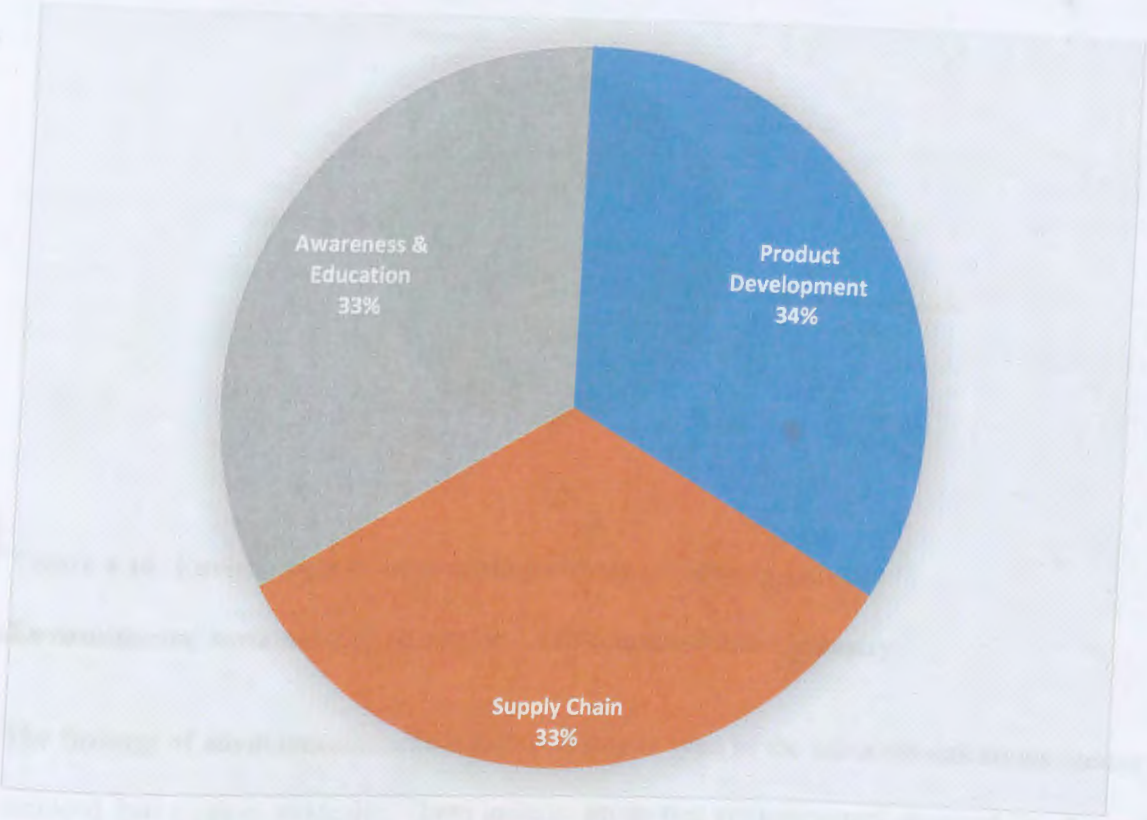


Figure 4.9: Environmental sustainability strategies- Retail industry

Environmental sustainability strategy – Mining Industry

The mining industry was studied on conducting various activities to promote environmental sustainability. The results presented six different strategies which included awareness and education, project development, financial, design and technology, supply chain and product development. The highest recorded strategy activities for adopting in the Mining industry are through awareness and education and project development having each attaining 25%, whilst product development and supply chain are the least adopted as strategies for corporate environmental sustainability 12% respectively (Figure 4.10).

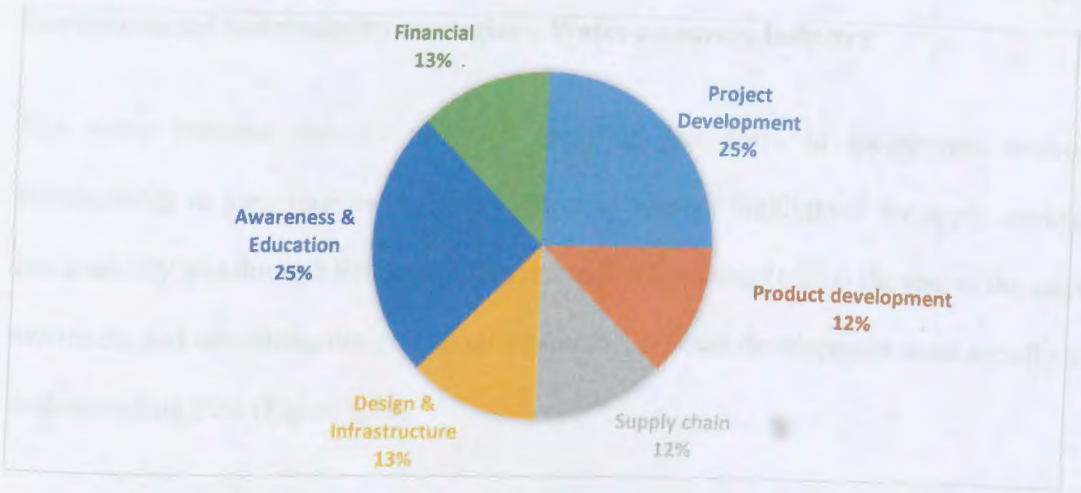


Figure 4.10: Environmental sustainability strategies- Mining Industry

Environmental sustainability strategies – Telecommunication industry

The findings of environmental sustainability strategies type in the telecommunications industry included four types of strategies. These include: promoting environmental sustainability through project and product development, resource efficiency and technology, and through design and infrastructure, with each scoring 25% (Figure.4.11).

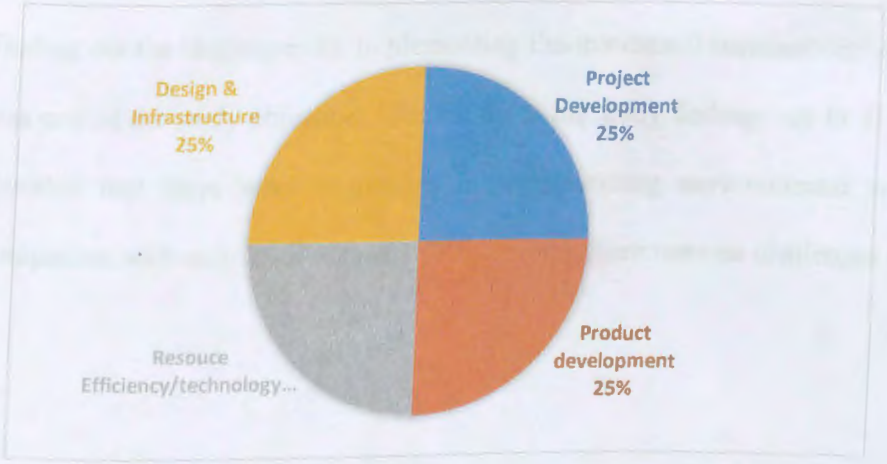


Figure 4.11: Environmental sustainability strategy- Telecommunication Industry

Environmental sustainability strategies – Water resources Industry

The water resource industry provided applying four ways to incorporate environmental sustainability in their business models. The most activity highlighted for apply environmental sustainability was through Resource Efficiency and Technology (40%) the rest of the activities of awareness and education, design and infrastructure, product development were equally adopted, each recording 20% (Figure 4.12).

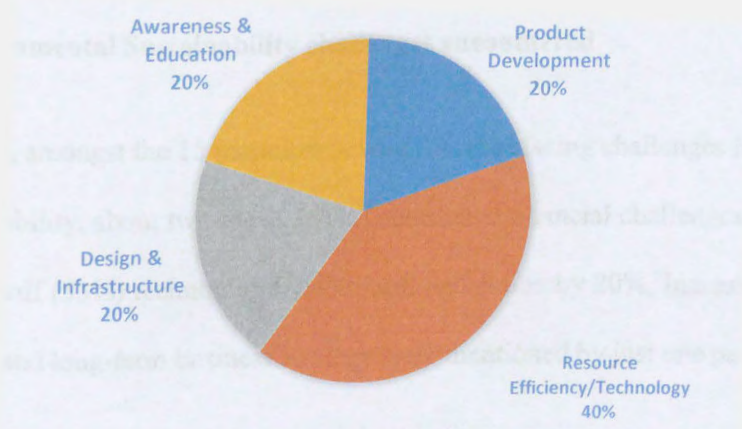


Figure 4.12: Environmental sustainability strategies- Water resources Industry

4.3.2 Objective 2: Environmental Sustainability Challenges

Finding out the challenges for implementing Environmental sustainability in corporate industries was one of the study objectives. According to the study findings, up to 71% of the participants reported that there were challenges in implementing environmental sustainability in their companies, with only 6 out of the 21 (29%) saying there were no challenges (Figure 4.13).

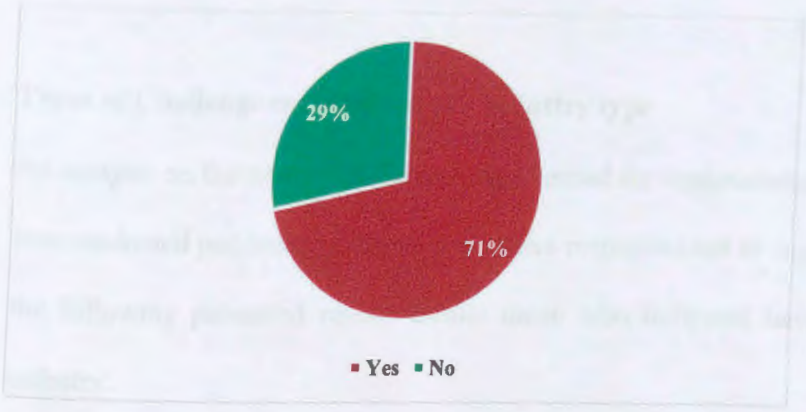


Figure 4.13: Challenges to environmental sustainability implementation

Environmental Sustainability challenges encountered

Overall, amongst the 15 participants who reported facing challenges implementing environmental sustainability, about two thirds (67%) mentioned financial challenges. Capacity was cited by just above half (53%) technology by 40% and legislation by 20%. Increasing complexity, security of supply and long-term business strategy were mentioned by just one participant each (Figure 4.14).

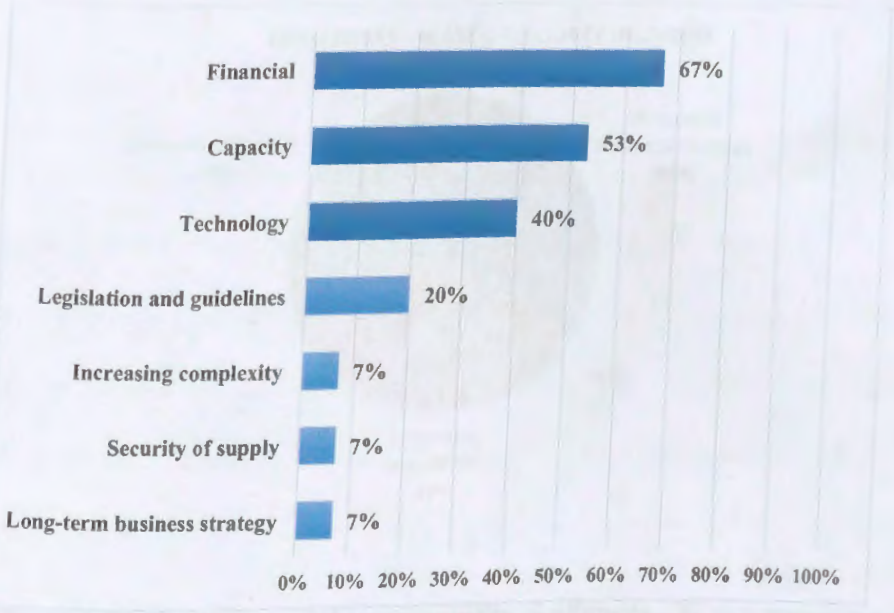


Figure 4.14: Types of environmental sustainability challenges encountered

Types of Challenge encountered per Industry type

An analysis on the type of challenges experienced for implementing environmental sustainability was conducted per Industry. Some companies responded not to experience any challenges, hence the following presented results entails those who indicated having challenges, provided per industry.

Challenges for implementing environmental sustainability – Water Resource Industry

The water resources industry presented having experiencing challenges of implementing corporate environmental sustainability and its adoption. A total of three different challenges were provided by the water resources industry which includes long-term business strategy, security of supply, increasing complexity. The most challenge provided is the long-term business strategy (34%) with the rest being supply security and increasing complexity as provided in Figure 4.15.

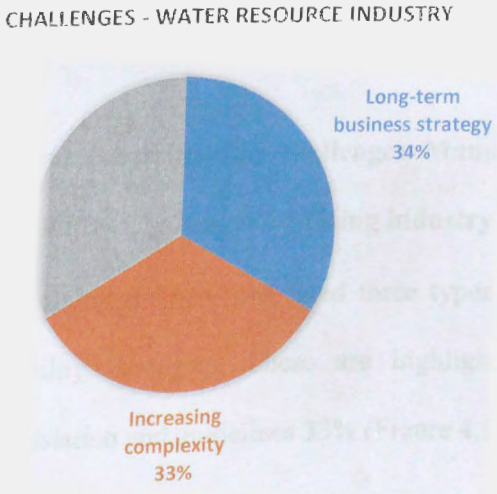


Figure 4.15: Environmental sustainability challenges - Water resources industry

Environmental sustainability challenges – Manufacturing industry

The manufacturing industry have also highlighted implementation challenge for environmental sustainability adoption. The highest challenge experience in the financial industry is the financial challenge with 45% response presentation, followed by capacity, legislation and guideline with 22% each. The least challenge provided for the manufacturing industry is technology with 11% (Figure 4. 16).

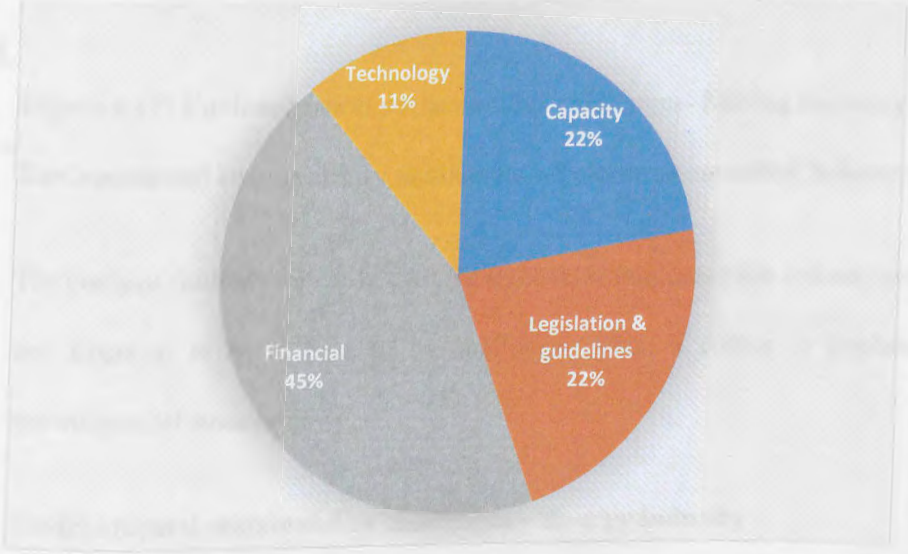


Figure 4.16: Environmental sustainability challenges- Manufacturing industry

Environmental Sustainability Challenges – Mining industry

The findings from the mining industry presented three types of challenges for implementing environmental sustainability strategies. These are highlighted as follows; capacity 34%, Technology 33% and legislation and guidelines 33% (Figure 4.17).

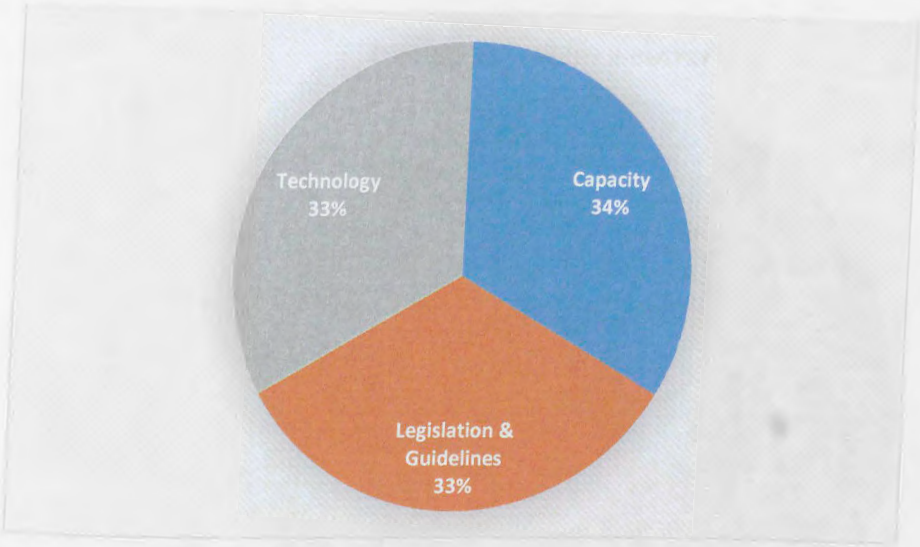


Figure 4.17: Environmental sustainability challenges- Mining industry

Environmental sustainability challenges – Telecommunication industry

The analysis findings for challenges from the telecommunication industry provided for technology and financial at equal base to be challenges when it comes to implementing and adopting environmental sustainability.

Environmental sustainability challenges – Energy industry

The energy industry also indicated experiencing challenges for incorporating environmental sustainability. The industry highlighted challenges of Technology, Capacity and Financial. Capacity scored most with 34% and the remaining two, to have 33% each as indicated in Figure 4.18.

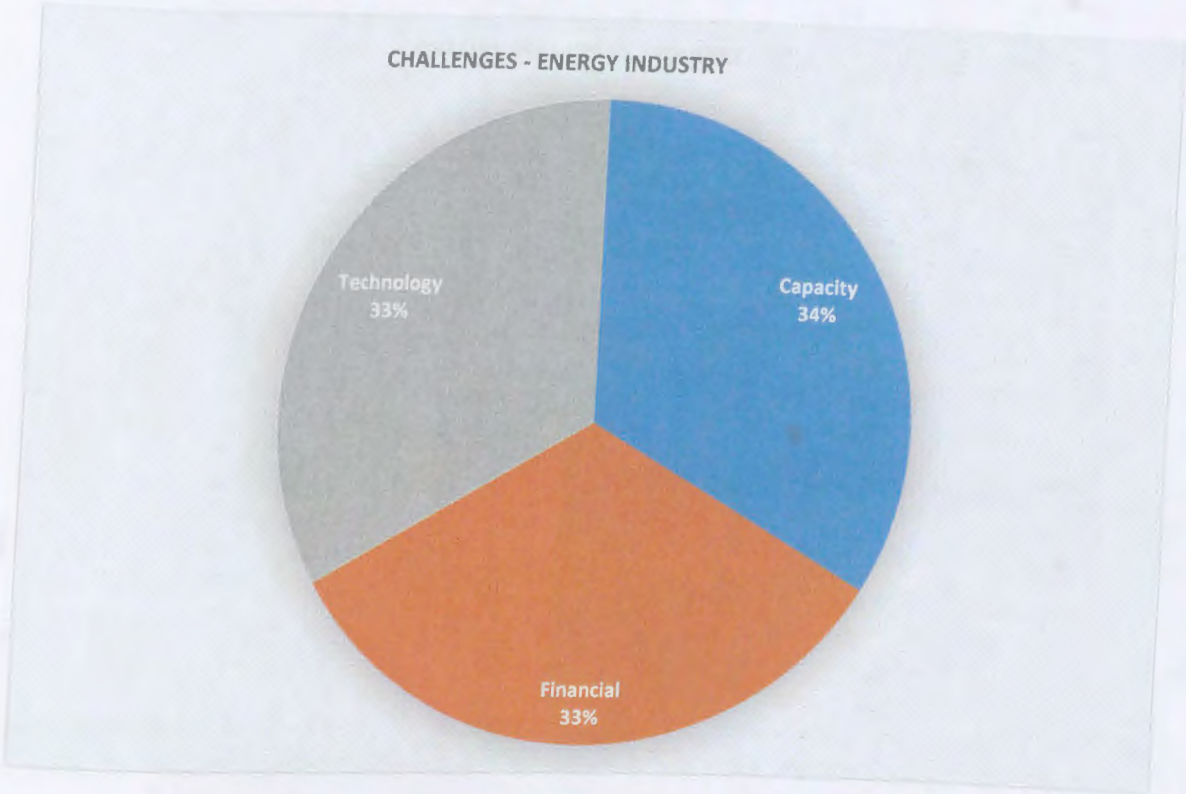


Figure 4.18 Environmental sustainability challenges – Energy industry

Environmental sustainability challenges – Retail industry

The retail industry analysis response provided two types of challenges in adopting environmental sustainability. This included financial and capacity which both scored 50% (Figure 4.19).

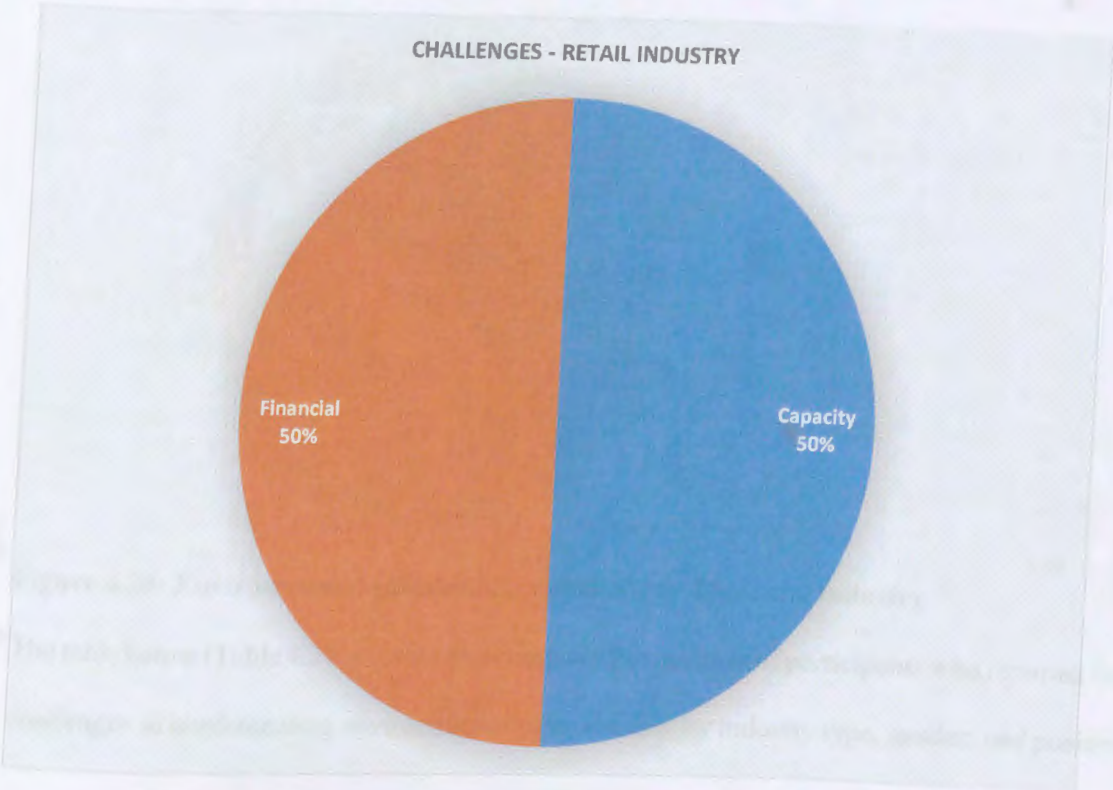


Figure 4.19: Environmental sustainability challenges - Retail industry

Environmental sustainability challenges – Financial industry

The financial industry indicated to have experienced challenges of capacity, financial and technology. The most challenge experienced is capacity and financial, of are at 40% rating. The other remaining challenge experienced is technology at 20% (Figure 4.20).

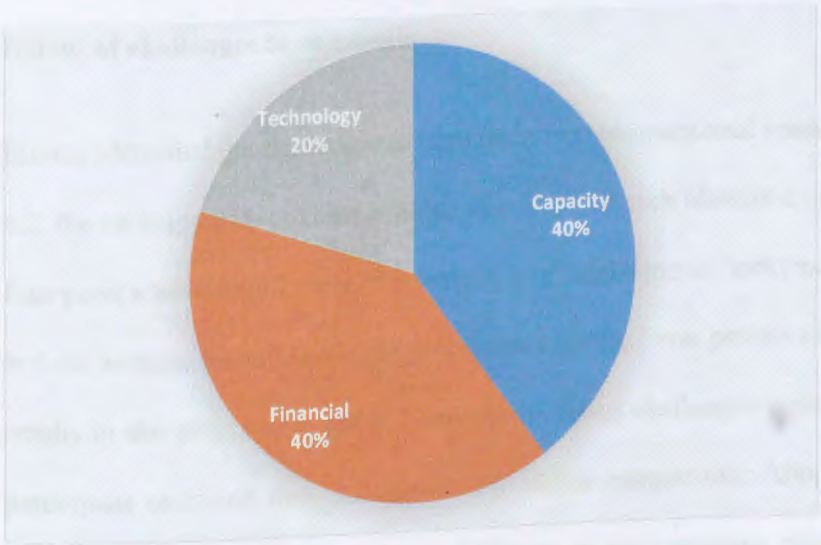


Figure 4.20: Environmental sustainability challenges- Financial industry

The table below (Table 4.2) presents and compares percentages of participants who reported facing challenges in implementing environmental sustainability by industry type, gender, and position.

Table 4.2: Challenges to environmental sustainability implementation

Industry type	**N**	**Yes**	**No**	**Significance (p-value)**
Financial	2	50%	50%	0.74
Energy	5	60%	40%	
Retail	2	50%	50%	
Manufacturing	7	86%	14%	
Mining	2	100%	0%	
Telecommunication	1	100%	0%	
Water Resources	2	50%	50%	
Gender	**N**	**Yes**	**No**	**Significance (p-value)**
Male	15	67%	33%	0.42
Female	6	83%	17%	
Position	**N**	**Yes**	**No**	**Significance (p-value)**
Officer	1	100%	0%	0.30
Manager	12	58%	42%	
Senior	8	88%	13%	

p<0.05*

Extent of challenges to companies

Having identified the challenges to implementing environmental sustainability as reported in Table 4.2, the participants were asked to rate the extent of each identified challenge. This was done of a four-point scale where 1 meant "extremely low" and 4 meant "extremely high". As such, the closer to 4 the average (mean) score, the greater the challenge was perceived to be and vice-versa. As the results in the table below show, some of the listed challenges were reported and rated by only participant each and thus do provide for viable comparison. Altogether, capacity (Mean=2.1, SD=1.1) was presenting the lowest challenge to implementing environmental sustainability as presented in Table 4.3.

Table 4.3 – Extent of challenges to companies

Type of challenge	N	Mean	Standard deviation
Capacity	8	2.1	1.1
Financial	9	2.9	1.2
Technology	6	2.8	1.0
Legislation and guidelines	3	2.7	1.2
Long-term business strategy	1	3.0	-
Security of supply	1	4.0	-
Increasing complexity	1	4.0	-

4.4 DISCUSSIONS

The results of this study confirm the increasing attention paid to the corporate environmental sustainability concept in the 21st Century across the globe, as emphasised and confirmed by past research (Fousteris *et al.,* (2018); Sideri, (2021); Engert *et al.,* (2016). This confirmation is noted through the observation of all participating industries having responded to in integrating environmental sustainability in their business models and all of them setting goals and targets for environmental sustainability. Thus, corporate industries in Namibia present a national commitment to addressing environmental sustainability and inter alia, to addressing sustainable development goals. Also, as such, this presents businesses as key stakeholders to drive the sustainability agenda, ensuring that they protect the environment.

The adoption and integration of environmental sustainability through strategic planning and target setting as presented by all the participating industries, provides for the adoption of the three-tier business approach of considering the elements of economic, social, and the environment in the business models. This revelation is according to the findings of Nosratabadi (2019). This approach to the three-tier approach confirms with the reviews made by Swarnapali (2017) who highlighted corporate sustainability to prioritise environmental protection, economic development and social equity, being spheres of development. In addition, the integration and ownership of sustainability in strategic plans and strategies to achieve sustainable development goals has also been highlighted by FORESIGHT AFRICA (2019). The observations indicated the Manufacturing and energy industries to present the most category representation with 33% and 24% respectively, this is a result of the nature of their operations, influence and occurrence in the market as compared to other industries such as the financial and telecommunications sectors.

On the findings noted on core drivers to implementing environmental sustainability, the study documented resources, economic efficiency, legal and stakeholders to be the main driving forces and to a lesser extent, corporate responsibility.

With regards to economic and resource efficiency being reported to be the highest core drivers to implementing environmental sustainability with 62% industry representation, this could provide for a possible business case for environmental sustainability integration as being quoted by literature (Barnett, 2019). Similar sentiments on cost reductions through environmental sustainability adoption were found by Calisto *et al.* (2021) who conducted a related study on environmental sustainability strategies for smaller companies in the Hotel industry. Furthermore, Sanchez-Planelles *et al.* (2021) also documented some scholars confirming the adoption of sustainability to provide economic efficiency through cost reductions.

On the other hand, it is also presented in this study that not all industries presented economic beneficiation to establish and advance the economy, which could present the announcement of a business case for environmental sustainability inclusion by all industry representation not to be the case at this stage. The provision of resource and economic efficiency to drive environmental sustainability implementation and adoption could be from the economic beneficiation obtained with less effort applied to maintain operations, hence saving resources and costs. This is demonstrated by only 62% of industries having resource efficiency and economic beneficiation as core drivers, with the remaining industries applying other strategies. On the provision of legal and stakeholders to be one of the driving forces for environmental sustainability implementation, it could be due to the emerging pressure on corporates from both the internal and external stakeholders.

This emerging pressure on industries to implement environmental sustainability strategies has been well cited in literature (Johannsdottir & Mclnerney, 2018) including the reduction of adverse social and environmental consequences (Lăzăroiu *et al.,* 2020). This could be due to the economic beneficiation and the emerging pressure on corporates from both internal and external stakeholders, whilst the corporate responsibility is dependent on the corporate value, beliefs, and influence in society.

Moreover, the results presented on environmental strategies being adopted by the participating corporate industries since 2015, which is the year Namibia pronounced commitment to sustainable development presented evidence to all participating corporate industries integrating environmental sustainability in their business using different strategies. The past studies and literature have noted various strategies adopted to promote environmental sustainability which included: holistic sustainability, sustainable business models, sustainable methodologies, sustainable operations, supply chain management, corporate social responsibility, sustainable tourism, sustainable classic supply chain, environmental responsibility, sustainable commitment, configuration and core business, communication & continuous improvement (van Zanten and van Tulder, 2018; Storopoli *et al.,* 2019, Johannsdottir & Mclnerney, 2018).

In Africa, some strategies included national ownership and domestication, which adopts sustainability in national plans, increasing capacity and strengthening statistical capacity, monitoring implementation capacity, resource mobilisation and human capital development (FORESIGHT AFRICA, 2019). This study presented corporate industries adopting corporate environmental sustainability strategies through product development, project management, design, and infrastructure, financial, supply chain, resource technology efficiency and awareness and education.

To be industry specific, industries such as manufacturing are adopting product development as a strategy for environmental sustainability promotion through products that are environmentally friendly, supporting carbon footprints which allow for product reuse and recycling, therefore promoting resource conservation and environmental stewardship in the designs and infrastructure of their products. On the strategy for project development in specific industries, the industries are incorporating environmental sustainability in different projects that they happen to establish. In addition, with regards to the environmental sustainability strategy for innovation, industries are prioritising environmentally sustainable projects which saves resources, provides alternatives and ensures environmental sustainability to assist in reducing the carbon effects and impacts of climate change. The identified strategies could confirm to the suggestions of Adekunle (2020) for African states adopting low carbon emission strategies.

With the financial strategy for environmental sustainability, industries are investing in sustainability projects establishment and development, providing funding and grants for green products and projects. On the supply chain, as a strategy, industries are promoting environmental sustainability in the product's life cycle and market. This involves implementing and adopting environmental sustainability during the manufacturing stage, distribution stage, retailing stage, and consumer- market stage to ensure a chain of sustainability of business operations. With resource and technology efficiency as a strategy adopted, industries are adapting to innovations that are for sustainable technology and operations, including innovations to sustain the environment. Through the strategy for awareness and education, industries are applying this strategy through investing in activities that are promoting environmental sustainability education such as educational funding and granting, sustainability skills attainment, community awareness campaigns and environmental sustainability marketing.

The strategies found to be applied by the participating industries in this study corroborate with literature findings that indicated strategies for strengthening development and for capacity and human capital on sustainability, supply chain management, sustainable operations and methodologies and social responsibilities (Naidoo & Gasparatos , 2018; Sanchez-Planelles *et al.*, 2021). This demonstrates that several sustainability approaches can be adopted at the global the level due to the heterogeneity of businesses, which presents an opportunity for successful commitment towards attaining the set goals and targets. It is, however, worth noting that different strategies are being adopted due to the organisational uniqueness and nature of business operations.

To provide more emphasis, Iten (2020) also pronounced that there might not be one specific strategy fitting all as adoption is based on the tailored solutions and innovation ideas of the company. Moreover, Barnett (2019) indicated that situational contingencies of the business financial performance and stakeholders influencing capacity can provide for inconsistencies of business methodological differences and challenges of organisational financial positioning, and complexity of the business. Therefore, this presents differences in the type of challenges and strategies adopted by various industries, as being observed in this study.

4.4.1 Environmental sustainability strategies

With regards to the environmental sustainability implemented in different industries, an overall response rate of 81% in participating industries, reported implementing awareness and education as their strategy, which could be due to the fact that most corporate industries consider it as part of their corporate social responsibility. Project development, design and infrastructure being lower as adoption strategies could portray that there is still a market limitation for environmentally sustainable products and projects that need to be explored, including investing financially in

financial environmental sustainability and technology being a challenge and influencing the rate of investment.

The environmental sustainability strategies adopted and implemented per industry was explored to fulfil the study objective of establishing environmental sustainability strategies adopted by corporate industries. This analysis was conducted to provide useful insights on the current practices in the different Namibian industries, to serve as corporate guidance to industry specific strategy information. The findings of this analysis also assisted in the identification of gaps in the existing practices of corporate industries through the provision of an integrated approach to sustainability.

It is however noted that there could be emerging strategies for environmental sustainability that corporate industries may consider due to the changes in nature of operations and periodicity. As confirmed and noted earlier, all industry types presented to adopt environmental sustainability strategies, although the type of strategies adopted may differ or agree among the industries depending on the similarities and uniqueness of business operations, market and stakeholder influence as cited by Iten (2020) and Barnett (2019).

An exploration on environmental sustainability strategies in the energy industry was conducted. The analysis on findings of environmental sustainability strategies in these industries presented a total of six strategies being adopted and implemented for environmental sustainability, with the most applied strategy being the one to do with the supply chain, contributing 23% of total industry application. The high prioritisation and consideration of this strategy can be related to the channel of operation of the energy industry, which specifies a complexity of business operations and production regarding the chain of product development and that of stakeholders' requirements. The second most applied strategies included strategies for resource efficiency and design and

infrastructure, acquiring 18% each, and to a lesser extent the strategy for product development with 17%. The relative adoption of these strategies provides a possible indication of how those strategies interact, such that the resource efficiency or technology provides the type of design and infrastructure as well as the development of the product.

Moreover, these strategy types of resource efficiency, technology, design and infrastructure are prioritised for this industry to save and reduce the scarce resource use, therefore saving costs by using less resources such as water and electricity by applying alternative renewable technologies in developing products in environmentally friendly ways. This finding agrees with the study by Lăzăroiu *et al.,* (2020) who documented organisations to be reducing adverse social and environmental consequences from operations through sustainable innovation practices adoption and that of (Asongu & Othiambo, 2021) for ensuring resource efficiency to solve the energy crisis in operations.

In addition, to a lesser extent, the industry also evidenced adoption of financial strategies and awareness and education. The lesser application of these strategies could be due to the financial performance and influences on individual companies, including the unique corporate social responsibility uptake by the energy industries as emphasised by Sanchez-Planelles *et al.* (2021). Also, the limited laws specific for corporate responsibilities towards environmental sustainability could also be influencing the rate of application for strategies related to awareness and education.

On the analysis of strategies in the financial industry, four strategies were specified to be applied in the industry for environmental sustainability adoption and implementation. The most applied strategy recorded from this industry is awareness and education with 40%, which could demonstrate prioritisation of corporate social responsibility programmes or activities in the

financial industry. The rest of the strategy types adopted included project development, product development and financial. The uptake and existence of these strategy types in the financial industry relates to the nature of the business which involves investing in sustainability projects and product development funding as well as providing sustainability and green bonds. Sustainable banking has been highlighted by Sideri (2021) whose studies focused on strategies in the banking sector, although they found little sustainability aspects in the banking sector.

The manufacturing industry was found to also adopt various strategies for environmental sustainability promotion. The industry presented six types of strategies and at most, the industry is adopting resource efficiency, technology and awareness and education with a 19% rate of application. The prioritisation of these strategies by the industry could be due to the business nature and focus of manufacturing companies that highly prioritise and specialise in producing products for the market, therefore making technology efficiency one of the core functions and hence prioritising it as a strategy. This high adoption of resource efficiency in business operations has been considered and suggested by related studies (Adekunle, 2020; Asongu & Othiambo, 2021). With awareness and education also being prioritised, this provides for the establishment of skills needed for sustainability innovation.

To contribute to market acquisition for the manufactured sustainable products, there is a need to invest in customer-consumer awareness on sustainability which could be the case for prioritising awareness and education strategy in the manufacturing industry. The remaining strategies included financial, design and infrastructure as well as supply chain. These are considered as strategies in this industry as manufacturing involves product and market development. The lesser adoption of these strategies (supply chain, design and infrastructure and financial) could be driven by direct markets and clientele of manufacturing companies which have less business complexity and having

specialised products for their markets, presenting less investment in product design and manufacturing, supply chains and financial resources.

The mining industry is one of the evolving and expanding industries in Namibia, therefore playing a role towards economic contribution and development. With regards to the nature of its operations, the mining industry presents both social and environmental challenges and problems influencing sustainable development and environmental sustainability (Littlewood, 2015).

From the conducted analysis, the mining industry evidenced strategies for project and product development, supply chain, design and infrastructure, awareness, and education, and financial for environmental sustainability. At most, the industry recorded application of project development, awareness and education as a strategy, with each having a 25% application scoring. The high application of project development in the mining industry could be due to the emerging and exploratory nature of mining activities for new mining projects and hence ensuring prioritisation of environmental sustainability due to the nature and impact of environmental activities. In addition, awareness and education as a priority could reveal the corporate social responsibility prioritisation for environmental sustainability, as well as investing in skills for future mining operations and compliance requirements, considering the globalisation influence and heterogeneity of environmental impacts associated with mining operations.

Other strategies for adopting environmental sustainability in the industry included supply chain, product development, financial and design and infrastructure. The presentation of these strategy types in the mining industry evidenced the maintenance of markets for mining companies through supply chains, production of speciality products through design and infrastructure, as well as ensuring that there are financial resources available for investment. As little is presented in

literature on mining strategies, the prioritisation found in this study could be by the aspects of organisational sustainability which may comprise of board composition, knowledge deficiencies, strategies and resources, competition, and market tendencies (Sanchez-Planelles *et al.,* 2021).

On the environmental sustainability strategies in the retail industry, the strategies included adoption of product development, awareness and education and supply chain. These identified environmental sustainability strategies correspond with the integrated nature of the business process of the retail industry activities and processes for supplying and producing products and creating a market through consumer education and awareness. As a result, these types of strategies are prioritised for application in this industry. The defined strategy for the supply chain, conforms with the work of Calisto *et al.* (2021) and Storopoli *et al.* (2019) who found sustainable supply chain being adopted for as a strategy.

In the telecommunications industry, there were four strategies identified for corporate environmental sustainability adoption and implementation. The industry presented strategies of project and product development, design and infrastructure, resource efficiency and technology. The adoption of these type of strategies supports the type of operational nature of the telecommunications industry that is involved in project development, infrastructure and technology innovations. Although there is little presented in literature on this industry, it can be confirmed that the industry also adopts similar strategies although different as per their organisational agenda and stakeholders' requirements as indicated by Thakhathi *et al.* (2020) and Sideri (2021).

An exploration on the environmental strategies in the water resources industry was also conducted. The water resources industry highlighted four strategies for environmental sustainability adoption.

According to the findings, the most applied strategy for environmental promotion is through resource efficiency and technology. Due to the scarcity of water resources as well as the high cost of machinery, prioritising for resource efficiency and renewable technologies in promoting environmental sustainability is likely to be the strategies in this industry. This is attained through the reuse and recycling of water and applying environmentally friendly techniques. These strategies of cost and resource saving conform with the findings in literature (Lăzăroiu *et al.*, 2020; Asongu & Othiambo, 2021).

Other strategies applied for environmental sustainability promotion included awareness and education, product development, design, and infrastructure at equal pace. The application and adoption of these strategies conforms to the operational nature of water resources industry processes and systems. Specifically, through awareness and education, the industry needs to invest in specialised skills for new technology innovation and at the same time provide awareness for the saving of water resources, considering it to be a scarce resource. The strategy of design and infrastructure and product development is associated with innovation that the industry develops to promote the sustainable utilisation of the water resource.

4.4.2 Environmental sustainability challenges

This study noted the challenges emerging for environmental sustainability adoption and implementation. Overall, the type of challenges that the participating industries revealed to experience for environmental sustainability included the following challenges: capacity, financial, technology, guidelines and legislations, long term business strategy, supply security and increasing complexity. According to the overall findings on challenges regarding environmental sustainability implementation, a representation of 71% responded to having challenges for implementing

environmental sustainability which could be as a result of corporate environmental sustainability still being a new and emerging concept with different corporates having to still plan and familiarise with its adoption.

In addition, this finding could also portray that for most companies, the resources needed for corporate environmental sustainability implementation are limited. Whereas, 29% of the participating companies indicated not to have challenges for corporate environmental sustainability strategy, this could be an indication of the fewer companies that are well established in their nature of operations, markets and value chains, to support and adopt environmental sustainability in their operations. Therefore, this finding is a representation of industry nature and corporate positioning, which demonstrates that the challenges are unique to organisations.

The highest score for being a challenge in implementing environmental sustainability by all industries included the financial challenge with 67%, this illustrates a limitation in financial resources being available to run and adopt environmental sustainability practices and strategies, which include the cost of production, projects establishments, innovations for environmentally life cycle processes as well as the funding for projects and skills. Finance being high on the challenges, could be related to the global recession that affects the heterogeneity of business operations and markets, as well the pandemics that affect industries' financial performance.

Moreover, capacity and technology scored 53% and 40% respectively, which demonstrates a limitation and inadequacy of capacity and technology to implement environmental sustainability. Herewith, capacity as a challenge could be revealing limited human capital for corporate environmental sustainability adoption and implementation, whereas technological challenges relate to the costs of production processes, equipment and innovations. Also, legislation and

guidelines accounted for 20% of environmental sustainability, indicating that there is still a need to improve on legislation and guidelines that are prioritising environmental sustainability. Also, to ascertain industry directives towards environmental sustainability commitments and achievements.

According to literature, the technology gap in sustainability adoption was also found as a challenge in Africa in recent studies of Amowine *et al.* (2021). Also, Naidoo and Gasparatos (2018) noted gaps of inadequate research on environmental sustainability research which may contribute to capacity, thus supporting the current study findings of capacity to be one of the highest challenges, and the findings by Amowine *et al.* (2020). Furthermore, due to the similarity of findings in the same regions (Africa) addressing the technological gap in the region needs attention. Redman (2018) also found design and measurement as challenges of business sustainability, which may relate to technological challenges. On the least challenges being recorded for long-term business strategy, security of supply and increasing complexity with 7% representation, could be a result of most corporate industries having integrated environmental sustainability in their strategic planning, thus making it easier for their market operations, hence reducing business complexity and supply risks.

To provide industry specific insights, an exploration of challenges for implementing and adopting environmental sustainability strategies was also carried out. There are limited studies in literature that have focused on industry specific challenges of environmental sustainability integration. The following challenges noted in different corporate industries may be related to organisational sustainability aspects as provided by Sanchez-Planelles *et al.* (2021). They include aspects of composition, knowledge deficiencies, strategies and resources, competition, and market tendencies. In addition, these findings may also relate to situational contingencies affecting

business financial performance and stakeholders, influencing capacity as presented by Barnett (2019).

The water resources industry experienced challenges of long-term business strategy, increasing complexity and security of supply. The challenge of long-term business strategy, being recorded the most could be a demonstration of the complexity of operations involved in the water resources industry, including the integrated nature of other sectors and industry that influence the use and availability of water resources. In this regard, it creates a challenge of supply security for water resources which affects the sustainable planning and management of water resources, therefore increasing complexity.

With regards to the manufacturing industry, four challenges for implementing environmental sustainability were revealed. The highest challenge recorded is financial scoring with 45%, which relates to the business nature of the manufacturing industry. The manufacturing of products requires financial resources to meet product designs of any kind for the industry and depending on the financial performance of the business, coupled with the impact of the pandemic, finance could be a bigger challenge. Other highlighted challenges are of technology and capacity, which evidences the need for manufacturing tools for the promotion of sustainable production and processes, including the speciality to operate and provide innovations. Legislation and guidelines are presented as a challenge, which could relate to the limited availability of specific legislation and guidelines for environmentally sustainable production and processes.

On the mining industry, challenges of capacity, technology, legislation, and guidelines were provided. Technology and capacity are noted as a challenge due to the emerging requirements and pressure for the mining industry to operate sustainably and applying sustainable innovations to

reduce environmental impacts, a process that requires emerging techniques and innovations that may not be available. Although there are existing environmental laws, there are limited guidelines and legislation available specifically on the integration and adoption of sustainability in mining, which provides a challenge.

Moreover, the telecommunications industry revealed challenges with financial and technological aspects. The types of challenges relate to the nature of the business activity involved in the telecommunications industry, being a technology driven industry and the financial investment in these technologies.

The energy industry provided challenges for capacity, technology and financial at fairly equal scoring (33% and 34%). The provision of these types of challenges is related to the operational nature of energy business activities, which requires financial input for capacity and technology investment. In the retail industry, capacity and financial factors were also provided as challenges. These could be emanating from the financial investment needed for product innovations which specifies for environmentally friendly processes and production, at the same time needing expertise to implement these innovations.

The financial industry also provided challenges for environmental sustainability implementation. The highest included factors were financial and capacity which scored 40%. This could be a result of the financial performance of the local economy, including the cumulative impact of the pandemics. As the core focus on the financial industry is direct to economic beneficiation, there is a need for skills to integrate sustainability in financial operations which calls for capacity in these areas. Technology is also provided as a challenge due to the innovations required for sustainable projects and products, which may not be available or costly.

The study also looked at the relativeness of participants' positions and gender in relation to environmental sustainability implementation. The findings regarding participants' positions and gender revealed no statistical differences on corporate environmental sustainability implementation. This, supporting the notion of the company's performance to be influenced by other factors, such as financial positioning, methodological approaches, stakeholders influence, business strategies and planning and other challenges as revealed by past research work of Naidoo and Gasparatos (2018); Barnett (2019) and Nosratabadi *et al.* (2019). On the other hand, the findings of this study may not conform with studies of Latan *et al.* (2018) who found positive and significant influence between corporate environmental strategy, top management commitment and environmental uncertainty, although this study focused on strategy adoption and challenges of implementation.

The background research of this study concept presented shortcomings of inadequate research and assessment of the impact, influence and benefits of implementing corporate environmental sustainability and their extent of implementation. Also were lack of studies on corporate sustainability in developing countries, gaps of sustainability promotion and corporate responsibility practices including the overall limited work to be presented on sustainable development in Namibia. This study provided insights on the country's positioning for environmental sustainability to be industry specific by providing the adoption practices of corporate environmental sustainability, therefore contributing to literature and research on corporate environmental sustainability in the country. Moreover, the challenges of implementing environmental sustainability for the various industries were highlighted, and this should assist in ensuring continuous improvement and implementation of sustainability at corporate level. The research notes with emphasis, that the methodological approach used in this study provides useful

insights for its application, as supported by literature (Roy *et al.* (2020) Johannsdottir and Mclnerney (2018) Barnett (2019).

As for future implications, although findings from this study presented inter-challenges and shared strategies of environmental sustainability adoption amongst the industries, the limitations of industry coverage and geography should be considered as the situation may differ in other countries or industries.

4.4.3 Objective 3:

Framework for Corporate Environmental Sustainability Strategies

This study aimed at providing a framework for corporate environmental sustainability strategies based on the insights derived from the research work conducted on this study. The derived framework is based on thematic classification of corporate environmental sustainability application from the participating industries of energy, financial, retail, manufacturing, and mining, water resources and telecommunications.

The classification of the derived framework for this study is presented with the following five themes which consist of (1) strategic planning and development; (2) corporate materiality assessment; (3) strategy description; (4) support structures and systems and (5) Implementation tools. Due to the heterogeneity of the nature of businesses and their operations, this framework can be adopted by other industries that are apart from the participating industries (energy, financial, retail, manufacturing, and mining, water resources and telecommunication). The current framework conforms to some classifications provided by literature (Johannsdottir & Mclnerney, 2018; Storopoli *et al.*, 2019) which provides for sustainable supply chains, commitment, core business and continuous improvement, requiring environmental sustainability strategy to be

prioritised in strategy planning and development of core business models and providing supporting systems for continuous improvement.

In addition, this framework can be used by businesses of various categories; the new businesses aiming at implementing environmental sustainability strategies in their business models or the early adopters who already have adopted and implemented environmental sustainability strategies and thus wish to further develop, improve or amend their strategic approaches. For future implications, it is important to note that this framework was developed based on the current situational analysis and approaches; therefore it is advisable to consider periodic progression of changes in the business operations, markets and environmental requirements for continuous progression and environmental sustainability attainment. A schematic presentation of the developed Framework for corporate environmental sustainability strategies is provided in Figure 4.21.

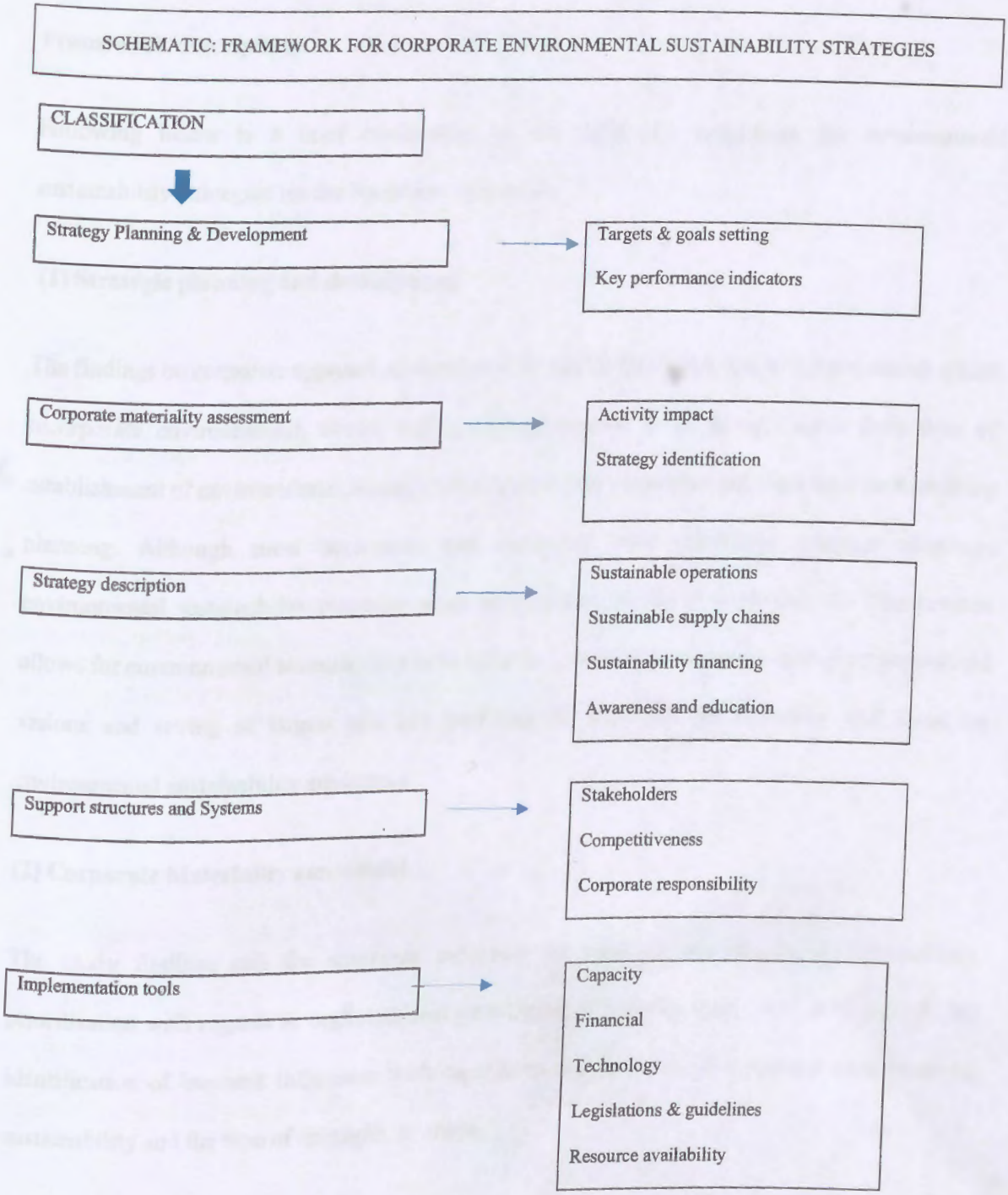


Figure 4.21: Framework for corporate environmental sustainability strategies

Source: Researcher's Own Construct from Research Findings

Framework description:

Following below is a brief explanation of the developed framework for environmental sustainability strategies for the Namibian industries.

(1) Strategic planning and development

The findings on corporate approach to sustainability extend the integration of three elements which incorporate environmental, social, and economic aspects. It is through these three tiers of establishment of environmental, social, and economic that corporates can align their sustainability planning. Although most businesses and industries have prioritised strategic planning, environmental sustainability planning needs prioritisation in the business models. This process allows for environmental sustainability to be set at the forefront in corporate strategic missions and visions and setting of targets and key performance indicators for hierarchy and focus on environmental sustainability attainment.

(2) Corporate Materiality assessment

The study findings call for corporate industries to maintain assessment of sustainability prioritisation with regards to organisational positioning at industry level. This shall include the identification of business influences with regards to requirements of corporate environmental sustainability and the type of strategies to adopt.

(3) Strategy description

The type of strategies to promote environmental sustainability need to be identified and established by the corporate entity. Some strategies that can be applied to promote environmental sustainability

were in the Financial, Energy, Retail, Manufacturing, Mining, Telecommunications and Water Resources. The study analysed four categories of strategies that were used in the promotion of environmental sustainability by Namibian industries. They included sustainable operations, sustainable supply chains, sustainability financing and awareness and education. A brief description of each category is highlighted as follows:

- *Sustainable operations*

Sustainable operations can be incorporated in various ways. This involves adjusting systems and processes to integrate sustainability aspects. The study revealed the adoption of environmental sustainability through sustainable operations by providing efficient technologies, and resources; developing products and projects for promoting environmental sustainability, including adopting designs and infrastructure that has sustainability features.

- *Sustainable supply chains*

Managing supply chains provides for integration of sustainability in unique organisational business models. Sustainable supply chains present corporates to assess their entity's life cycles in providing an indication of their environmental sustainability position and influence. The study indicated corporates to promote sustainability in the supply chains through their supply networks, trading partners and establishing a market for sustainable products and services.

- *Sustainability Financing*

The strategy for sustainable financing includes the investment in sustainable projects and products by various corporate organisations in different industries. This refers to sustainable bonds, green products financing, and provision of funding for sustainable projects and innovations.

- *Awareness and Education*

Communicating and promoting awareness of environmental sustainability and stewardship has been identified as a strategy for promoting environmental sustainability. Many organisations commit to support awareness programmes on environmental sustainability which the corporate social responsibility. Also included under this strategy category is investing in skills acquisition relating to environmental sustainability to advance in knowledge.

(4) Support structures and systems

The study findings identified the need for to present support structures and systems towards sustainability channelling. This provides the driving force for environmental sustainability that base the establishment of business requirements and focus. In particular, with the focus on corporate environmental sustainability, the findings provide various supporting structures and systems to include and consisting of the following four components: Stakeholder involvement, organisational competitive advantage, as well as corporate responsibility adopted through company value and ethnicity towards environmental sustainability.

(5) Implementation tools

The study identified mechanisms that need to be in place in ensuring the implementation of corporate environmental sustainability and their promotion. To mention specifically, the analysis of the corporate industries, identified implementation tools to provide for corporate environmental adoption, implementation, and maintenance. The identification tools included capacity, financial, technology, and legislation and guidelines. Following below is a presentation of a brief presentation of each tool:

Capacity

Capacity provides the ability for a system process or operation to produce the required output. With regards to capacity for corporate environmental sustainability implementation and adoption, capacity is referring to the skills and knowledge mechanisms to tackle, promote, maintain environmental sustainability at organisational level to meet environmental sustainability requirements. To be specific in this regard, human capital is needed to drive environmental sustainability operations and innovation systems, whilst ensuring that there is a system integration for environmental sustainability in business models and daily operational planning and operations.

Financial

Financial serves as a tool to specify the availability of resources in financing activities for environmental sustainability implementation and promotion and services vital to business sustainability performance. The inadequate and limited finances alter the process rate for a business to promote and implement projects, products, innovations, operations for environmental sustainability, including the business contribution to social responsibility activities or commitments that are focusing on environmental sustainability. When financial resources are made

available, there is a smooth running of projects, processes, and operations consistent with their planning, execution, and monitoring.

Technology

Technology specifies the required input needed to accomplish business targets and performance. With regards to technology as a tool for corporate environmental sustainability, it requires for techniques, equipment's, and innovations to be in place to provide and guide sustainable operations and environmental adoption supply chains of different industries. As provided from companies from different industries that participated, technology consists of production machinery processes and software to promote environmental sustainability in business operations.

Legislation and guidelines

The industries call for corporate entities to be guided in establishing and integrating environmental sustainability. This furthermore provides for the strengthening of corporate commitment and target setting towards environmental sustainability achievement. In addition, guidelines provide for identification of key performance indicators and parameters involved for corporate sustainability strategies. Thus, it requires for guidelines and regulations to be in place that can enable benchmarking and environmental sustainability compliance. However, despite having other regulatory frameworks in place, there is a need for specific guidelines to promote and implement environmental sustainability at industry level.

Resource availability

In some industries, resource availability serves as a challenge in attaining and planning for environmental sustainability. This is pronounced in some operations that are integrated and

industries with shared resources. From this perspective, integrated approaches towards resources recovery and planning needs attention at various stages of the business level and from different corporate organisations to ensure availability of the shared or common resource for environmental sustainability attainment.

4.5 CHAPTER SUMMARY

This Chapter presented the analysis of the collected data and interpretation of the results. The results were presented with tables and figures. The study revealed that all corporate industries are considering environmental sustainability in their core business and adopting various environmental sustainability strategies. Moreover, the findings also indicated that corporate industries are experiencing challenges with corporate environmental sustainability implementation. Moreover, a framework of corporate environmental sustainability strategies for the Namibian industries was developed.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1. INTRODUCTION

This chapter presents a summary of the findings on the corporate environmental sustainability strategies of the Namibian industries, using a case study of the selected industries in the financial, energy, retail, manufacturing, water resources, telecommunications, and mining sectors. Furthermore, conclusions based on the findings are presented, with recommendations for future work.

5.2 SUMMARY OF FINDINGS

The research on developing a framework for corporate environmental sustainability strategy for the Namibian industries provided the following findings:

- Environmental sustainability strategy is applied and adopted by all the selected industries included in this study.
- The industries adopted environmental sustainability through strategies of project and product development, design, and infrastructure, financial, supply chain, resource efficiency and technology, awareness and education.
- The main core driver by industries to adopting environmental sustainability strategies is resulting from resource efficiency, economic and cost savings. The least provided driver for environmental sustainability by industry is corporate responsibility or value for environmental sustainability

On the other hand, despite this attempt to implementing environmental sustainability; industries still found challenges regarding financial availability, capacity, technology, legislation and

guidelines on environmental sustainability, increasing complexity, security of supply and long-term business strategy.

- At most, industries adopted environmental sustainability through awareness and education.

The main challenge found by industries in incorporating environmental sustainability was financial, and this relates to financial resource availability.

The analyses on industry specific strategies and challenges revealed that:

- The financial industry mostly applied awareness and education as the corporate environmental sustainability strategy, including adopting other strategies through project and product development.
- In addition, the manufacturing industry also mostly adopted awareness and education, resource efficiency and technology as a strategy for corporate environmental sustainability, with other strategies that included supply chain, design and infrastructure, and financial.
- The mining industry presented project development, awareness and education as their main strategies for corporate environmental sustainability, with the adoption of other strategies including supply chain, product development, design and infrastructure and financial.
- The retail industry adopted strategies for product development, awareness and education and supply chain.
- The telecommunications industry adopted product and project development, design and infrastructure, resource efficiency and technology as strategies.
- Furthermore, the water resources industry applied mostly strategies for resource efficiency and technology, with awareness and education, product development, design and infrastructure serving as other strategies.

- On the challenges, the water resource industry provided challenges of long-term business strategy, increasing complexity and security of supply.
- The manufacturing industry highlighted experiencing mostly challenges of financial, and other remaining challenges of capacity and technology.
- The mining industry presented challenges of capacity, legislation and guidelines.
- The telecommunications industry provided challenges of financial and technology.
- The energy industry experienced challenges of capacity, technology and financial.
- The retail industry experienced challenges of capacity and financial.
- Additionally, the financial industry experienced challenges of financial and capacity as the main challenge with regards to incorporating environmental sustainability, and also presented technology as a challenge.
- The extent of the challenges was seen medium-to-high for all sectors combined.
- Overall, the study proposed a framework with five classification themes, including strategy planning and development, corporate materiality assessment, strategy description, support structures and systems, and implementation tools.

5.3 CONCLUSIONS

The work of this study and literature presents the significance of environmental sustainability in business management. As such, the role of corporate industries in tackling environmental challenges and serving as role players in sustainability can be confirmed. Sustainable development requires the adoption of three pillars of social, environmental and economic integration in strategic management. The aim of this study was to provide insights to environmental sustainability theory and practice through the identification of strategies adopted by the Namibian industries, identification of challenges to corporate environmental sustainability integration and finally to

provide a framework for corporate environmental sustainability strategies for the Namibian industries. Based on the study findings, the following conclusions were drawn:

Objective 1: Environmental sustainability strategies of the selected Namibian industries

- All the selected industries incorporated environmental sustainability in their strategic approaches
- The adoption and implementation of environmental sustainability at industry level is not influenced by gender or serving position, but other possible influencing factors of financial positioning, methodological approaches, stakeholder influence, business strategies and planning
- Industry applied strategies included: awareness and education, product development, design and infrastructure, financial, supply chain, and resource efficiency and technology.
- Awareness and education were the most applied strategy for environmental sustainability, whilst project management was the least strategy applied.
- Corporate responsibility and value for environmental sustainability is the least driving factor towards corporate environmental sustainability implementation.

Objective 2: Challenges to environmental sustainability strategy integration

- Financial, technology, capacity, legislation, and guidelines, increasing complexity, long-term business strategy and security of supply were challenges for incorporating environmental sustainability in the Namibian industries.
- The availability of financial resources was the main challenge in adopting environmental sustainability strategies.
- Overall, the extent of the challenges was seen medium to high.

Objective 3: Framework for corporate environmental sustainability strategies

- The proposed framework of environmental sustainability consists of five classification themes: strategic planning and development, corporate materiality assessment, strategy description, support structures and systems, and implementation tools.
- The framework developed from this study should assist future academics and corporate leaders to evaluate and implement corporate environmental sustainability and providing guidance towards the achievement of sustainable development in Namibia.
- For future application and generalisation of this research, considerations should be taken for the limitation of geographic and industry type, which may differ in other countries or industries.

Overall, this study has revealed the benefits of economic and resource efficiency through businesses implementing environmental sustainability strategies and insights on local adoption of environmental sustainability, which was a gap presented by research in Namibia.

5.4 RECOMMENDATIONS FOR FUTURE STUDIES

The following are recommended for future research:

- The current study was geographically limited to Namibia, thus a similar study in other regions or countries of Africa through intergovernmental agreements and networks can contribute to the regional effort towards achieving environmental sustainability and the committed sustainable development goals.
- Also, a related study including other industries could be beneficial, considering globalisation and industrial development that may result in situational differences.

- An in-depth study on economic beneficiation to quantify for a business case towards implementing environmental sustainability would promote the adoption of environmental sustainability and business competitiveness in the country, especially that there is limited knowledge of economic value for business in Namibia, and taking into considering that environmental sustainability research locally and regionally is still in its infancy.
- A related study applying other methodological approaches and a different sample size may be conducted to complement this study and literature.
- There is need to invest in environmental sustainability at corporate level, hence financial resources mechanisms of prioritising sustainability projects and procurements need to be considered at country level to enhance its development.
- Other experienced challenges of technology, capacity, legislation, and guidelines, increasing complexity, long-term business strategy and security of supply also needs to be improved to fast-track the process of environmental sustainability implementation.
- By consideration of Corporate responsibility and value being the least factor driving environmental sustainability in industries, there is a need to improve on requirements for corporate social responsibility and value towards attaining environmental sustainability.
- In addition, consumer awareness to drive environmental sustainability implementation and progression should be strengthened through industrial campaigns, as it has not been a driving factor for corporate environmental sustainability implementation.
- Lastly, Namibian industries need to promote the efforts and progress they are making towards environmental sustainability by reporting on their environmental sustainability performance, this shall assist with the identification of challenges with periodicity and progression including future research of this nature.

REFERENCES

Adekunle, I.A. (2020). On the search for environmental sustainability in Africa: the role of governance. *Environmental Science and Pollution Research, 28,* 14607–14620. https://doi.org/10.1007/s11356-020-11432-5

Amowine, N., Li, H., Baah Boamah, K., & Zhou, Z. (2021). Towards Ecological Sustainability: Assessing Dynamic Total-Factor Ecology Efficiency in Africa. *International Journal of Environmental Research and Public Health, 18*(17). https://doi.org/10.3390 /ijerph18179323

Antwi, S.K., & Hamza, K. (2015). Qualitative and Quantitative Research Paradigms in Business: A Philosophical Reflection. *European Journal of Business and Management*, *7*(3).

Asongu, S.A., & Odhiambo, N.M. (2021). Enhancing governance for environmental sustainability in sub-Saharan Africa. *Energy Exploration & Exploitation, 39*(1), 444–463. https://doi.org/10.1177/0144598719900657

Barnett, M.L. (2019). *The Business Case for Corporate Social Responsibility: A Critique and an Indirect Path Forward.* SAGE PUBLICATIONS. https://doi.org/10.1177/0007650316660044

Bartniczak, B., & Raszkowski, A. (2019). Sustainable Development in African Countries: An Indicator-Based Approach and Recommendations for the Future. *Sustainability*, *11*(22). https://doi.org/ 10.3390/su11010022

Battaglia, M., Gragnani, P., & Annesi, N. (2020). Moving Businesses toward Sustainable Development Goals (SDGs): Evidence from an Italian "Benefit-For-Nature Corporation. *Entrepreneurship Research Journal*. https://doi.org/ 10.1515/erj-2019-0305

Biewendt, M., Blaschke, F., & Böhnert, A. (2020). An evaluation of corporate sustainability in context of the Jevons Paradox. *Socioeconomic Challenges, 4*(3), 46-65. https://doi.org/10.21272/sec.4 (3).46-65.2020

Busetto, L., Wick, W., & Gumbinger, C. (2020). How to use and assess qualitative research methods. *Neurological. Research and Practice, 2* (14). https://doi.org/10.1186/s42466-020-00059-z

Calisto, M., Umbelino, J., Goncalves, A., & Viegas, C. (2021). Environmental Sustainability Strategies for Smaller Companies in the Hotel Industry: Doing the Right Thing or Doing Things Right? *Sustainability*, *13*(18). https://doi.org/10.3390/su131810380

Chang, T.-W. (2020). Corporate Sustainable Development Strategy: Effect of green shared vision on organisation member's behavior. *International Journal of Environmental Research and Public Health*, *17*(7). https//doi.org/10.3390/ijerph17072446

Corporate Citizenship. (2015). *Sustainability Strategy: Simplified.* https://corporate-citizenship.com/wp-content/uploads/dlm_uploads/Sustainability-Strategy-Simplified1.pdf

Creswell, J. W. (2014). *Research design: qualitative, quantitative and mixed methods approaches (4th ed.)*. Thousand Oaks, CA: Sage.

Dhull, S., & Narwal, M.S. (2018) Prioritizing the drivers of green supply chain management in Indian manufacturing industries using fuzzy TOPSIS method: government, industry, environment, and public perspectives. *Process Integration and Optimization for Sustainability, 2*(3). https://doi.org/10.1007/s41660-017-0030-1

Dumitriu, P., & Ahmed, A. (2018). *Public Private Partnerships for the implementation of the 2030 Agenda for sustainable development.* Outlook2018.

Dvořáková, L., & Zborkova, J. (2014). Integration of Sustainable Development at Enterprise level. *Procedia Engineering, 69,* 686-695. https://doi.org/10.1016/j.proeng.2014.03.043

Dyllick, T., & Muff, K. (2016) Clarifying the meaning of sustainable business: Introducing a typology from business-as-usual to true business sustainability. *Organization & Environment, 29*(2). https://doi.org/ 10.1177/1086026615575176

Easterby-Smith, M., Thorpe, R., & Jackson, P. (2012). *Management Research: Mark Easterby-Smith, Reichard Thorpe and Paul Jackson.* SAGE Publications.

Engert, S., Rauter, R., & Baumgartner, R. (2016). Exploring the integration of corporate sustainability into strategic management: A literature review. *Journal of Cleaner Production, 112*(4), 2833-2850. https://doi.org/ 10.1016/j.jclepro.2015.08.031

FORESIGHT AFRICA. (2019). *Achieving the Sustainable Development Goals. The state of play and policy options.* Retrieved from https://www.brookings.edu/wpcontent/uploads/2020/01/ForesightAfrica2020

Fousteris, A., Didaskalou, E., Tsogas, M.-M., & Georgakellos, D. (2018). The Environmental Strategy of Businesses as an Option under Recession in Greece. *Sustainability*, *10*(12), http://doi.org/10.3390/su10124399

Geoffrey, N., & Indongo, M. (2017). Exploring the benefits of CSI on the growth of emerging SMEs in Namibia: Evidences from Lock and Keys. *International Journal of Innovation and Economic Development, 2*(6). https://doi.org/10.18775/ijied.1849-7551-7020.2015.26.2005

Groenewald, D., & Powell, J. (2016). Relationship between sustainable development initiatives and improved company financial performance: A South African perspective. *Acta Commercii-independent Research Journal in the Management Sciences, 16*(1). https://doi.org/10.4102/ac.v16i1.298

Humavindu, M.N., & Stage, J. (2013). Key Sectors of the Namibian Economy. *Economic Structures*, *2* (1), https://doi.org/10.1186/2193-2409-2-1

Iten, N. (2020). *The sustainable economy models – The need to integrate strong sustainability into the business strategies.* Master's Thesis, University of Southern Denmark. Archive.10.13140/RG.2.231720.90888

Johannsdottir, L., & McInerney, C. (2018). Developing and using a Five C framework for implementing environmental sustainability strategies: A case study of Nordic insurers. *Journal of Cleaner Production, 183,* 1252-1264. https://doi.org/10.1016/j.jclepro.2018.02.007

Kumar, S., Sureka, R., Lim, M., Mangla, K.S., & Goyal, N. (2021). What do we know about business strategy and environmental research? Insights from Business Strategy and the Environment. *Business strategy and the environment, 30*(8), 3454-3469. https://doi.org/10.1002/bse.2813

Latan, H., Jabbour, C., Jabbour, A., Wamba, S., & Shahbaz, M. (2018). Effects of Environmental Strategy, Environmental Uncertainty and Top Management's Commitment on Corporate Environmental Performance: The Role of Environmental Management Accounting. *Journal of Cleaner Production, 180,* 297-306. https://doi.org/10.1016/j.jclepro.2018.01.106

Laurell, H., Karlsson, N., Lindgren, J., Andersson, S., & Svensson, G. (2019). Re-testing and validating a triple bottom line dominant logic for business sustainability. *Management of Environmental Quality: An International Journal, 30*(3). 518-537. https://doi.org/10.1108/MEQ-02-2018-0024

Lăzăroiu, G., Ionescu, L., Andronie, M., & Dijmărescu, I. (2020). Sustainability Management and Performance in the Urban Corporate Economy: A Systematic Literature Review. *Sustainability, 12*(18). https://.doi.org/10.3390/su12187705

Littlewood, D. (2015). Corporate social responsibility, mining, and sustainable development in Namibia: Critical reflections through a relational lens. *Development Southern Africa 32*(2). https://doi.org/10.1080/0376835X.2014.984833

Mahajan, R., & Bose, M. (2018*). Business Sustainability: Exploring the meaning and significance*. IMI Konnect. Vol. 7(2).

Marenga, R., & Kakujaha-Matundu, O. (2019). Sustainable development and corporate social responsibilities of foreign investors in Namibia. *Journal of International Business and Economics*, *7*(2), 84-94. https://doi.org/ 10.15640/jibe.v7n2a8

Melo, M., Sproesser, R., Campos-Silva, W., & Souza-Piao, R. (2018). Business strategy and environmental practices: Evidence in the sugarcane energy sector in Brazil. *African Journal of Business Management*. *12*(2), 44-57. https://doi.org/ 10.5897/AJBM2017.8463

Mourao, P., Kubo, E., Santos, I., & Mazucato, V. (2020). Economic Development and Changes in Human Resource Management in a Sustainable Agricultural Sector: Recent Evidence from Brazilian Sugar–Alcohol companies. *Sustainability*, *12*(18). https://doi.org/10.3390/su12187559

Muhaise,H., Ejiri, A. H., Muwanga-Zake, J. W. F. & Karey, M. (2020). The research Philosophy Dilemma for Postgraduate Student Researchers. *International Journal of Research and Scientific Innovation, 7*(4). https:doi.org/ 10.13140/RG.2.2.15085.61929

Naidoo, M., & Gasparatos, A. (2018). Corporate environmental sustainability in the retail sector: Drivers, strategies and Performance measurement. *Journal of Cleaner Production, 203*. https://doi.org/10.1016/j.jclepro.2018.08.253

Ngare, I., Karanja, J., & Kipkemoi, I. (2018). Integrating Environmental Concerns in Enterprises and Businesses for Sustainable Development. *International Journal of Environmental Science, 3*.

Nicolăescu, E., Alpopi, C., & Zaharia, C. (2015). Measuring Corporate Sustainability Performance, *Sustainability, 7*(1), 851-865; https://doi.org/10.3390/su7010851

Nosratabadi, S., Mosavi, A., Shamshirband, S., Zavadskas, E., Rakotonirainy, A., & Chau, K. (2019). Sustainable Business Models: Review. *Sustainability, 11*(6). https://doi.org/10.3390/su11061663

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research. *Administration and policy in mental health, 42*(5), 533–544. https://doi.org/10.1007/s10488-013-0528-y

Pandey, P., & Pandey, M. M. (2015). *RESEARCH METHODOLOGY: TOOLS AND TECHNIQUES*. https://euacademic.org/BookUpload/9.pdf

Papagiannakis, G., Voudouris, I., & Lioukas, S. (2014). The Road to Sustainability: Exploring the Process of Corporate Environmental Strategy over Time, Business Strategy and the Environment,

Journal of Business strategy and the Environment, 23(4), 254-271. https://doi.org/10.1002/bse.1781

Patel, M. & Patel. N. (2019). Exploring research methodology: Review Article. *International Journal of research and review,* 6 (3).

Rashid, Y., Rashid, A., Warraich, M. A., Sabir, S. S., & Waseem, A. (2019). Case Study Method: A Step-by-Step Guide for Business Researchers. *International Journal of Qualitative Methods, 18,* 1-13. https://doi.org/10.1177/1609406919862424

Redman, A. (2018). Harnessing the sustainable development goals for businesses: A progressive framework for action. *Business Strategy and Development.* https://doi.org/10.1002/bsd2.33

Republic of Namibia. (2018). *Implementation of sustainable development goals in Namibia.* Windhoek

Rodrigues, R., & Franco, M. (2019). The corporate sustainability strategy in organisations: A systematic review and future directions. *Sustainability, 11*(22). https://doi.org/10.3390/su11226214

Roy, S., Das, M., Ali, S.M, Raihan, A.S, Paul, S., & Kabir, G. (2020). Evaluating strategies for environmental sustainability in a supply chain of an emerging economy. *Journal of Cleaner Production, 262.* https://doi.org/10.1016/j.jclepro.2020.121389

Sanchez-Planelles, J., Segarra-Oña, M., & Peiro-Signes, A. (2021). Building a Theoretical Framework for Corporate Sustainability. *Sustainability, 13*(1). https://doi.org/10.3390/su13010273

Saunders, M. (2016). *Understanding research philosophies and approaches.* ResearchGate. https://www.researchgate.net/publication/309102603

Saunders, M., Lewis, P., & Thornhill, A. (2015). *Research Methods for Business Students.* Pearson Education. https://www.researchgate.net/publication/330760964

Shah, S.R. & Al-Bargi, A. (2013). Research Paradigms: Researchers' Worldviews, Theoretical Frameworks and Study Designs. *Arab World English Journal, 4*(4), 252-264.

Sideri, L. (2021). Leveraging CSR for Sustainability: Assessing Performance Implications of Sustainability Reporting in a National Business System. *Sustainability*, *13*(11). https://doi.org/10.3390/su13115987

Songi, O., & Dias, A.K. (2019). *Sustainability Reporting in Africa: A Comparative Study of Egypt, Equatorial Guinea, Kenya, Nigeria, Botswana and South Africa.* Cambridge University Press. https://doi.org./ 10.1017/9781108658386

Storopoli, J., Ramos, H., Quirino, G., & Rufin, C. (2019). Themes and Methods in Sustainability Research. *Journal of Environmental Management and Sustainability, 8*(3). https://doi.org/105585/geas/v8i3.15731

Swarnapali, R.M.N.C. (2017). Corporate Sustainability: A Literature review. *Journal for Accounting Researchers and Educators, 1*(1).

Swarnapali, R., & Luo, L., (2018). Corporate sustainability reporting and firm value: Evidence from a developing country. *The International Journal of Organizational Innovation, 10.* https://www.researchgate.net/publication/331087982

Taherdoost, H. (2016). Sampling Methods in Research Methodology; How to Choose a Sampling Technique for Research. *International Journal of Academic Research in Management, 5*(2). https://hal.archives-ouvertes.fr/hal-02546796/document

Thakhathi, A., Roux, C., & Davis, A. (2019). Sustainability Leaders' Influencing Strategies for Institutionalising Organisational Change towards Corporate Sustainability: A Strategy-As-Practice Perspective. *Journal of Change Management*, *19*(1), 1-20. https://doi.org/10.1080/14697017.2019.1578985

Tilt, C.A., Qian, W., Kuruppu, S., & Dissanayake, D. (2021). The state of business sustainability reporting in sub-Saharan Africa: an agenda for policy and practice. *Journal of Sustainability Accounting, Management and Policy*. https://doi.org/10.1108/SAMPJ-06-2019-0248

United Nations (UN). (2015). *Sustainable Development Goals.* Retrieved from https:// sustainabledevelopment.un.org/? menu=1300, on 29 August 2017.

Van Zanten, J.A., & van Tulder, R. (2018). Multinational enterprises and the Sustainable Development Goals: An institutional approach to corporate engagement. *Journal of International Business Policy, 1*(3–4), 208–233. https://doi.org/10.1057/s42214-018-0008-x

World Commission on Environment and Development (Ed). 1987. *Our Common Future: The World Commission on Environment and Development,* Oxford University Press: Oxford.

Yin, K. (2015). Case study Research Design and Methods. Thousand Oaks, *Canadian Journal of Program Evaluation, 30*(1). https://doi.org/ 10.3138/cjpe.30.1.108

APPENDICES

APPENDIX A: RESEARCH PERMISSION LETTER

NBS
NAMIBIA BUSINESS SCHOOL
UNIVERSITY OF NAMIBIA

06 October 2021

TO WHOM IT MAY CONCERN

Re: MBA Management Strategy, Student – Ms. Hanna Fudheni Mwatukange Student Number- 200305964

As part of our Masters Programme, students are expected to submit a research report after completion of their course-work. They need to explore in detail, some concepts and issues pertaining management strategies. To do that effectively, they need to conduct interviews and obtain practical examples.

Ms. Mwatukange has chosen your organization to approach for information. It is against this background that I wish to kindly request you to assist Ms. Mwatukange with the information she requires. Accept our assurance that the data will be used for academic purposes only. A copy of the completed document will be available at the Namibia Business School for perusal. Her research synopsis indicates that her topic touches on "Developing a framework for corporate environmental sustainability strategies for the Namibian Industries".

Your kind assistance is highly appreciated.

Yours sincerely

NAMIBIA BUSINESS SCHOOL
NBS
06 OCT 2021
ACADEMIC SERVICES
UNIVERSITY OF NAMIBIA
Inspiring Minds & Shaping the Future

Greenfield Mwakipesile, Dr
Senior Research Co-[illegible]
Namibia Business School
University of Namibia
Tel: +246 61 413 500
Fax: +246 61 413 512
Email: mwakipg@nbs.edu.na

APPENDIX B: QUESTIONNAIRE AND INTERVIEW GUIDE

FOREWORD

My name is Hanna Fudheni Mwatukange, an MBA- (Management Strategy) student with Namibia Business School of University of Namibia, and hereby conducting a research study on: "**Developing a Framework for Corporate Environmental Sustainability Strategies for the Namibian Industries**".

The purpose of the study is to explore on various corporate environmental sustainability activities carried out within the Namibian Industries, in order to develop a Framework for use in the Namibian corporate industries. You have been chosen to be part of the group of participants for this study after careful considerations hence this particular request to complete the questionnaire.

All ethical considerations such as confidentiality will be highly maintained, thus your personal details (names, contacts, etc.) should not be stated on any page of this document. The information experienced shall strictly be used for academic purpose, as experienced in the University Permission Letter. Therefore, please feel free to participate.

Instructions

Kindly provide responses to the following research questions by filling in the spaces experienced and marking with a Tick or an X in the boxes experienced. Filling in can be done by typing or writing.

SECTION A: STRATEGIES

1. Is environmental sustainability part of your company's strategic plan/objective or vision?

Yes	
No	

2. What is the core driver to implementing environmental sustainability in your company? *Select all those that apply to your company.*

Stakeholder requirement	
Economic (cost saving)	
Resource Efficiency	
Legal/laws	
Others (please specify below)	

3. Has there been any programmes or activities in place to promote environmental sustainability since 2015-2020?

Yes	
No	

4. If the answer in (3) is yes, which category/(s) listed below will you classify the above programmes or activities? *(Selection can be done for more than one programme/activity where applicable)*

Programme /activity	Your selection
Project development	
Product development	
Supply chain	
Resource efficiency/Technology	
Design and infrastructure	
Awareness and education	
Financial	
Others (please specify)	

SECTION B: CHALLENGES

1. Are there any challenges for implementing environmental sustainability in your company?

Yes	
No	

2. If yes, which of the following challenges have you encountered in implementing environmental sustainability?

Challenge	Your response

Capacity	
Financial	
Technology	
Others (Please specify)	

3. To what extent does these challenges affect your company?

Challenge	Extremely low	Low	High	Extremely high
Capacity				
Financial				
Technology				
Others (please specify)				

SECTION C: GENERAL

1. Does the company have set targets or goals for environmental sustainability?

Yes	
No	

2. In which category would you classify your company?

Organisation category	Please select
Financial	
Energy	
Retail	
Manufacturing	
Mining	
Telecommunication	
Water resources	

SECTION D: BIOGRAPHY

1. Respondent Gender

Male	
Female	

2. Responded Designation/position

CEO	
Managerial	
Senior	
Others (please specify	

Thank you for your participation.

APPENDIX C

Curiginal

Document Information

Analyzed document	MBA THESIS (H. Mwatukange-200305964).docx (D122402810)
Submitted	2021-12-14T15:13:00.0000000
Submitted by	
Submitter email	hanna.neshuku@yahoo.com
Similarity	1%
Analysis address	mwakipg.unam@analysis.urkund.com

Sources included in the report

W	URL: http://dar.aucegypt.edu/bitstream/handle/10526/5703/Final%20Thesis%20Document.pdf?sequence=1 Fetched: 2021-11-22T16:11:15.9100000	2
W	URL: http://www.gasparatos-lab.org/uploads/7/6/6/1/76614589/naidoo_and_gasparatos_2018.pdf Fetched: 2021-01-12T10:46:17.0270000	2
SA	**2021Thesis_E_Beekers_Changing from the Inside Out_ Implementing Corporate Sustainability in large financial service organizations.pdf** Document 2021Thesis_E_Beekers_Changing from the Inside Out_ Implementing Corporate Sustainability in large financial service organizations.pdf (D109992773)	3
SA	**CA3 Evaluation of Performance and Relationship.docx** Document CA3 Evaluation of Performance and Relationship.docx (D85978361)	1
W	URL: https://www.researchgate.net/publication/292983072_Digital_Transformation_and_Sustainability Fetched: 2019-11-04T09:27:05.9230000	1

1/34

APPENDIX D: LANGUAGE EDITING CERTIFICATE

Dr.GM

The Rev. Dr. Greenfield Mwakipesile
ThD, MBA, HBS | mwakipg@outlook.com

CONTACT

PO Box 99639,
UNAM,
Namibia

LANGUAGE & COPY-EDITING CERTIFICATE

17th December 2021

RE: LANGUAGE, COPYEDITING AND PROOFREADING OF HANNA MWATUKANGE'S THESIS FOR THE MASTER OF BUSINESS ADMINISTRATION DEGREE OF THE NAMIBIA BUSINESS SCHOOL OF THE UNIVERSITY OF NAMIBIA

This certificate serves to confirm that I copyedited and proofread **HANNA MWATUKANGE'S** Thesis for the **MASTER OF BUSINESS ADMINISTRATION DEGREE** entitled: **DEVELOPING A FRAMEWORK FOR CORPORATE ENVIRONMENTAL SUSTAINABILITY STRATEGIES FOR THE NAMIBIAN INDUSTRIES**

I declare that I professionally copyedited and proofread the thesis and removed mistakes and errors in spelling, grammar, and punctuation. In some cases, I improved sentence construction without changing the content provided by the student. I also removed some typographical errors from the thesis and formatted the thesis so that it complies with the University of Namibia's guidelines.

I am a trained language and copy editor and have edited many Postgraduate Diploma, Masters' Thesis, Dissertations and Doctoral Dissertations for students studying with universities in Namibia, Zimbabwe, Eswatini, South Africa and abroad. I have also copy-edited company documents for companies in the region and abroad.

Please feel free to contact me should the need arise.

Yours Sincerely,

The Rev. Dr. Greenfield Mwakipesile

greenfield.mwakipesile | @mwakipg | +264813901701 | Dr. Greenfield Mwakipesile