

UNIVERSITY OF KWAZULU-NATAL

**Environmental sustainability management in the small business sector: A case of
Pietermaritzburg small, medium and micro enterprises**

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Master of Commerce**

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College of Law and Management Studies**

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DECLARATION

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ABSTRACT

The present study examines the environmental sustainability management in the small business sector with specific reference to the Pietermaritzburg area. As a business sector the Small, Medium and Micro Enterprises (SMMEs) have impact that can be negative or positive on the environment. Few studies, in the subject area that the researcher have explored, have focused on the environmental sustainability management of SMMEs. For that reason, this study in its own humble way, contributes to the expansion of scholarship and literature in the area. The study has aimed to understand the measures taken by South African SMMEs to minimise and or prevent the negative impact they might have on the environment. Factors that motivate environmental preservation and protection by SMMEs have also been examined in this study as well as those factors or challenges that hinder the SMMEs from engaging in environmentally sustainable business practices. Methodologically, the study adopted a qualitative approach to investigate the opinions, perceptions and experiences of environmental sustainability of the practitioners of business in the SMME sector in the area of Pietermaritzburg as unit within the South African small business landscape. The qualitative methodological strategy of convenience sampling was deployed to collect data from 21 SMMEs in the elected area. Primary data was obtained through the use of face-to-face semi-structured interviews. The interviews were transcribed and duly analysed using thematic analysis. Further, 7 articles were selected for review using a PRISMA method for secondary data. The results of the study indicated that the owners and managers of SMMEs in Pietermaritzburg have understanding and knowledge of the necessity for environmental sustainability management and they pursuantly engage is practices that foster environmental sustainability. They engage in recycling of resources and they try to use eco-friendly and recyclable products. Like other businesses, SMMEs are driven by a profit motive; in particular they receive revenue from selling the recyclables and build a good business image. The results of the study also indicated that some SMMEs lag behind in implementing environmentalpractices because of lack of resources including finance. The lack of knowledge, limited education and lack of government support are a hindrance. The study concluded that the SMMEs are aware of the fundamentals of environmental sustainability management and are largely willing to comply with the requirements although they encounter challenges and limitations on their way. They need governmental support in form of finance, education and encouragement.

Key Words: Environmental Sustainability Management, Small Medium and Micro Enterprises, Ethics, Environmentally Friendly Business Practices.

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CHAPTER ONE

INTRODUCTION & STUDY BACKGROUND

1.1.INTRODUCTION

The present study aims to examine the environmental sustainability management of Small, Medium and Micro Enterprises (SMMEs) in Pietermaritzburg as a unit within the larger South African business landscape. The development of Small, Medium and Micro Enterprises (SMMEs) is important for the prosperity of nations across the world. The SMMEs are the important contributors to South African economic growth. SMMEs plays an important role in all economies especially in developing countries such as South Africa, as the SMMEs take part in creating major employment which results in the reduction of poverty. SMMEs are dominant in the economy mostly in developing countries such as South Africa. Hence, South Africa is still a developing country to an extent that it depends on the SMMEs to create employment. Therefore, it is crucial to study the environmental sustainability of SMMEs in the environment they operate in, to find the strategies that can be used to overcome and maintain environmental sustainability. It has been acknowledged that when it comes to environmental sustainability the focus of studies has been based on large businesses. This chapter introduces the study by providing the background to the study, the research problem together with the research questions and research objectives. The important concepts of the study such as the literature review, the contribution the study will make to scholarship and the justification of the study and research methodology. Research methodology includes defining the type of research this study adopts, sampling strategies, data collection methods, data quality control, data analysis as well as ethical considerations of the study.

1.2.BACKGROUND OF THE STUDY

There have been concerns about the environment in business enterprises internationally. These concerns led to the development of research based on environmental sustainability issues, impact and responses of business enterprises towards environmental sustainability ideals. Hence, the impact and response of environmental sustainability issues of large enterprises is not the same with that of the SMMEs (Caniato, Caridi, Crippa and Moretto, 2012; Orlitzky, Siegel and Waldman, 2011). Hörisch, Johnson and Schaltegger (2015) note that SMMEs are less likely to adopt environmental practices like large corporates as they have small scale operations and few resources.

According to the Republic of South African government gazette updated in 2019 small, medium and micro enterprises refers to business enterprises that have 0 to 250 employees (Government

Gazette, 2019). In South Africa since the early 1980s the small, medium and micro business enterprises have been a great contributor to economic development. Hence, the SMMEs have been regarded as drivers of economic growth and adding economic value to the country (Bruwer and van Den Berg, 2017). As SMMEs have been described as great contributors to economic development they also have a great impact on the environment (Higgs, 2018). According to Hill (2018) SMMEs contribute 70% on local pollution, 60% on commercial waste and 40 to 45% in water and energy consumption.

According to (Molthan-Hill, 2014), sustainability consists of the business that is socially and environmentally responsible and the ability to be profitable in the long run. Eizenberg and Jabareen (2017) has noted that sustainability integrates social, economic and environmental aspects of an organisation and individual activities, it also means meeting human needs without compromising natural environment. Sustainability includes considering the three pillars of sustainability which are called the triple bottom line: people, planet and profit. Triple bottom line gives the framework of measuring the performance of the three pillars (Goel, 2010). Hence, triple bottom line helps enterprises to not only focus on economic value but also consider social and environmental values that the enterprises' practices may impact on (Zak, 2015).

Businesses are expected to improve economic performing while protecting the environment and society through sustainable entrepreneurship. Environmental sustainability focuses on ensuring that the business economic activities does not harm natural environment (Tay *et al.* 2015). Environmental sustainability practices can assist to reduce environmental impact. According to Jang (2016); Jayeola (2015); Giama and Papadopoulos (2018) SMMEs environmental sustainability practices includes; waste reduction, recycling, reducing water and energy consumption and the use of eco-friendly products. According to Kimanzi (2019) a study determining Pietermaritzburg SMMEs workplace initiatives for social, economic and environmental sustainability, indicated that Pietermaritzburg SMMEs have initiatives to enhance their sustainability. Pietermaritzburg SMMEs implement environmental practices such as reduction of footprint, designing eco-friendly packaging that is recyclable and reduction of water and electricity. The study further indicated that environmental sustainability reporting is getting least attention from SMMEs and it is not a priority.

1.3.RESEARCH PROBLEM

It has been acknowledged that the SMMEs are the backbone of the economic growth worldwide which indicates their importance in the world (Gbandi and Amissah, 2014; Memili, Fang, Chrisman and De Massis, 2015). Even though the government has strategies that promotes SMMEs, the SMMEs still have sustainability issues that they encounter when they continue to operate which have a negative or positive impact. It is estimated that in South Africa, small, medium and micro enterprises contribute approximately 91% of formal businesses, provide 61% on formal employment of the labour force and contribute 52% and 57% towards the South African Gross Domestic Product (Higgs, 2018). Even though SMMEs are great contributors to the economic development, they also have a great impact on the environment.

SMMEs perceive that they have little impact, therefore, not pay attention to environmental sustainability. Previous studies have indicated that SMMEs are lagging behind in attending to environmental issues and adopting environmental practices (Cassells and Lewis, 2011; Yadav, Gupta, Rani and Rawat, 2018). In the past decade sustainability was mostly considered by large enterprises rather than the SMMEs in an extent that large businesses have sustainability reports that state how they are keeping up with sustainability (Graafland and Smid, 2016). SMMEs works differently with large businesses and have some challenges to implementing environmental practices (Brammer, Hoejmoose and Marchant, 2012). Hörisch *et al.* (2015); Shah, Naghi Ganji and Hasan (2016) indicated that large businesses have more resources and tools to tackle environmental issues. While a previous study by Roxas, Ashill and Chadee (2017) noted that SMMEs in developing countries have poor financial and managerial resources and underdeveloped institutional environments, which is a challenge to adopt environmental sustainability practices. Struwig and Lillian (2017) noted that SMMEs lack of resources, resistance to self-regulation and government intervention and lack of knowledge of environmental impact discourages SMMEs engagement to environmental practices.

Roxas *et al.* (2017) indicated that the natural environment has received less attention from the researchers. “The majority of research investigating environmental sustainability has focused on large enterprises and normally neglected small, medium and micro enterprises (SMMEs), which after all make a major contribution to all economies and industrialised nations” (Reyes-Rodríguez, Ulhøi and Madsen, 2016:194). Furthermore, managers and owners of the SMMEs find it difficult to get relevant information about the environmental sustainability issues which pose challenge when the SMMEs are willing to engage in environmental practices (Abdullah, Zailani, Iranmanesh and

Jayaraman, 2016). Hence, this study seeks to investigate the environmental sustainability management looking at the drivers and barriers faced by SMMEs in terms of managing and maintaining environmental sustainability.

1.4.RESEARCH QUESTIONS

- What are the perceptions of environmental sustainability by owners-managers of Pietermaritzburg SMMEs?
- How do Pietermaritzburg SMMEs manage and maintain their environmental sustainability?
- What are the factors driving Pietermaritzburg SMMEs to adopt environmental sustainability practices?
- What are the barriers faced by Pietermaritzburg SMMEs in advancing environmental sustainability practices?

1.5.RESEARCH OBJECTIVES

- To examine the perceptions of environmental sustainability by owners-managers of Pietermaritzburg SMMEs.
- To determine how Pietermaritzburg SMMEs, manage and maintain their environmental sustainability.
- To examine the factors driving Pietermaritzburg SMMEs to adopt environmental sustainability practices.
- To determine barriers faced by Pietermaritzburg SMMEs in advancing environmental sustainability practices.

1.6.JUSTIFICATION

The study is driven by the need to understand environmental sustainability management in the small business sector. This study is important because it will provide clear understanding of environmental sustainability management of the small business sector needs, to maintain their environmental sustainability and how to possibly deal with environmental issues and embrace strategies that will promote environmental sustainability management in SMMEs. This will help policy makers to make relevant decisions. In that way the study contributes to the promotion of environmental sustainability management in business. Further the study will provide questions and or motivations for further research in this subject area that has largely been ignored in academia and in policy making circles

in South Africa.

1.7.RESEARCH METHODS OF THE STUDY

This study selected a qualitative methodological approach that is inductive in nature. The research design suited for the study was an exploratory research design, as the researcher aimed to have greater insight into environmental sustainability management by the SMMEs. The study implemented a qualitative approach in form of face-to-face, semi-structured interviews. The researcher further reviewed secondary data in form of 7 published articles on the subject matter. The articles were selected using the Preferred Reporting Items Systematic Reviews and Meta-Analysis (PRISMA) methodological approach.

The primary data was collected through semi-structured face-to-face interviews in Pietermaritzburg, which is the legislative capital city of KwaZulu-Natal province of South Africa. The population consisted of Pietermaritzburg SMMEs within Msunduzi Municipality. The sample of 20 SMMEs was chosen and 21 representatives from the SMMEs were interviewed. A non-probability sampling technique known as convenience sampling was used to select the suitable participants of the study.

Validity and Reliability of the study were ensured by collecting both primary and secondary data which serve to complement each other. The researcher further ensured trustworthiness through audit trail by explaining each and every step taken from data collection, data analysis up to the conclusions of the study; and comparing the research findings of the study with the related literature of the study. Thematic analysis was used to analyse the collected data. Data was analysed using NVivo software and Word Cloud technique.

1.8.STUDY OVERVIEW

Chapter 1: Background of the Study.

This chapter provides the introduction and background of the study, it also outlines the research questions, research objectives and the need for the study.

Chapter 2: Literature Review

Chapter 2 focuses on the relevant literature of the study, it looks at the definition of terms and discussion on Small, Medium and Micro Enterprises, Environmental Sustainability, Environmental sustainability issues, impact of environmental sustainability and Environmental Sustainability Management.

Chapter 3: Research Methodology

This chapter discusses the research methods used in the study. This chapter describes and explains the nature of the study and the methodology that was used. Furthermore, it describes and explain sampling methods, data collection methods, data analysis, data quality control and ethical considerations.

Chapter 4: Presentation and Discussion of Results

This chapter presents the findings of the study by tabling both primary and secondary data. The results are presented as per the research objectives of the study.

Chapter 5: Discussion of results

This chapter discuss the findings of the study that were collected during data collection period. The discussions of findings are based on the research questions and research objectives of the study and the results were discussed using the related literature.

Chapter 6: Recommendations and Conclusions

This chapter presents the conclusions of the study based on the findings in relation to the research questions and research objectives. It also provides the recommendations of the study, a proposition for future research and the limitations of the study.

1.9.CONCLUSION

This chapter has presented an introduction and background of the study. The background and problem statement have been discussed. The chapter has outlined the research questions and research objectives of the study. The chapter has further presented the contribution, justification and an overall overview of the study. The next chapter presents the literature review of environmental sustainability management of SMMEs looking into the barriers, drivers in to adopt environmental sustainability and the environmental sustainability management in South Africa.

CHAPTER TWO

LITERATURE REVIEW

2.1.INTRODUCTION

This chapter presents the literature that underpins this study. The literature of the study looks at environmental sustainability management in SMMEs. It seeks to provide an understanding of the environmental sustainability of the small business sector using the existing literature. Furthermore, the study seeks to outline the research study's theoretical framework by reviewing Small, Medium and Micro Enterprises, sustainability, Sustainable entrepreneurship, with SMMEs sustainability, Environmental sustainability, environmental sustainability issues, barriers, driving factors towards environmental sustainability practices, and environmental sustainability management.

2.2.SUSTAINABILITY & SUSTAINABLE DEVELOPMENT

2.2.1. Brief History of Sustainability and Sustainable Development

According to Caradonna (2014) the terms sustainable and sustainability derive from the Latin *sustinere*, which combines the words *sub* (up from below) and *tenere* (to hold) and mean to “maintain”, “sustain”, “support”. From Latin, it went to Old French *sostenir* and modern French as *soutenir*. From French to English *sustain*.

The term *sustainable development* was first mentioned in the Nature Conservation and Natural Resources Strategy of the International Union for Conservation of Nature published in 1980, it was viewed from an ecological perspective. Sustainability development focused on economic growth until the 1970s when consumerism and economic growth created pressure on the environment with the consequences of pollution and inadequate space of living (Tomislav, 2018). At that moment exploitation of natural resources has led to the deliberation of the needs of future generations and created a prerequisite for defining the attitude of long-term and rational use of limited resources. The essence of sustainable development derives from the triple bottom line that implies the balance between the three pillars of sustainability (Emas, 2015).

Sustainability refers to the concept that addresses environmental, social and economic aspects of an organisation and individual's activities (Emas, 2015; Eizenberg and Jabareen, 2017). Belz and Binder (2017) argued that sustainability should address economic, ecological, material, social, legal, cultural, psychological and political dimensions. The World Commission on the

Environment and Development in 1987, *Our Common Future*, defined sustainability as "developments that meet the needs of the current generation without compromising the needs of future generation". This definition has been described as ambiguous. Mensah (2019:5) considers "sustainability as a dynamic equilibrium in the process of interaction between the population and the carrying capacity of its environment such that the population develops to express its full potential without producing irreversible adverse effects on the carrying capacity of the environment upon which it depends". Thomas (2015) and Mensah (2019) argued that sustainability centres on human activities and the ability to fulfil human needs and wants without depleting productive resources. Sustainability seeks to prioritise and integrate economic, social, and environmental models in addressing human challenges that will be beneficial to humans (UNSD, 2018).

According to Tay, Abd Rahman, Aziz and Sidek (2015) sustainable development is invoking the needs of future generation counterbalanced to the current unmet needs. Sustainable development aims to maintain economic advancement and progress while protecting the long-term value of the environment (Ema, 2015). According to Mohieldin (2017) sustainable development is the development that uses resources in a way that the resources will continue to be available for others. Evers (2018) and Mensah (2019) argued that it relates to organising principle of meeting human needs while sustaining the ability of natural systems to provide natural resources. Sustainable development discourages the exploitation of resources and promotes the reduction of waste. Sustainable development is the long-term stability of the economy and the environment, which is achievable through the integration of and acknowledgment of economic and social concerns throughout the decision-making process. Mindt and Rieckmann (2017) acknowledged the idea of putting a limit to material improvement and consumption, once seen as limitless, criticising the idea of constant growth, without concern about the future.

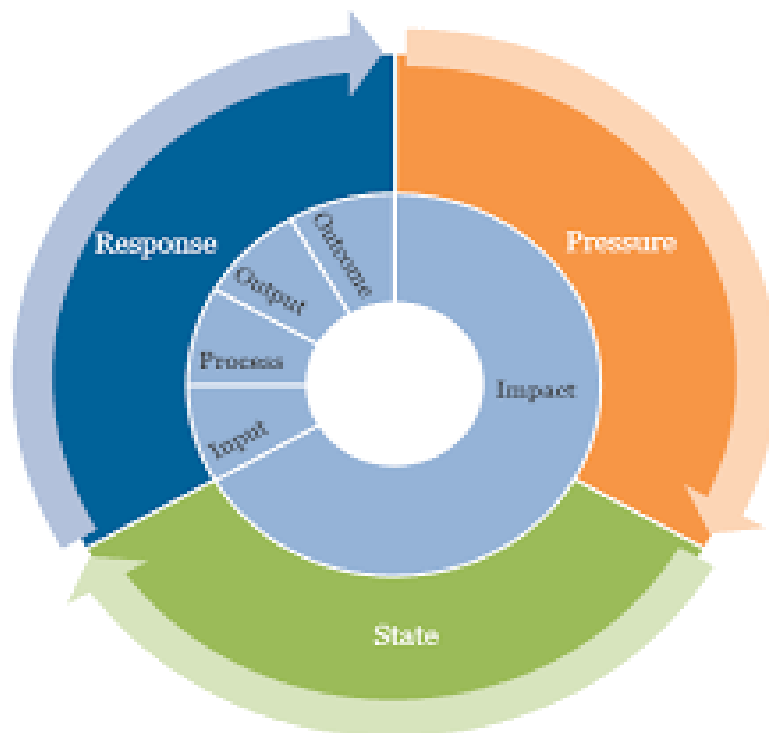
2.3.SUSTAINABILITY FRAMEWORKS

2.3.1. PRESSURE-STATE-RESPONSE FRAMEWORK

Pressure-State-Response (PSR) was developed to provide support to environmental policymaking (Neri, Dupin and Sánchez, 2016). Pressure-State-Response Framework looks at the groundwork for many subsequent sustainability measurement models by describing human activities, trade and consumption that creates pressures and therefore, create response from society, environmental and economic agents (Guo, DeFrancia, Chen, Filiatraut and Zhang

2015; Neri *et al.* 2016). It focuses on how people influence their environment and how it reacts. However, these activities result in direct pressure on the environment; this pressure includes (pollution and resource depletion). Furthermore, this framework is useful to organisations to measure the impact of their actions on the environment and the impacts of different management options for responses.

Figure 1: Pressure-State-Response Framework



Source: Source: (Boileau, 2019)

2.3.1.1.Pressure

Pressure refers to the environmental pressures from human activities' influence on the environment (Boileau, 2019). Pressures include underlying forces such as population growth, consumption, or poverty (Yu, Yang and Li, 2020). Pressures on the environment are considered from a policy perspective as the starting point for beginning environmental issues. The indicator of environmental pressures is related to consumption and production patterns. These pressures usually reflect emission or resource use intensities.

2.3.1.2.State

State refers to the condition of the environment resulting from pressures, land degradation, air pollution and the quality and quantity of natural resources. The state of the environment will affect human health and well-being and the socio-economic fabric of society (Boileau, 2019).

For instance, land degradation will lead to decreased food production, increased food imports, increased fertiliser. Indicators of environmental conditions cover the natural environment conditions and ecosystems (Yu *et al.* 2020). These indicators are made to give an overview of the situation regarding the environment and its development.

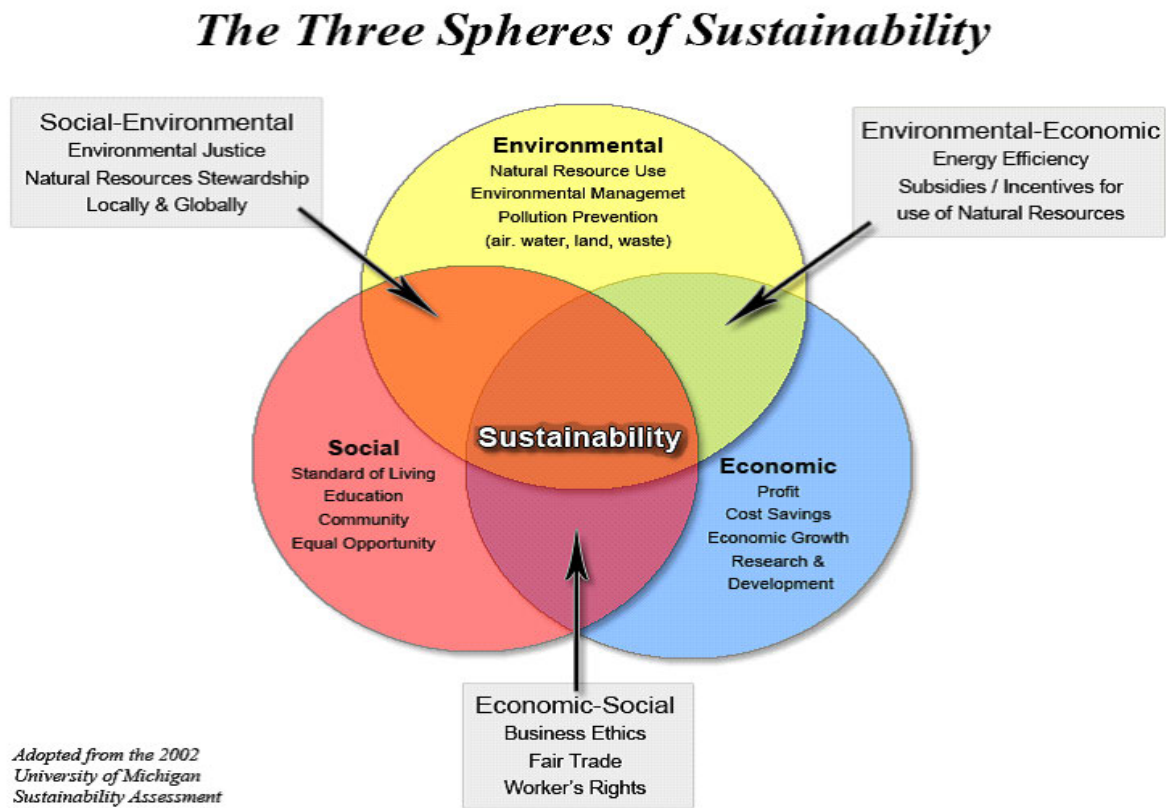
2.3.1.3. Response

Response refers to the action taken by the society individually or collectively to prevent environmental impact and conserve natural resources (Yu *et al.* 2020). They aim at correcting environmental damage or conserving natural resources. This includes legislation; research expenditure/new technologies, consumer preferences and public opinion providing environmental information and changes in management strategies (Boileau, 2019). Societal responses are environmental expenditure, environment-related taxes and subsidies, price structures, market shares of environmentally friendly goods and services, etc. These are the preventive measures, and they are difficult to obtain.

2.3.2. TRIPLE BOTTOM LINE FRAMEWORK

There is a framework that is believed to be influential which is referred to as the triple bottom line that was introduced by (Elkington, 1998). The triple bottom line is the generally accepted framework that evaluates sustainability development performance. This study is using the Triple Bottom Line framework. The triple bottom line gives the framework for measuring the performance of the organisation in three pillars, which are social, economic, and environment (Goel, 2010). According to Elkington (1998) the triple bottom line is used on the bases of people, planet, and profit. This framework assists the organisations to not only focus on economic values that they produce but also look at social and environmental values that the organisations' practices may impact (Zak, 2015). Furthermore, the three sustainability principles are interdependent. According to Taylor (2016) there are three main issues concerning sustainable development which are economic growth, environmental protection, and social equity. The triple bottom line promotes that the long-term achievement of business and its environment requires emphasis on three sustainability dimensions which are shown in figure 2 (social, economic, and environment) (Amini and Bienstock, 2014). This framework is also used to expand stakeholders' knowledge, it goes beyond financial and traditional aspects and discloses the company's impact on the world (Emmanuel, 2016).

Figure 2: Triple Bottom Line Framework



Source: Žak, (2015)

This framework acknowledges the three elements of sustainable development based on the triple bottom line.

2.3.2.1. Social Sustainability

Social sustainability goes together with environmental sustainability and economic sustainability. The concept of social sustainability implies that people matter since development is about people (Mensah, 2019). The concept relates to the connection between social conditions and environmental destruction (Farazmand, 2016). Social sustainability proposes that alleviation of poverty should not entail unwanted environmental destruction or economic instability (Scopelliti, Molinario, Bonaiuto and Bonnes, 2018). Businesses operate within communities and society in general; hence, businesses have a wider responsibility to society (Žak, 2015). Bae and Smardon (2011:178) stated that “businesses have wider responsibilities within communities it operates in and to the society in general, including both the present and future generation”. Alhaddi (2015) and Molthan-Hall (2014) stated that the social line of TBL also involves the practices that provide value to the society, which can be

referred to as corporate social responsibility. Social sustainability emphasises on social development and society (Fakoti, 2018).

Raxas and Chadee (2012) argued that in the social dimension of the triple bottom line the business needs to meet the various expectations and needs of its stakeholders. Social responsibility includes the interaction the business has with the community, which involves employee relations, health and safety, impact on community involvement and customer satisfaction (Žak, 2015; Fakoti 2018). Social sustainability presents human rights, equity, or equality which involves healthy living conditions and basic human needs, furthermore, equality means giving the same opportunities to the society, public participation and the rule of law that promotes peace and social stability for sustainable development (Robertson, 2014; Gou, 2017). Hence, businesses need to give attention to the needs of the society.

2.3.2.2.Economic Sustainability

Profit looks at the economic aspect of the triple bottom line, which the sustainable entrepreneurs need to ensure that even when they need to generate profit, they should not compromise the society and the environment. The profit dimension refers to organisation's economic values and performance (Reddy and Thomson, 2015). Alhaddi (2015:8) economic dimension "Pertains to the capability of the economy as one of the subsystems of sustainability to survive and evolve to the future to support future generation". Economic development indicates a system that fulfils present consumption without compromising future needs (Lobo, Pietriga and Appert, 2015). Economic sustainability implies optimising the development growth rate and environmental sustainability recognises the natural resources of the individual community (Tay *et al.* 2015). Reddy and Thomson (2015) mentioned that economic sustainability cannot be separated from environmental and social sustainability, economies cannot be sustainable if the natural resources are overused and if the society is still depending on that drove growth in the past.

Economic sustainability includes growth, efficiency and stability. Robertson (2014) and Fakoti (2018), in the context of economic growth believes that for systems to endure the opportunities and resources need to distribute fairly although economic growth does not confirm sustainability as it is leading to a decline in quality of life and reduce ecosystems, it enables individuals to meet their basic needs. Cao (2017) and Mensah (2019) mentioned three main activities that are implemented in an economy are production, distribution and consumption but the accounting framework that use to guide and evaluate the economy with such activities

grossly distorts value and does not predict well for the environment and society. Retchless and Brewer (2016) argued that the main concern seems to be economic growth, the important components such as the impact of depletion and pollution. This dimension requires the enterprise to affect the financial status of its stakeholders positively in a long-term involvement in the market. Economic sustainability however is essential to businesses either large or small business as it improves the community's well-being through profit-making creating employment for the community (Baumgartner and Ebner, 2010). Zhai and Chang (2019) and Wanamaker (2018) economic sustainability requires that the decision-making be most equitable and fiscal while considering all the aspects of sustainability.

2.3.2.3.Environmental Sustainability

The term environmental sustainability originated from the World Bank and it was termed as "environmentally responsible development" (World Bank, 1992). Goodland (1995) then developed the term environmental sustainability. Environmental sustainability "seeks to improve human welfare by protecting the sources of raw materials for human needs and ensuring that the sinks for human wastes are not exceeded to prevent harm to human" (Goodland, 1995:3). He defined the term of environmental sustainability as the maintenance of natural capital. Goodland (1995:10) further mentioned the four major activities, "the use of renewable and non-renewable resources on the source side and pollution and waste assimilation on the sink side". According to (Cook, Saviolidis, Davíðsdóttir, Jóhannsdóttir and Ólafsson, 2017) environmental sustainability includes using renewable energy source, product and process lifecycle assessment, maintaining the integrity of ecosystems through the efficient management of natural resources.

According to Moldan, Janoušková and Hák (2012), the OECD Environmental Strategy developed an essential contribution to the concept of environmental sustainability. The strategy defined areas for environmental sustainability OECD Environmental Strategy 2001:06

Regeneration: renewable resources shall be used efficiently, and their use shall not be permitted to exceed their long-term rate of natural regeneration.

Substitutability: non-renewable resources shall be used efficiently, and their use limited to levels that can be offset by substitution with renewable resources or other forms of capital.

Assimilation: releases of hazardous or polluting substances into the environment shall not exceed their assimilative capacity; concentrations shall be kept below established critical levels necessary for the protection of human health and the environment. When assimilative capacity

is effectively zero (e.g., for hazardous substances that are persistent and/or bio-accumulative), effectively a zero release of such substances is required to avoid their accumulation in the environment.

Avoiding irreversibility: Irreversible adverse effects of human activities on ecosystems and biogeochemical and hydrological cycles shall be avoided. The natural processes capable of maintaining or restoring the integrity of ecosystems should be safeguarded from adverse impacts of human activities. The differing levels of resilience and carrying capacity of ecosystems must be considered to conserve their population of threatened, endangered and critical species.

According to Mensor (2019) environmental sustainability is about the natural environment and how it remains productive and resilient to support human life. Environmental sustainability is the maintenance of the future of environmental functions that support human life and welfare (Fredriksson and Ytterfors, 2015). Stojanović, Milošević, Arsić, Mihajlović and Đorđević (2018:02) environmental sustainability synthesises the economic growth and environmental protection in a way that means investments in resources saving and natural capital preservation with achieving benefits from the development of new cleaner sustainable technologies and production.

According to (Stojanović *et al.* 2018) environmental sustainability refers to “meeting the resources and service needs of the current generation without jeopardising the health of ecosystems that provide them and contributing to society and protect the environment. Environment sustainability includes preserving and restoring the health of the living system” (Robertson, 2014; Popa, 2015). It includes factors such as the amount of energy consumed, resource and material usage, emissions, affluent and waste management, management of habitats and land use (Žak, 2015). Furthermore, environmental sustainability includes making decisions that will reduce the negative impact the business has on the environment. Žak (2015) defined environmental sustainability as the number of resources an organisation uses in its operation and by-products its activities produce.

Natural resources have their limits, this implies that natural resources are utilised in a way that becomes possible for people to support themselves continuously (Younis and Chaudhary, 2017). The study further stated that natural capital should be allocated in a way that non-renewable resources is accompanied by the development of renewable substitute resources.

Economic growth that is based on resource exploitation and high pollution is regarded as environmentally unsustainable. Spence, Agyemang and Rinaldi (2012) mentioned that the main goal of environmental sustainability is envisioned as a long-term perspective that intends to ensure that economic activity can progress without destroying the environment. Tay *et al.* (2015) argued that environmental sustainability does not only focus on reducing the amount of waste production and less energy but is also concerned with developing processes that will lead to a business becoming completely sustainable in the future. Therefore, as small, medium and micro enterprises are regarded as the key drivers of economic growth it is crucial to observe the issues that they have concerning environmental sustainability.

2.4.SMALL, MEDIUM AND MICRO ENTERPRISES (SMMES)

SMME sector is categorised into three sectors, small, medium and micro enterprises. There is no specific definition for SMMES as the definition of SMMES varies from country to country (World Bank, 2019; Bharat *et al.* 2018). European Union (EU), World Bank, and regional development banks each have their definition of SMME, the common definition they recognise is the size compared to larger businesses. Definitions look at the aspects like the number of employees, size of annual turnover. Okyere (2017) discovered that most countries used quantitative criteria when trying to define SMMES such as a number of employees, sales volume, value of assets and market share.

2.4.1. INTERNATIONAL DEFINITION

The United Nations Industrial Development Organization (UNIDO) defines SMMES differently for developing and developed countries. World Bank (2019) defined SMMES as follows:

Table 1: International SMME Definition

Size of the business	Number of employees
Medium	20-300 employees
Small	10-49 employees
Micro	Less than 9 employees

The department of Small Enterprise Development amended the South African SME definition in March 2019. South African SMMES are defined as:

Table 2: South African SMME Definition

Size of the business	Number of employees
Small	10-51 employees
Medium	51-250 employees
Micro	0-10 employees

Government Gazette (2019)

2.4.2. SOUTH AFRICAN DEFINITION

According to (SEDA, 2016) SMMEs are defined based on turnover, number of employees, and the value of their assets. In South Africa, SMMEs are defined as enterprises that employ 5 to 250 permanent employees. Muriithi (2017) defined SMMEs as small to micro firms run by one or two individuals and have very slow growth. South Africa has an Act for SMMEs; National Small Business Act which monitors small and medium enterprises. This study applied the Department of Small Enterprise Development definition of SMMEs therefore in this study SMMEs are small businesses that have 0 to 250 employees.

According to Ayandibu and Houghton (2017:134), the common definition for SMMEs is "Small, medium and micro enterprises are considered those enterprises which have fewer than 250 employees". The existing studies have focused on different aspects of sustainability issues faced by South African SMMEs which include lack of financing, electricity supply, competency and capability, poor management, access to reliable information and government support (Muriithi, 2017). World Bank has mentioned that SMMEs are less likely to access bank loans, hence they rely on internal funds for business survival.

According to World Bank (2021) SMMEs account for the majority of businesses in the world, 90% of business consist of SMMEs and more than 50% employment worldwide, formal SMEs contribute 40% of GDP in developing nations. SMMEs play an important role in South African social development and economic growth. The small business sector has large contributions towards productive employment opportunities, as the SMMEs are viewed as the major job creators that create income, which results in the reduction of poverty (Higgs, 2015). This, combined with their role in empowering entrepreneurship, animating provincial and local development and establishing strong economic, social development and environmental effect

of SMMEs has not been evaluated, is ineffectively understood and is supposed to be substantial (Higgs, 2015).

2.5.SMMES SUSTAINABILITY AND SUSTAINABLE ENTREPRENEURSHIP

All companies, regardless of size need to take responsibility for their actions. In general sustainability practices of large businesses and SMMEs are different as they have cultural, structure, and resource-based differences between businesses. Some small business managers/owners perceive that small businesses have less impact on the environment (Bos-Brouwers, 2010). SMMEs have not paid much attention when it comes to sustainability whereas SMMEs are the ones that have a huge impact on the economy, social and on the environment than large companies (Hörisch *et al.* 2015).

Hörisch *et al.* (2015) argued that there are factors that differentiate large companies from small companies when it comes to sustainability it includes organisation visibility and scale of operation. "Given their lower visibility, a smaller scale of operations and lower levels of human and financial resources, SMMEs typically engage less involuntary environmental and social initiatives" (Hörisch *et al.* 2015:768). Gallo and Christensen, (2011) also argued that SMMEs are less likely to engage in sustainability management than large companies. Hence, SMMEs need to adapt the concept of sustainable entrepreneurship. Battisti and Perry (2011) argued that SMMEs viewed the environment differently, ranging from small to high, but the underlying perception is that everyone has a responsibility to protect the environment and to aim to reduce their impact on it and improve environmental condition by having something beneficial for the future. Lewis, Cassells and Roxas (2015) reported that both government and businesses have the responsibility to take care of the environment.

According to Hoogendoorn *et al.* (2015:761) "Sustainable entrepreneurship refers to business practices that put economic, social and environmental goals on one footing". Based on the context of sustainable entrepreneurship, sustainable entrepreneurs initiate activities and activities leading to the identification, evaluation, and exploitation of business opportunities while contributing to sustainable development (Gast *et al.* 2017; Hoogendoorn *et al.* 2015). Sarango-Lalangui *et al.* (2018) defined sustainable entrepreneurship as being able to generate employment, change people's lives, and enhancing products and processes. Sustainable entrepreneurship does not only explore opportunities, but it also consciously analysing the economic, environmental, and social impact the organisation has on its performance (Sarango-

Lalangui, Santos and Hormiga, 2018). Hence, this study will focus on the environmental aspect of sustainability, as environmental sustainability has been regarded as important in the business environment and the most published work focused on economic and social sustainability. Roxas *et al.* (2017) argued that natural environment considerations have received less attention from researchers. Environmental values are more related to ecological protection, improvements and responsibility.

Sustainable entrepreneurship involves several aspects that include social responsibility, morality, and business ethics when starting a sustainable enterprise. Sustainable entrepreneurship combines and creates sustainable development (Soto-Acosta, Cismaru, Vătămănescu and Ciochină, 2016). Sustainable enterprise is the capability of an enterprise to adapt and survive through changes. It works within the framework of industrial ecology, which creates the opportunities to operate businesses in green technologies, reduce waste and raw material usage, and develop innovative ways to reuse waste (Lawal, Worlu and Ayoade, 2016). Lawal *et al.* (2016) and Sendawula, Turyakira and Bananuka (2018) mentioned that sustainable entrepreneurship is important in SMMEs as it improves their competitiveness by creating a good and strong reputation, customer satisfaction, employee motivation, and uncertainty management.

Sendawula *et al.* (2018) in their study talked about the motivation, barriers and strategies for encouraging SMMEs adoption of sustainable entrepreneurship. Hoogendoorn, van der Zwan and Thurik (2017) mentioned that challenges that are hindered to sustainable entrepreneurship in SMMEs include lack of finance, administrative and informational support limit SMMEs determination to undertake sustainable entrepreneurship and lack of appropriate strategies. Sendawula *et al.* (2018); Wahga, Blundel and Schaefer (2017) manager's/manager's attitude towards sustainable entrepreneurship, networking and entrepreneurial knowledge motivates SMMEs to engage in sustainable entrepreneurship.

2.6.ENVIRONMENTAL SUSTAINABILITY ISSUES

Higgs (2015) argued that SMMEs have a huge environmental impact especially in developing nations as they use old technologies; that is less energy efficient and contribute to pollution. Some studies have demonstrated that SMMEs contribution to local pollution can be as 70% and 60% on commercial waste and 40% to 45% on water and energy consumption (Hill, 2018; Okubeyejo, 2013). The major environmental issues are high levels of material and energy

consumption as well as significant generation of greenhouse gasses (Ashton, Russell and Futch, 2017). Small, Medium and Micro Enterprises' environmental sustainability issues do not differ from those of large businesses. In most cases, environmental sustainability issues have been getting more attention from large enterprises than SMMEs. Hörisch *et al.* (2015:765) “both large businesses and SMMEs are influenced by universal sustainability issues, such as high energy prices, health and safety of employees, carbon emissions and reduction of industrial and commercial waste”. The environmental issues SMMEs face include pollution, material usage (water and energy usage), and waste and product life cycle impact (Reyes-Rodríguez, 2016).

Environmental sustainability issues have an impact on the enterprise's performance. “The key environmental issues for SMMEs as being the reduction of energy use (e.g., heating, lighting, office equipment, compressed air, motors, drives, fans and pumps) and water bills; waste minimisation; reduction of transport costs (logistics, vehicle choice, fuel choice); and compliance with legislation” (Spence *et al.* 2012:9). Most of the South African studies are investigating sustainability practices based on economic and social sustainability. Hence, few qualitative research studies investigate environmental sustainability management in South African SMMEs. This study aims to close this gap by investigating SMMEs challenges to implement environmental sustainability practices. These challenges are discussing below as barriers to environmental practices. Roxas *et al.* (2017) SMMEs in developing countries often have poor resources and underdeveloped institutional environments which makes it unlikely to engage in environmental initiatives.

2.7.BARRIERS TO ENVIRONMENTAL SUSTAINABILITY

2.7.1. Lack of information

Environmental engagement by SMMEs is hindered by a lack of information. Small, medium and micro enterprises lack information and about the environmental issues and managerial capabilities to implement environmental sustainability (Abdullah *et al.* 2016). Some SMMEs do not know how to act in an environmentally responsible manner (Marshall and Williams 2019). Knowledge about environmental sustainability issues determines the overall stance of SMMEs toward the environment (Dey *et al.* 2018). SMMEs lack information about the different attributes they set back in implementing sustainable practices (Salimzadeh, 2016). SMMEs lack information and low level of awareness and understanding about environmental issues and their opportunities (Meath, Linnenluecke and Griffiths, 2016). Hence, the owners of SMMEs find it difficult to deal with environmental issues without clear knowledge and

understanding about the existing environmental sustainability issues. Furthermore, SMMEs perception is that they have little impact on the environment (Salimzadeh *et al.* 2013).

SMMEs have unique attributes, lack information about the different attributes they set back in implementing sustainable practices (Salimzadeh, 2016). Lack of technical knowledge of the staff is a challenge to improve ecological business practices (Ashton *et al.* 2017; Neto *et al.* 2017). SMME barriers to environmental practices lack information on the cost benefits of improving environmental performance (Dey *et al.* 2018; Giama and Papadopoulos, 2018). Hence, there is a need to improve environmental awareness. Most SMME owners-managers are not aware of the economic advantages of adopting sustainability practices. Salimzadeh (2016) in his study highlighted that SMME owners-managers are not fully aware of the advantages of sustainable practices. Hence, they do not see the need to invest in environmental sustainability as they assume it is an expense to their business. Chan, Hon, Okumus and Chan (2017) reported that environmental knowledge contributes to sustainable behaviour through the development of environmental awareness and subsequent environmental concerns within the enterprise.

2.7.2. Lack of Stakeholder pressure

Business owners-managers discover that there is a need for pressure from internal and external stakeholders to be sustainable. Internal stakeholders are (within the business) external stakeholders (government, SMME's support organisation, environmental organisations, customers, suppliers and big businesses) (Orzan, Cruceru, Bălăceanu and Chivu, 2018). Stakeholders have a significant impact on business decision-making and business practices. Hence, lack of stakeholder pressure has a significant impact on how enterprises maintain their sustainability issues. According to Dey *et al.* (2018) lack of stakeholder pressure limits the essential encouragement to change. Lack of customer demand for environmentally friendly improvements and green initiatives limits adoption for environmental sustainability by SMMEs. Yadav *et al.* (2018) study showed that limited demand for sustainable goods from customers and lack of stakeholder pressure discourages SMMEs to adopt sustainability practices. The absence of customer pressure for "green behaviour" contributes to lack of effort for SMMEs to attend to environmental issues (Yadav *et al.* 2018). Furthermore, the SMME's perception that there are additional costs to purchase environmentally friendly products will not be at the customers' cost, it will be the business's expense.

2.7.3. Lack of Resources

According to Roxas *et al.* (2017) SMMEs in developing countries lack financial and managerial resources to become environmentally sustainable. Lack of financial resources and time has been regarded as one of the barriers that SMMEs face when it comes to performing environmental practices. According to Shah *et al.* (2016); Marshall and Williams (2019) inadequate financial resources limit SMMEs to engage in environmental practices. Cost is the major barrier to proactive environmental behaviour in the small business sector, with managers perceiving little financial benefit from the environmental impact (Ashton *et al.* 2017). Day *et al.* (2018) in their study mentioned SMMEs often lack resources, finance, time and knowledge to implement environmental activities.

Financial resources are important for a business to start, grow and survive. Financial resources are one of the factors that differentiate large enterprises from SMMEs in adopting environmental practices (Hoogendoorn *et al.* 2015). Cost is regarded as a major barrier to be more proactive environmental-oriented behaviour in SMMEs, with their managers perceiving little financial benefit from environmental investments (Otto, 2019). Environmental practices require capital that usually SMMEs do not have and lack of resources limits their affordability (Epoh and Mafini, 2018; Fakoti, 2019). SMMEs usually do not have enough financial resources to support their activities which becomes a challenge for them to participate in environmental practices (Shah *et al.* 2016; Hoogendoorn *et al.* 2015). SMMEs are more sensitive to additional costs to environmental practices than large businesses. According to (Rizos *et al.* 2015) SMMEs face challenges when it comes to bank finances as they do not have the collateral required by banks which makes them a risk.

Shah *et al.* (2016) and Dey *et al.* (2018) indicated that lack of technical expertise and understanding of strategies to address environmental issues, low level of research development, management weakness and their vision that SMMEs have little impact on the environmental impact limit SMMEs environmental practices. SMMEs do not have trained personnel committed to green practices (Epoh and Mafini, 2018). SMMEs have limited resources for the long-term concerns relating to sustainability strategies and how they operate in terms of environmental concerns. When the business discovers a lack of resources it is very challenging to integrate socially and environmentally friendly practices, as the business can only maintain economic activities with their limited resources which results in a low level of sustainable practices adaptation (Salimzadeh, 2016; Shah *et al.* 2016). Furthermore, lack of resources and

management capability to engage in environmental issues in some instances force owners-managers to ignore sustainability practices (Buffa, Franch and Rizio, 2018). Van Eyssen and Lehner (2017) argued that lack of resources is a barrier to engaging in environmental practices, but it does not hold ecopreneurs to pursue their goals.

2.7.4. Lack of Government Support

Lack of government support has been reported as a significant barrier in implementing environmental sustainability practices in SMMEs. Rizos *et al.* (2015) in their study argued that lack of government support and effective legislation is recognised as barriers to uptake environmental practices. Okuboyejo (2013) argued that lack of government and corporate support limits SMMEs engagement in environmental practices. Marshall and Williams (2019) observed a lack of government support as a barrier to SMMEs to well adopt environmental practices. Purwandani (2020) and Baranova (2017) in their studies presented that SMMEs need government support to reinforce environmental practices. Government regulations that create environmental awareness among businesses and communities are important to successfully attain environmental practices (Shibin, Gunasekaran, Papadopoulos, Dubey and Wamba, 2018). Assistance through incentives from the government, programs and providing financial and technical assistance and tax reduction could encourage SMMEs to engage in environmental practices (Purwandani, 2020; Ashton *et al.* 2017; Shibin *et al.* 2018).

2.8.DRIVERS TO ENVIRONMENTALLY SUSTAINABLE PRACTICES

The studies have identified different factors that drive environmental sustainability. Some studies believe that drivers of the concept of environmental sustainability involve improving the organisation, legal requirements, competitive advantage, reputation or stakeholder pressure and economic opportunity (Okuboyejo, 2013; Shah *et al.* 2016). Factors that drive environmental sustainability will be briefly explained in sub-sections. In South Africa, there is limited research about what encourages SMMEs to engage in environmentally sustainable practices. Thus, this study addressed the gap by discussing four components presented below as a drive to environmental sustainability.

2.8.1. Legal Requirements

Some studies have shown that legislation compliance is the most substantial driver amongst SMMEs to environmental practices (Rizos *et al.* 2015; Shah *et al.* 2016). The legislation imposes environmental improvement on businesses as non-compliance could occur penalties

and fines and non-compliance could lead to business disruption (Hoogendoorn *et al.* 2015; Nulkar, 2014). Rizos *et al.* (2015) in their study mentioned that SMMEs are influenced by legislation. This usually encourages entrepreneurs to engage in environmentally sustainable behaviours and go beyond complying with government regulations (Ashton *et al.* 2017). Regulations contribute to implementing environmental practices (Epoh and Mafini, 2018; Fakoti, 2019).

Rizos *et al.* (2016) report that the lack of a concrete, clear and strict legislative framework often delays SMMEs' consideration of integrating green solutions in their operations. Regulations assist SMMEs to have understanding and knowledge about the outcomes of adapting environmental practices (Sáez-Martínez *et al.* 2016). Regulations are the tool that helps the managers/owners of SMMEs about what is expected from them regarding environmental sustainability. While (Hamann, Smith, Tashman and Marshall, 2017) found that state regulations are an absent driver. Aboelmaged (2018) reported that environmental laws do not have a significant influence on sustainable manufacturing practices.

2.8.2. Stakeholder Pressure

Stakeholder pressure from both primary and secondary stakeholders; customers, community, environmental interest groups, regulatory agencies and supply has been discovered to be drivers for SMMEs to perform environmental practices (Shah *et al.* 2016; Govindan, Diabat and Shankar, 2015). Hoogendoorn *et al.* (2015:762) "Primary stakeholders are customers that require environmental attributes to the products purchased while employees are calling for safe facilities and investors applying for environmental investment screens". Customer demand for green products or services leads to the development of environmental practices (Abdul *et al.* 2017; Yadav *et al.* 2018; Fakoti, 2019) stated that the aim of every enterprise is to improve its economic value by meeting the needs and wants of their customers. Customers' environmental concerns drive firms to make green-sensitive products and services as customers usually prefer environmentally friendly products, they evaluate enterprises based on their sustainability practices (Aboelmaged, 2018). Hence, SMME owners-managers feel pressured by the investors, society and their business competition to adopt sustainability practices.

Salimzadeh (2016) believed that there are internal and external groups that can convince the SMMEs owners-managers about the advantages of adopting sustainability practices. Employees are the great motivators for environmental practices; hence, SMMEs could improve

programs of sustainability to employees, which will create practical innovation and be committed to a business in an environmentally responsible manner. The studies of Hamann *et al.* (2017); Langwell and Heaton (2016) investigating sustainable manufacturing found that top management support and employee engagement in sustainability initiatives provide a bond to ensure effective implementation of sustainable manufacturing practices.

SMMEs need to be more environmentally friendly if their stakeholders recognise the effort that goes beyond the legal requirements (Del Mar Miras-Rodriguez, Machuca and Escobar-Pérez, 2018). Shibin *et al.* (2018) argued that environmental awareness of customers is a driving factor to encourage firms into eco-friendly products and services. Sáez-Martínez *et al.* (2016) and Nulkar (2014) found that some SMMEs go beyond and engage in sustainable practices mainly because of internal motives such as values and corporate image. SMMEs want to improve public image and green brand image through environmental activities (Gandhi *et al.* 2018). External stakeholder pressure is discussed as being effective at motivating firms to be proactive in environmental practices and avoiding the risk of weakening their reputation in the marketplace (Lewis *et al.* 2015; Font, Garay and Jones, 2016).

2.8.3. Economic Advantage

Shah *et al.* (2016) argued that financial advantages are the drivers to environmental practices since SMMEs need financial resources for environmental practices. Some businesses adopt sustainability practices as they want to create a competitive advantage and monetary advantages such as cost reduction, improve efficiency and profit (Yadav *et al.* 2018; Mendoza, García, Díaz, Jiménez and Blanco, 2019; Fakoti, 2019). Corporate environmental sustainability takes part in corporate social responsibility which assists the business to improve performance and competitive advantage (Fakoti, 2019). The study of Sáez-Martínez *et al.* (2016) disagrees with the other scholars their study reported that most SMME managers do not perceive a clear benefit beyond environmental legislation as a source of competitive advantage. Chendo (2013) SMME believes that not being involved in a clean environment does not make them to be preferred by customers more than other businesses.

Bossle, de Barcellos, Vieira and Sauvée, (2016) mentioned that cost-saving has been seen as one of the drivers of environmental practices. Marshall and Williams (2019) SMMEs usually have limited access to funding, therefore, it is understandable if cost-saving is identified as an important driver to adopt environmental practices. Del Mar Miras-Rodriguez *et al.* (2018)

argued that if there is a desire in the business to reduce costs the solution could be to implement environmental practices which could lead to resource and emission savings, the SMMEs would be protecting the environment while saving resources.

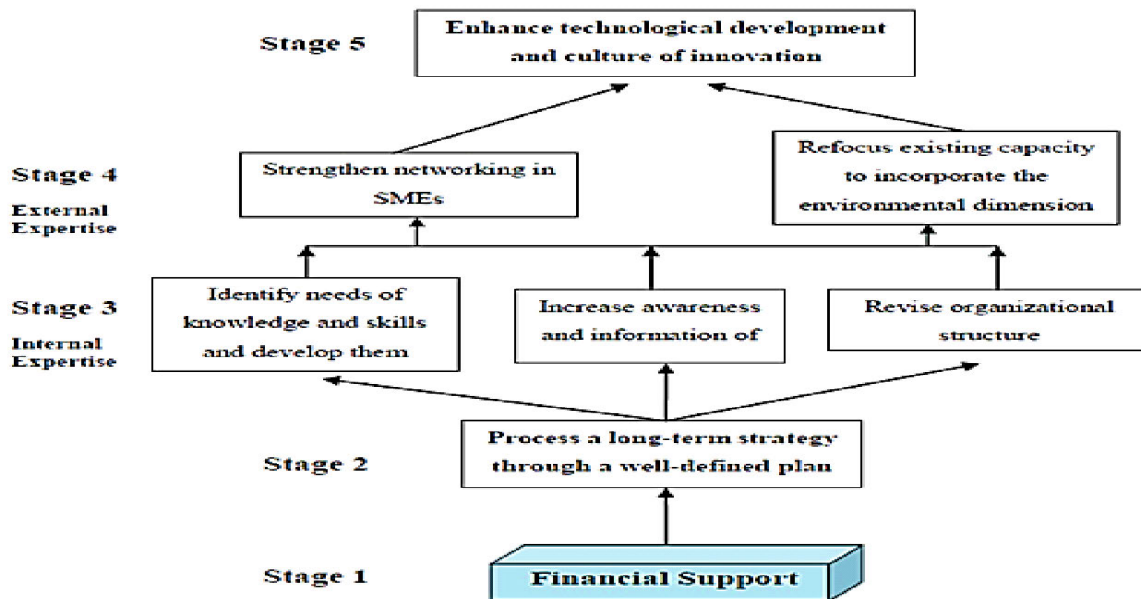
2.8.4. Owner Managers' Ethics and Values

The way owners and managers run the business affect business practices; hence, owners' decisions and actions are influential in embracing good environmental behaviour, top management values are also important to formulate proactive environmental strategy (Jang, 2016). According Jansson, Nilsson, Modig and Hed Vall (2017) pro-environmental values among management impact commitment to sustainability as SMMEs consists of fewer individuals' opinions and attitude are arguably important. Organisational changes in businesses are more successful when there is a direct impact. Most of the changes can be successfully implemented if human resources are committed (Bhanot, Rao and Deshmukh, 2017). Top management commitment to environmentally friendly behaviours leads to the possibility of implementing environmental practices (Govindan *et al.* 2015).

Entrepreneurs' commitment and values to environmental issues are tied to the company's behaviour (Sáez-Martínez *et al.* 2016). Management's commitment to support environmental practices in businesses allows more complex environmental practices to be implemented and this includes management values and attitudes towards the environment (Del Mar Miras-Rodriguez *et al.* 2018). Fakoti (2019) argued that management support assists in creating organisational culture and employees' capabilities. Managers or owners who have a positive attitude towards environmental practices perceive environmental management and are likely to engage in environmental practices (Salimzadeh, 2016). Therefore, individual's values about sustainability have a great influence on adopting environmental practices for SMMEs. Values and attitudes help some managers/owners to adopt environmental practices without being pushed by regulations or other benefits.

2.9. STRATEGIES FOR ENVIRONMENTAL PRACTICES FOR SMMEs

Figure 3: Strategies for environmental practices for SMMEs



Source: Shah et al. 2016

Figure 3 above shows the stages of proposed strategies that could be used to implement environmental practices. The strategies mentioned in figure 3 go in line with the drivers and the barriers of sustainability practices to SMMEs, as it assists the SMMEs to partake in sustainable activities. The stages that are mentioned in figure 3 will be briefly explained below.

2.9.1. Stage 1: Financial Support

The challenge facing small businesses is the lack of financial support to sustain their businesses, which makes it challenging for SMMEs to adopt environmental practices. Ghazilla et al. (2015) and Fakoti (2019) argued that SMMEs need financial support to be able to expand to available opportunities and adopt environmental activities. In some cases, businesses may not be forced toward implementing certain standards, but incentives can. According to Kauppi (2013) incentives are mostly related to monetary resources, whereby government provides grant funding and various monetary opportunities to subject the adoption of certain practices.

Information barriers and the higher costs of intermediation; there is also a possibility of a lack of realistic planning and financial evaluation procedures. Evidence of the previous is given by Shah et al. (2016), who discuss the problems between auditors and the closeness of the relationship between ownership and control.

2.9.2. Stage 2: Process long term strategy

SMMEs are run by an individual owner/manager who has complete authority over the enterprise; therefore, the second stage looks at the mind-set of the owner/manager in embracing change, innovation and social responsibility, exert a high influence on the development of firm and choice of strategies and policies (Shah *et al.* 2016). Owner/managers' values and attitudes of top-level management seem to have a high influence on the conduct and development of firms.

According to (environment) values of the managers/owners, for instance, to change development, social duty, possession, cooperation, rivalry, control, custom, religion, family ties, their work, human relations or themselves are accepted to decide specifically or in a roundabout way the selection of targets, systems and approaches (Shah *et al.* 2016). This affects some choices, policies and activities, for instance, education and training, employees' programs, revising policies and procedures and rewarding best performing managers. Hence, business strategies are essential for the future performance of the enterprise.

2.9.3. Stage 3: Internal Expertise

This stage shows the necessity of internal expertise which includes higher qualification for managers, the attraction of high skilled labour with expertise that involves a change in organisational structure and involve a small team that will be responsible for decision making when it comes to environmental management and improves waste minimisation awareness (Shah *et al.* 2016; Salimzadeh, 2016). A high level of expertise leads to a higher commitment to the environment and the community (Salimzadeh, 2016). Owner/managers' knowledge about environmental advantages and benefits is essential to initiate environmental practices. Lack of expertise is seen as the barrier to adopt sustainable practices in SMMEs. Shah *et al.* (2016) and Salimzadeh (2016) found that educational qualifications of owner/managers provide higher chances to learn about the benefits of adopting environmental practices and have more potential to engage in environmentally friendly practices. Hence, educational level enhances those skills and knowledge. Owners-managers with a high level of education are aware of the challenges and demands of the community and put an effort to introduce a program that will support environmental practices (Salimzadeh, 2016). Furthermore, SMMEs organisational structure needs to be reviewed to assign small teams that are usually responsible for important business aspects including decision making and implementation of regulations.

Small businesses need to shift responsibilities to qualified employees who would be able to facilitate collaboration and create a democratic workplace.

2.9.4. Stage 4: External Expertise

SMMEs need assistance with environmental issues such as (pollution, energy usage and water consumption), regarding compliance and future trends in legislation and tools for better environmental management from external support such as legal advice and accounting (Augusto Lisboa and Yasin, 2014). Sometimes SMMEs tend to be sceptical about external assistance due to less interaction and sharing information among SMMEs (Hoogendoorn *et al.* 2015). Salimzadeh (2016) argued that it is important for SMME owners-managers to distinguish when the nature of an enterprise is beyond their capability and seek external expertise. Besides education, experience and knowledge small businesses need assistance from external expertise to evaluate ideas and strategies.

External expertise includes management techniques; hence, it is advisable that SMMEs could implement general management expertise in analysis, planning and implementing in approaching environmental management (Shah *et al.* 2016). By implementing general management techniques SMMEs are asked to refocus the existing capacity, maximising resource efficiency by using the existing organisational structure, procedures that can be adapted to incorporate an environmental dimension. The development of environmental networks among small businesses is important as it will enable SMMEs to improve their environmental status (Hoogendoorn *et al.* 2015; Shah *et al.* 2016). Networking is an effective tool to develop a relationship between businesses and stakeholders.

2.9.5. Stage 5: Enhancing technological development and Culture of innovation

SMMEs need to have innovative ideas to deal with environmental issues (Shah *et al.* 2016). Ayandibu and Houghton (2017) argued that the SMMEs sector is the major contributor to innovation. “Innovation refers to implementing new or significantly improved products” (Klewitz and Hansen, 2016:60). To deal with environmental issues it requires skilled and qualified entrepreneurs who will be able to implement innovative tools (Shah *et al.* 2016).

SMMEs are disadvantaged by nature in getting to new thoughts because of their survivability issues (Shah *et al.* 2016). Hence, innovativeness is the consequence of an intentionally chosen and pursued approach, through connections with information focuses, entries to government

development endowment plans and a moderately high R&D spending plan. It is essential to have qualified employees and strong leadership, the nature of the commercialisation and advertising exertion and firm fitness in the territory of innovation procedure and innovation administration with a specific end goal to accomplish this strategy (Shah *et al.* 2016).

2.10. ENVIRONMENTAL SUSTAINABILITY MANAGEMENT

Environmental practices have two concepts which include sustainable entrepreneurship and environmental entrepreneurship. Environmental entrepreneurship refers to disruptive rather than incremental innovation brought by entrepreneurs who discover and exploit economic activities related to environmental issues. Environmental practices have been identified as activities undertaken by businesses to reduce environmental impact. Environmental activities comprise those that are necessary to meet environmental regulations (reactive strategies) and proactive strategies (Hoogendoorn *et al.* 2015). Proactive strategies are those strategies undertaken by firms that are beyond compliance just to prevent environmental impact. It is argued that SMMEs are reluctant to partake in environmental activities. Schmidt *et al.* (2018) companies are concerned about the environment as they carry out certain activities to reduce impact, other companies look for more information about environmental sustainability and how their practices would be beneficial to the environment i.e., separation garbage for collection and reduction of the expenses of paper.

Large, small, medium and micro enterprises are facing environmental issues. As environmental sustainability issues have been identified, enterprises need to have strategies to manage their environmental issues. Hörisch *et al.* (2015) argued that enterprises should take responsibility for their actions; therefore, they need to adhere to the rules and regulations concerning environmental sustainability (health and safety, waste management laws and recycling). While the study of Chendo (2013) found that SMMEs believe they are not responsible for the damage caused to the communities by their business operation. Few qualitative research studies are investigating how SMMEs manage their environmental challenges, hence this study investigates SMMEs' activities towards environmental sustainability.

It has been discovered that SMMEs are taking initiatives to reduce their environmental sustainability issues and become more environmentally sustainable enterprises. SMMEs have taken measures such as recycling, energy efficiency, responsible buying and selling and managing carbon emissions (Hörisch *et al.* 2015). Trandafilović, Conić and Blagojević (2017)

found that there is a positive correlation between environmental education and environmental awareness that inspires people to recycle use water and energy efficiency to protect the environment. Chan *et al.* (2017); Hossain *et al.* (2020) and Giama and Papadopoulos (2018) argued that education and training is essential to employees as it assist to improve their knowledge and the ability to deal with diverse environmental challenges. Rashid, Zobair, Shadek, Hoque and Ahmad (2019) suggested that management should take necessary steps to reduce carbon dioxide, create environmental awareness and ensure environmental sustainability. According to Hossain, San, Ling and Said (2020) environmental sustainability practices are a tactical construct whereby businesses are intentionally engaging in environmental activities which include, waste reduction, recycling, energy efficiency and the use of eco-friendly products.

Alayón, Säfsten and Johansson (2017) SMMEs implement waste management practices such as preventing waste before recycling i.e. reusing waste. Marshall and Williams (2019) mentioned that many activities can be considered as simple such as ensuring equipment and lights are switched off when they are not in use and printing few documents and communicating electronically. Jang (2016) environmental practices reported in the study include efficient lighting, setting recycling spots to separate garbage and implementing recycling programs. Giama and Papadopoulos (2018) SMMEs implemented monitoring tools to reduce energy consumption through realistic saving measures such as switching off the lights when not in use.

Some scholars believe that SMMEs need to communicate their environmental strategies to their stakeholders such as, customers, partners and the public (Jayeola, 2015 and Johnson and Schaltegger, 2016). Jeyeola (2015) mentioned that communicating sustainability strategies benefits the enterprise as the stakeholders will understand the enterprise's sustainability values and how the enterprise manages their sustainability issues. SMMEs owners-managers are often mentioned as having little awareness of the programs and management practices available to them dealing with environmental management. Robin *et al.* (2017) in their study reported that they train their employees to conduct environmental practices through platforms, courses, meetings and other platforms. Fakoti (2019) reported that SMMEs have lack management support, therefore, management needs to create awareness and training to improve technical competencies (Ghazilla *et al.* 2015; Fakoti, 2019)

Environmental activities most companies partake in include, the minimisation of waste, saving resources and energy, offering organic products or eco-friendly products and recycling (Hoogendoorn *et al.* 2015; Schmidt *et al.* 2018). Kimanzi (2019) SMMEs should responsibly design products and use packaging that will be recyclable. Environmental practices work hand in hand with sustainable development, environmental sustainability and Corporate Social Responsibility. Vanderploeg and Lee (2020) reported sourcing environmentally friendly materials such as recycled materials.

The networking approach encourages environmental practices among SMMEs (Brammer *et al.* 2012). SMMEs should work together in networks to tackle environmental issues. Lewis *et al.* (2015:753) "Linkages with external organisations are said to enhance opportunities for environmental engagement in several ways, but practically by organisations providing environmentally-oriented information and expertise, or as hubs through which cooperative alliances between SMMEs can be established". SMMEs should consider working together with companies facing similar challenges with similar goals and work together to overcome their challenges (Ashton *et al.* 2017). It is important to join SMMEs striving for sustainability (Rizos, Behrens, Van der Gaast, Hofman, Ioannou, Kafyeke, Flamos, Rinaldi, Papadelis, Hirschnitz-Garbers and Topi, 2016).

The adaptation of environmental practices leads to a competitive advantage in terms of low costs and efficiency (Lo *et al.* 2012). The development of procedures and policies for environmental practices leads to reduced waste, consumption of raw materials and provision of necessary information (Reyes-Rodríguez *et al.* 2016). Environmental practices promote improved resource productivity and reduced pollution (Heras-Saizarbitoria, Molina-Azorín and Dick, 2011).

2.11. RESEARCH GAP

According to Kimanzi (2019) there is a lack of research on sustainability practices and programmes of SMMEs. Okuboyejo (2013) indicated that there is an inadequate academic literature looking into environmental sustainability especially in South Africa. Furthermore, there are few qualitative studies investigating environmental sustainability of SMMEs in developing countries such as South Africa (Haines, 2014; Okuboyejo, 2013). Fakoti (2019) there are limited number published studies in South Africa that examine the drivers and the

barriers of implementing environmental practices. Hence, this study aims to provide an insight of environmental sustainability management in small business sector by implementing a qualitative study, investigating environmental sustainability management in Pietermaritzburg SMMEs, looking at the perceptions of environmental sustainability by owners-managers of Pietermaritzburg SMMEs, environmental practices implemented by Pietermaritzburg SMMEs, drivers and barriers that influence adoption of SMMEs environmental practices.

2.12. CONCEPTUAL FRAMEWORK

The conceptual framework presents a geographic summary for the study (Adom, Hussein and Agyem, 2018). This research study investigates environmental sustainability management in SMMEs. The researcher wants to provide an insight into the environmental sustainability practices, driver motivating SMMEs to engage in environmental practices and challenges faced by SMMEs to engage in environmental practices. The presented related literature and the findings of this study motivated the following conceptual framework. Previous researchers (Cassell and Lewis, 2011; Yadav *et al.* 2018) have highlighted that SMMEs are lagging behind in implementing environmental sustainability practices. Hörisch *et al.* (2015) SMMEs need to take responsibility for the impact they have on the environment. Implementing environmental sustainability practices can assist in reducing negative environmental practices (Gandhi *et al.* 2018). Nordin *et al.* (2015) and Fakoti (2019) noted that most organisations respond to environmental issues by looking at the barriers and drivers that influence their environmental sustainability practices.

BARRIERS

The discussion in the related literature has indicated that SMMEs contributes to the world's economies and they also have a huge impact on the environment, but they are lagging behind when it comes to adopting environmental sustainability practices. However, SMMEs are confronted by different challenges such as lack of information, lack of stakeholder pressure, lack of resources and lack of government support. Due to these challenges SMMEs do not effectively adopt environmental practices.

A study of Abdullah *et al.* (2016) lack information and management capabilities about environmental sustainability. The study of Salimzadeh (2016) indicated that lack of information is a setback to adopt environmental practices. Lack of staff's technical knowledge

challenges the improvement of environmental business practices. The study by Dey *et al.* (2018) SMMEs lack information on the benefits of improving environmental practices.

Lack of stakeholder pressure and demand for eco-friendly products and green initiatives limits SMMEs adoption of environmental sustainability practices (Dey *et al.* 2018). The systematic review study by Yadav *et al.* (2018) noted that limited demand for sustainable goods from customers discourages SMMEs to have an effort to attend to environmental issues. Lack of financial resources challenges SMMEs to become environmentally sustainable (Roxas *et al.* 2017).

Limited financial resources limits SMMEs engagement to environmental sustainability practices as they do not have enough funds it limits their affordability (Shah *et al.* 2016). Furthermore, according to Salimzadeh (2016); Shah *et al.* (2016) limited resources only enables business to maintain their economic activities which leads to low level of sustainable practices adoption. The study of Rizos *et al.* (2015); Marshall and Williams (2019) reported that lack of government support and effective legislation challenges SMMEs adoption of environmental practices. Okuboyejo (2013) presented that lack of government and corporate support limits SMMEs engagement to environmental practices.

DRIVERS

SMMEs are influenced by legislation for environmental improvement as it poses penalties for no-complying businesses (Hoogendoorn *et al.* 2015; Epoh and Mafini, 2018). Legislation assist SMME owners-managers to understand what is expected from them regarding their environmental performance.

Stakeholder pressure contributes to improvement of environmental practices (Govindan *et al.* 2015). The studies of Abdul *et al.* (2017) and Yadav *et al.* (2018) reported that customer demand for green products and services contributes to implementation of environmental practices. Customers concerns and preferences of environmentally friendly products encourages SMMEs to improve their environmental performance (Aboelmaged, 2018). Moreover, Shubin *et al.* (2018) customers' environmental awareness encourages SMMEs into eco-friendly activities and it assist to build a positive image.

Economic advantage encourages SMMEs to adopt environmental practices. SMMEs adopt environmental practices because they want to improve their competitive advantage and

monetary advantage (Yadav *et al.* 2018; Mendoza *et al.* 2019). Environmental sustainability assists SMMEs to reduce operational costs, improve efficiency and profit. The study of Bossle *et al.* (2016) cost saving in many businesses has been seen as driver to adopt environmental practices. Del Mar Miras-Rodriguez *et al.* (2018) argued that if businesses want to reduce costs, they need to implement environmental practices as it may lead to saving resources.

Top managements' decisions and values are influential in adopting effective environmental behaviours (Jang, 2016). The study by Jansson *et al.* (2017) reported that managements' pro-environmental values contribute towards sustainability commitment as SMMEs are controlled by few individuals. Managers' values and attitudes assist SMME owners-managers to adopt environmental practices besides being pushed by legislation.

ENVIRONMENTAL SUSTAINABILITY MANAGEMENT

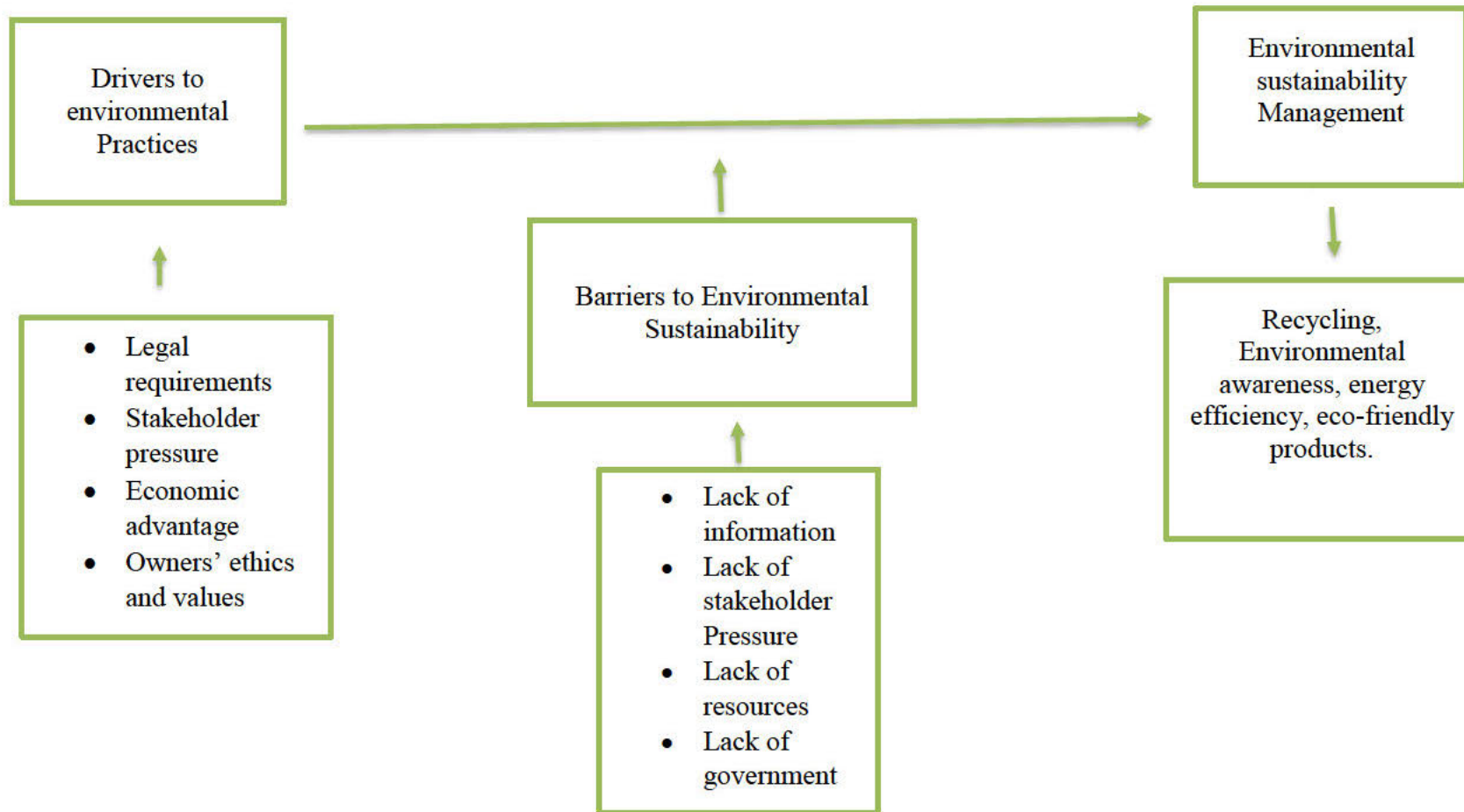
Despite the challenges that have been highlighted SMMEs do engage in environmental practices. However, enterprises need to take responsibility of their actions and implement environmental activities that will assist to reduce their environmental impacts. SMMEs have implemented environmental practices such recycling, energy efficiency measures, creating environmental awareness and the use of eco-friendly products (Hörisch *et al.* 2015; Hossain *et al.* 2020; Jang, 2016). The study SMMEs have implemented energy efficiency measures through efficient lighting and switching off lights and equipment when not in use (Jang, 2016; Giamia and Papadopoulos, 2018). Rashid *et al.* (2019) create environmental awareness to improve environmental sustainability among businesses. Waste management measures through recycling, separation of waste for recycling programs, use the eco-friendly and reusable products (Jang, 2016; Hoogendoorn *et al.* 2015; Schmidt *et al.* 2018).

2.13. CONCLUSION

The above discussion has shown the environmental impact that SMMEs have. This literature shows barriers and drivers of environmental practices and it shows the importance for SMMEs to implement environmental practices proactively and reactively. This literature reveals the importance for small enterprises to know the impact they have on the environment and the environmental issues that they need to attend to. Furthermore, based on the related literature has shown the lack of academic research based on environmental sustainability in South Africa, hence this study will close the gap of understanding and acknowledging environmental issues that South African SMMEs need to deal with and environmental practices undertaken by small

businesses. The following chapter will present the research methodology that was used for this study.

Figure 4: Conceptual Framework Diagram



Source: *Compiled by researcher*

CHAPTER THREE

RESEARCH METHODOLOGY

3.1.INTRODUCTION

This chapter outlines how the research was carried out. The chapter describes the research methodology and research design that was used to answer the research problem. This chapter further explain the reasons for the selected research methods, including research designs, sampling techniques data collection methods, trustworthiness of the study and data analysis techniques. The selected methodology for this study assisted in understanding the environmental sustainability management in Pietermaritzburg SMMEs.

3.2.RESEARCH PHILOSOPHY

According to Thakurta and Chetty (2015) research philosophy is the most essential part of research methodology, research philosophy enables the researcher to decide which research methodologies and approaches should be selected for research to answer the research questions. Žukauskas, Vveinhardt and Andriukaitienė (2018) describes research philosophy as development of research assumptions that allows the researcher to generate ideas into knowledge in the context of their research. Saunders, Lewis Thornhill and Bristow (2015) adds to this by characterising research philosophy as an arrangement of beliefs and assumptions about the improvement of information. Briefly, it is growing new information in a specific field when attempting to tackle a specific issue; along these lines, in an organisation, for example, new data is being acquired.

Ontology looks at the researchers' perspectives about the existence of things and how they work together (Saunders, Lewis and Thornhill, 2009). It also looks at the values that define research questions compositions that guided the research and subsequent results (Pickard, 2013). According to (Eriksson and Kovalainen, 2015:16) "objectivism as an ontological starting point assumes that social world exists independently of people and their activities; while subjectivist assumes that social actors produce social reality through social interactions". In ontology there is realism and idealism; "realism is based on the idea that there is an external reality which happens independently of people's beliefs about or understanding of it" (Ormston, Spencer, Barnard and Snape, 2014:04). Realism can be observed, and it is known through different experiences. In idealism there is no external reality, idealism believes that reality depends on the human mind (Ritchie, Lewis, Nicholls and Ormston, 2013).

Epistemology is views about the type of knowledge that people acquire trying to understand how the world functions, and it also comprises of worthy information in the field of study (Saunders *et al.* 2016). Epistemology is the knowledge known by observing things as they take place (Pickard, 2013). Epistemology pre-purposes people's experience as a legitimate evidence (Xian and Meng-Lewis, 2018). Based on epistemology there are two research approaches which are inductive and deductive approaches (Ormston *et al.* 2014).

The inductive Approach (interpretivism), this approach is also known as a bottom-up approach to knowing where the researcher is using observations to build abstraction (Saunders *et al.* 2015). The inductive approach includes collecting data that is used to describe the meaning and experience of human behaviour through research methods such as in-depth interviews and focus group interviews (Feilzer, 2010). An inductive approach is using evidence as the start of the conclusion; hence the purpose of this approach is to generate meaning from the collected data to build theory. In this approach, the evidence is collected first, and the knowledge is created from the collected evidence, but it does not limit the researcher to use already existing theories (Zalaghi and Khazaei, 2016). This approach uses the detailed readings of the collected data to derive concepts and themes, based on the interpretations made from data collection (Bryman and Bell, 2015). Therefore, this study is underpinned by epistemology using an inductive approach, to have a greater understanding of environmental sustainability management in Pietermaritzburg SMMEs.

The deductive Approach is concerned with developing a hypothesis based on the existing theory and designing a research strategy to test the hypothesis (Antwi and Hamza, 2015). It creates knowledge that different people equally know. The research mainly draws its insights from heavy experiments as methods that can be proved or denied. It is called the method of testing theories (Saunders *et al.* 2015). The deductive approach uses mathematical and statistical methods to examine human behaviour. This philosophy was not considered as this study is a qualitative research.

3.3.RESEARCH DESIGN

Wiid and Diggins (2015:54) defines research design as the structure for a research that contains specific techniques that make up the genuine research process; these techniques incorporate the collection of data, the analysis of collected data and the review of the findings and recommendations. Research design assists with ensuring that the researcher addresses the

research problem effectively (Sekaran and Bougie, 2016). This study used an exploratory research design, this type of research design was used because of the limited research published solely focusing on challenges and driver's environmental sustainability practices. The main purpose of this research was to explore environmental sustainability management by Pietermaritzburg SMMEs. As exploratory research allows the researcher to ask open questions with the aim of gaining insight regarding the topic at hand (Saunders *et al.* 2015).

3.4.RESEARCH APPROACH

A research approach is a plan and procedure that consists of the steps of broad assumptions to detailed data collection method, analysis and interpretation (Datt, 2016). A research approach is chosen based on the research problem. The researcher needed to have a clear understanding of the research methodologies and techniques. Sekaran and Bougie (2016) and Datt (2016) identified quantitative, qualitative and mixed research methods as three main research approaches that are extensively used within research. Quantitative research has the pre-designed set of responses the respondents must choose from the limited answers irrespective of whether they represent their feelings (Sreejesh *et al.* 2014). Neelankavil (2015) ; Antwi and Hamza (2015) described quantitative research as the research that seeks to find relationships between and uses the statistical tools and means to explain the relationships and testing the hypotheses.

Qualitative research studies human experiences, beliefs, attitude, behaviour and interactions (Antwi and Hamza, 2015). Qualitative research allows the researcher to collect data that contextualises how the target population is experiencing the phenomenon. This approach gives voice to participants and it allows the participants to share their experience. Yin (2015) mentioned that qualitative studies are mostly conducted in a natural setting where detailed information is gathered directly from the participants. According to Aspers and Corte (2019) qualitative research looks at the meanings, definitions, concepts, symbols, characteristics and descriptions of things. This research used a qualitative approach as the researcher aimed to investigate the SMMEs' opinions, perceptions and experiences of environmental sustainability management. According to Sekaran and Bougie (2016) in a qualitative study one can collect relevant data using interviews. This qualitative research provides views and perceptions of environmental sustainability management.

In this study, qualitative research was applied as it was appropriate and relevant to the study, as it allows the participants to share their experiences and views on the topic. In this research, interviews were served as a fundamental tool in collecting data and proved to be significant in the data collection process.

3.5.STUDY POPULATION

Sekaran and Bougie (2016) describes the target population as a group of people and matters of interest that a researcher, investigator, academic and researcher wants to investigate. Neuman (2014) mentioned the importance of understanding the characteristics of the target population to lessen the issues of response rate and quality of data. The target population for this study consists of Pietermaritzburg Small, Medium and Micro Enterprises within the Msunduzi Municipality. Pietermaritzburg was chosen as it is the legislative capital of the Province of KwaZulu-Natal. Furthermore, Pietermaritzburg was chosen because it was convenient to the researcher.

3.6.SAMPLING METHOD

There are two sampling methods in research, probability sampling and non-probability sampling. In probability sampling, the population has a non-zero chance of being selected as a sample subject (Sekaran and Bougie, 2016; Etikan, Musa and Alkassim, 2016). Probability sampling is a more appropriate method of making interpretations to be generalised and it is more efficient in quantitative research where the sample needs to be representative (Brick, 2015; Sekaran and Bougie, 2016). Probability sampling was not considered in this study as the study is qualitative and it is not aiming to generalise the findings.

In non-probability sampling, the elements in the population do not have any probabilities attached to them being chosen as a sample subject (Etikan *et al.* 2016). Etikan *et al.* (2016) identified quota sampling, snowball sampling, judgement sampling and convenience sampling as non-probability sampling methods. This study used a convenience sampling method as it allowed the researcher to simply choose the participants from the locations that are accessible and easy for the researcher to reach. In convenience sampling the sample is selected in a way that comprises the population available to provide the required information (Sekaran and Bougie, 2016). The researcher contacted the participants through phone calls to make

appointments for research interviews, the researcher also approached some of the participants by going to their offices.

3.7.SAMPLE SIZE

A sample is a critical component of any experimental study in which the objective is to make inductions about a population (Sekaran and Bougie, 2016). Sample size as a part of an investigation is resolved based on the cost of data collection and the need to adequately fulfilled power (Robinson, 2014). The sample size of the study was 20 owners-managers of SMMEs in Pietermaritzburg for primary data who will be chosen based on their availability. The researcher interviewed 21 SMME owner-manager as per their availability. The researcher exceeded the sample size to gain more information from the participants as some of the participants did not provide enough information. Secondary data was collected using a PRISMA flow chart method, 97 articles were chosen based on their topics, but 7 articles were included in the study after the selection process. The researcher determined the sample size based on the argument of (Mason, 2010) who stated that in qualitative research fifteen is the smallest acceptable sample size. In qualitative research, sample sizes are usually small and defined as the total number of people or units studied (Mujinga, 2016).

3.8.DATA COLLECTION METHODS

Research data can be obtained using primary or secondary data sources.

3.8.1. PRIMARY DATA

According to Easterby-Smith, Thorpe, Jackson and Jasperson (2018) primary data is the new data collected directly by the researcher for specific research. The three methods consist of focus groups, surveys, interviews, questionnaires, semi-structured, open-ended interviews and observations (Sekaran and Bougie, 2016). According to Myers (2019) qualitative data sources include participants' observation, interviews, questionnaires and focus groups. The researcher of this study collected primary data using individual face-to-face semi-structured interviews.

3.8.1.1.Semi-Structured Interviews

According to Edward and Holland (2013) semi-structured and unstructured interviews are used in qualitative research. Semi-structured and unstructured interviews allow flexibility and they do not have structure. According to McIntosh and Morse, (2015) this type of interview allows the respondent to respond freely to the questions as the questions were open-ended. Face-to-face interview is where the researcher asks the questions directly with the respondent face-to-

face (Paradis, O'Brien, Nimmon, Bandiera and Martimianakis, 2016). Face-to-face allows the researcher to adapt the questions as needed and can clarify doubts and make sure that the respondent understood the questions (Sekaran and Bougie, 2016). The researcher can also pick up the body language of the respondent. According to McIntosh and Morse (2015) semi-structured interviews are an easy way of collecting data, hence they allow new questions or follow-up questions to emerge during the interview.

Thus, this study used face-to-face semi-structured interviews to explore participants' perceptions and opinions on environmental sustainability management. The researcher conducted face-to-face interviews with the participants. The researcher recorded the interviews with the permission granted by the participants, aiming to correctly analyse the information as given by the participants. Individual face-to-face interviews allowed the researcher to read the reactions of the participants and the research was able to clarify the questions where the participants did not understand.

3.8.2. SECONDARY DATA

Secondary data consists of information that already exists collected by some other people or organisations for their use and they are generally available for others and this information includes journals, previous thesis, academic publications and other published information by researchers (Sreejesh, Mohapatra and Anusree, 2014; Gray, 2019). Secondary data has a disadvantage when the data can be outdated which will affect the relevance feature of the study (Sekaran and Bougie, 2016; Johnston, 2017). Secondary data is used for the literature review; the insights were drawn from journal articles, books based on the topic (Easterby-Smith *et al.* 2018). Secondary data is used to ensure that the necessary information from previous studies is used for this study. The study also made use of secondary data to enrich and give confidence to the data findings obtained through primary data collection.

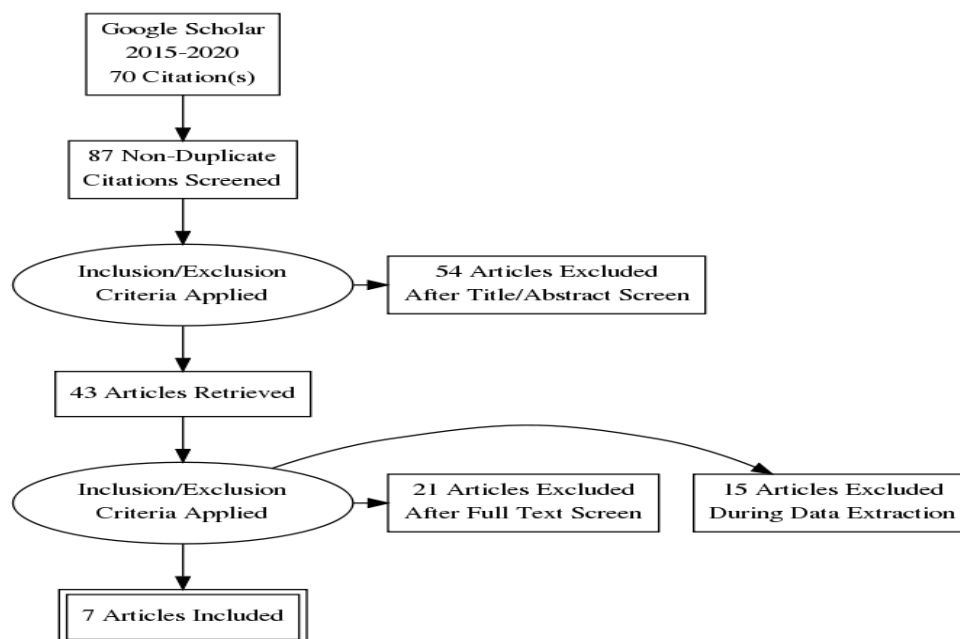
The researcher collected secondary data using online different data search engines such as, google, google scholar, emerald insight, Sabinet, Jstor and Taylor and Francis. Dataset for secondary data was identified looking at the topic that they were focusing on. Secondary data of this study consists of research articles and dissertations that were investigating and examining SMMEs' sustainability and sustainable manufacturing practices in South Africa.

After the dataset was identified the researcher evaluated the dataset based on the purpose of the study. The researcher looked at the purpose of original studies to see the differences and similarities of research goals between original researchers and the researcher of this study (Johnston, 2017). The secondary researcher needs to know the methodology used in the primary data of the existing data. Hence the researcher evaluated the measures were used to collect data, the sample size and the response rate of all the articles used as secondary data. Below is the technique used to sort the dataset and minimise the irrelevant data after reviewing all the articles.

3.8.2.1.PRISMA METHOD

The secondary data was collected as a systematic review using the Preferred Reporting Items Systematic Reviews and Meta-Analysis (PRISMA) flow chart presented in (figure 5) below. From the database searches, 97 articles were identified looking at the topic. After the screening 10 articles were duplicates, therefore they were excluded. 54 articles were excluded after the screening of the title and the abstract as they did not meet the criteria, 43 articles were read in full to determine the eligibility. After full-text screening 21 were excluded due to not meeting all the inclusion criteria, 15 were excluded during data extraction. A total of 7 articles underwent full data extraction and were included in the review as they were the relevant studies for this research and they assisted the researcher to answer the research questions of this study. The studies that the researcher included in this study were the studies focusing on SMMEs sustainability and sustainable manufacturing in South Africa.

Figure 5: PRISMA Flow Chart



Source: *Compiled by author*

3.9.DATA QUALITY CONTROL

3.9.1. VALIDITY

Validity determines if the research truly measures how truthful the results of the research are (Bryman and Bell, 2015). Validity is the precision with which the findings accurately reflect data. Validity has to do with the accuracy and precision of the measurement procedure, it realises that multiple realities exist (Noble and Smith, 2015). According to Bryman and Bell (2015) building validity is essential whereby the researcher is able to have confidence in the elements of the research plan, data acquisition, data processing analysis, interpretation and its ensuring judgement.

The researcher of this study ensured validity by using triangulation, the study collected both primary and secondary data. Triangulation is viewed as one of the strategies to test validity in qualitative research by collecting information from different sources. “Triangulation refers to the use of multiple methods or data sources in qualitative research to develop a comprehensive understanding of phenomena” (Carter *et al.* 2014:545). Triangulation is used to increase the accuracy of the study (Hussein, 2015). This study made full use of primary and secondary data to confirm the suggested findings and determine the data's completeness. This study used triangulation to achieve richness and more understanding of the study.

3.9.2. RELIABILITY

According to Twycross and Sheilds (2004:36) reliability refers “to the consistency, stability and repeatability of results while (Noble and Smith, 2015) define reliability as the consistency of analytical procedures, including accounting for personal and research method biases that may have influenced the findings.

3.9.2.1.TRUSTWORTHINESS

“Trustworthiness of the study refers to the degree of confidence in data, interpretation and methods used to ensure the quality of the study” (Connelly, 2016:435). Korstjens and Moser (2018) mentioned credibility, dependability, confirmability and transferability that qualitative researchers focus on.

Credibility: credibility determines the truthfulness of the research findings, furthermore credibility ensures that the presented data is drawn from the respondents' original data. Sekaran and Bougie (2016:172) described “credibility as an extent to which the findings of the study

are believable and trustworthy”. Qualitative researchers use triangulation to determine the credibility of the research findings (Korstjens and Moser, 2018). The researcher ensured the credibility of the findings by analysing primary and secondary data based on similar topics presented by this study to enrich data quality. The researcher also ensured credibility by allowing the participants to go through the data collection tool which is semi-structured face-to-face interview guide before the interview. The participant's words were prescribed as they were in the recording to ensure accuracy in interpreting the data provided by the participants.

Dependability: is concerned about the consistency of the research findings, it questions the findings if they will be consistent when the study is repeated by other researchers, they will be able to obtain similar information as the researcher of the study got (Korstjens and Moser, 2018; Sekaran and Bougie, 2016). The researcher ensured dependability by doing an audit trail which explained every step taken from how the data was collected and to how the data was analysed to reach conclusions. The researcher collected primary data using in-depth interviews, through the process of interviews the researcher recorded the interviews and took notes of the responses of the respondents. Thereafter, the researcher listened the interview recordings and transcribed them, after transcribing the interviews read the transcribed interviews three times. The transcribed interview responses were then transferred to NVivo software for data analysis. The data was analysed using auto coding and the software generated codes using word cloud. The researcher further collected secondary data from different search engines, PRISMA method was used for selecting the articles included in the study.

Confirmability: ensures the participants' responses were not biased and did not have personal motivations of the researcher (Korstjens and Moser, 2018). Sekaran and Bougie (2016) referred confirmability to an objectivity of the study where the findings and conclusions are the results of participants' experiences and ideas not based on researcher's preferences. The researcher ensured confirmability by providing the audit trail, which highlights every step of data analysis that was made to reach the research conclusions.

Transferability: is how the researcher validates that the research findings are relevant to other contexts (Korstjens and Moser, 2018). The researcher of this study ensured transferability by comparing the research findings with the reviewed literature presented in chapter two of this study to recontextualise the findings and interpretations of this study.

3.10. DATA ANALYSIS

Qualitative data analysis “is a process of description, classification and interconnection with the researcher’s concepts” (Graue, 2015:8). According to Flick (2013:4) qualitative data analysis “describes a phenomenon in some or greater detail comparing several cases on what they have in common or on the differences between them to develop a theory of the phenomenon under study from the analysis of empirical material”. Qualitative data analysis contains the effort to understand the phenomenon understudied. This data analysis integrates the collected information and explains the relationships, of why and how relationships seem the way they do (Sutton and Austine, 2016). The process of qualitative analysis includes the identification of themes that are relevant to the study and that will align with the research objectives, research questions of the study. This analysis will allow the data to be described and interpreted so it can have meaning (Roberts, Dowell and Nie, 2019).

The researcher of the study analysed data using thematic analysis. Thematic analysis is characterised as a strategy for analysing, separating and reporting the themes within information (Vaismoradi, Jones, Turunen and Snelgrove, 2016). Thematic analysis provides the researcher with the opportunity to understand the potential of any problem more widely. The thematic analysis allows the researcher to develop themes that are relevant to the findings of the study. This analysis is suitable as it consists of an in-depth reading of the gathered data, identification of key focus areas, and putting information into categories for a conclusive analysis.

In the process of data analysis, the researcher audio-recorded the interview session, thereafter the researcher carefully listened and transcribed the interview recordings. After transcribing the interviews, the researcher transferred/uploaded the recorded transcripts to the NVivo software for further analysis as the researcher used NVivo software for data analysis. The researcher used auto-coding with headings (interview questions) to generate codes. Then the researcher categorised the codes as per research objectives. The researcher further analysed data by presenting the codes using Word Cloud analysis. Word Cloud was used to further validate and analyse each group as per the research objective. In addition, Word Cloud is a graphic presentation of documents that shows frequently occurring words (Lohmann, Heimerl, Bopp, Burch and Ertl, 2015). These words are indicated by font size, each word cloud emphasised the most important words to ensure the analysed information showed precise

content (Atenstaedt, 2017). This was then coupled with the researcher's interpretive analysis and discussed.

3.11. ETHICAL CONSIDERATION

Cohen, Evans and Mills (2012) argued that there must be official permission to conduct the study in the target community. Ethical consideration allows the researcher to research in a way that respects people's rights. Ethical consideration is concerned with the well-being of the participants of the study. The researcher obtained a gatekeeper's letter which provided the researcher permission to conduct her research with the SMMEs within Pietermaritzburg. Before data was collected, the researcher obtained ethical clearance from the University of KwaZulu-Natal Ethics Committee. The researcher also provided the interview participants with an informed consent letter to get permission from them and to ensure that the interviews that were conducted were confidential and ensured their anonymity. The findings of this research will only be used for research purposes.

3.12. CONCLUSION

This chapter presents the methodology used for the study. This chapter highlights the important aspects of research methodology that were used for the study, such as research design, research approach, study population, sampling technique, data collection methods, data quality control, data analysis as well as ethical considerations. This chapter outlined how reliability and validity issues were dealt with in this study. It also discussed how ethical issues were addressed in this study. The following chapter, chapter four presents the findings of the study that were obtained during data collection.

4.1.INTRODUCTION

4.2.SECTION A: PRIMARY DATA

This objective was presented to determine SMMEs understanding of environmental sustainability. The study found that SMMEs do have understanding about environmental sustainability in their businesses. Respondents presented their different understanding and views about environmental sustainability based on their business operations.

[illegible]

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Table 3: Perceptions of Environmental Sustainability

Theme	Sub-themes	Quotes
Business Sustainability	Environmental Sustainability	<p>Respondent 1: <i>“My understanding with environmental sustainability is that businesses should take care of the environment and to make sure that the business operation do not harm the environment.</i></p> <p>Respondent 14: <i>“The term sustainability it got to preserve our resources to keep for future generations to use”.</i></p> <p>Respondent 21: <i>My understanding is that by keeping the environment clean especially around my business poses a better image to my business.</i></p>

Source: *Compiled by researcher*

The most appearing word from the word cloud presented in figure 6 is environmental business sustainability. The quotes relating to the identified theme are presented in the table above. Based on this objective the findings revealed that SMMEs understand environmental sustainability as taking care of the environment and ensuring that the business operations have a minimal harm on the environment. The respondents further indicated that environmental sustainability is preserving the natural resources for future generations.

4.2.2. OBJECTIVE 2: TO DETERMINE HOW PIETERMARITZBURG SMMEs, MANAGE AND MAINTAIN THEIR ENVIRONMENTAL SUSTAINABILITY.

The aim of this objective was to identify measures taken by Pietermaritzburg SMMEs. This study found that Pietermaritzburg SMMEs engage in various environmental practices to try and reduce the impact they possibly have on the environment during their business operations. All the respondents of the study have environmental practices that they implement in their businesses, even though some of the respondents felt that they have minimal impact on the

environment, therefore they do not do much on managing environmental impact. For example, Respondent 16 said:

“We don't have we do equipment we specialise in recruitment, my business does not have much impact on the environment, so we do not do much”.

Figure 7: Environmental Sustainability Practices



Source: Compiled by researcher

Table 4: Environmental Sustainability Practices

Theme	Sub-themes	Quotes
Environment	Recycling	Respondent 19: <i>“What we do is that all our waste, paper waste we don't throw it away we basically go back to the recyclers so it get recycled so it doesn't go to waste dumps or anything like that so for that point of view we are sort of managing that it goes to recycling people where it goes to the proper systems and get recycled and get used again for paper making”</i>

		<p>Respondent 18: <i>“I collect recyclables from curbside and people have already separated their organic waste from the recyclable waste. So, my business is very important in order to be less waste in the landfill sites. So, it is better to get a clean quality waste so in that way it minimises and manages them, it contributes to environmental management”.</i></p>
	Environmentally friendly Products	<p>Respondent 7: <i>“By changing by using, don’t use plastic as off-set using biodegradable products like straws, forks, spoons a lot of paper products instead of plastics. At the moment I’m actually changing to biodegradable products like for example our straws were plastic now we are changing our straws, plastic forks, even our plastic cup we are changing to biodegradable products that are environmentally friendly.”</i></p>
	Resell	<p>Respondent 2: <i>“We are selling the recycling/recyclable material so that they can make an additional income that is the one of the ways we are impacting the environment”.</i></p> <p>Respondent 19: <i>“there is something that we have been trying to do with other organisations where a grey water harvesting, so this grey water harvesting you would be reusing the water the same water that you’ve used”</i></p>
	Environmental Awareness	<p>Respondent 15: <i>“We have partnered with some NGOs in the communities that also involved in</i></p>

		<p><i>environmental management we also partnered with the department of Environmental affairs which is Department of Economic Development, Tourism and Environmental Affairs so their wing of environment we sometimes take them to communities and invite some communities to do cleaning campaigns we also partner with institutions such as umngeni water they would come and explain the importance of keeping our water clean cause this waste goes to rivers and it contaminates rivers and all the staff”.</i></p> <p><i>Respondent 2: “Making sure that communities and people are environmental conscious through environmental awareness and promoting small businesses in the environmental sector”.</i></p>
	Education	<p><i>Respondent 2: “I am putting some few guys to environmental health courses so that they can better manage the little projects that they have, because I see the importance of having education and training that will assist to having educated and trained employees that will deal with the environmental issues. I’m also trying to gather people, ladies that collect waste and try to help them make the sustainable business while trying to protect the environment.”</i></p>
	Water and Electricity	<p><i>Respondent 20: “Saving water always reuse water if you can there is something that we have been trying to do with other organisation where a grey water harvesting, so this grey water</i></p>

		<p><i>harvesting you would be reusing the water the same water that you've used".</i></p> <p>Respondent 7: <i>"Water and energy saving, because I think these are the very things that I think we should look at. What we actually do to save energy our geyser has a timer which set to on for four hours, we open our business at 8 am so we timed the geyser from 6 am to 10 am that hot water last us throughout the day".</i></p>
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Source: *Compiled by researcher*

This objective presents the environmental sustainability practices undertaken by SMMEs. The most appearing word in this objective is sustainability management. This objective presents Pietermaritzburg SMMEs are engaging in different environmental practices. The findings reveal that SMMEs are engaged in recycling, SMMEs recycle their material and waste products to reduce waste. The findings highlighted that SMMEs are working with other companies to assist with recycling and minimise waste that goes to landfill sites. Two respondents from the waste management companies mentioned working closely with the communities to clean the environment and collect waste for recycling. In the process of recycling the respondents suggested the separation of waste from the source for recycling. The findings further indicated that they sell their recyclable products to the recycling companies by that they are protecting the environment while making income from it.

The findings shows that SMMEs are changing to environmentally friendly products that are accommodative to the environment. SMMEs ensure that the products and materials they are using are recyclable and reusable and would not cause any contamination to the environment. The findings reveal that SMMEs believe that environmental awareness assist to reduce negative environmental impact. One respondent mentioned working with Department of Economic Development and Environmental Affairs, NGOs and Umngeni water to create awareness for cleaning campaigns and water saving campaigns. The respondents further highlighted that if people are aware of environmental sustainability, they would take

Table 5: Drivers to Environmental Sustainability Practices

Theme	Sub-themes	Quotes
Business Environment	Regulations	<p>Respondent 15: <i>“I think that is one of the factors motivating us it actually bylaws, Well I will say it might not direct but looking at the bigger picture government, we had tax that they ended up implementing because of the issue of plastics that impact the business. We had been taxed because of plastics that impact the business so if we are reversing that in our side, we do something as well looking at a bigger scale it also reduces costs or the expenses to run the business.”</i></p> <p>Respondent 19: <i>“Sustain the environment in anyway and I suppose it through legislation that would companies to become more environmental conscious where you read about people for water waste product going to the sewage contaminating.”</i></p>
	Business Image	<p>Respondent 13: <i>“If my shop is dirty, I might just loose customers as it can give bad business image so to maintain positive business image the business needs to be clean”.</i></p> <p>Respondent 21: <i>“We attract cliental of all natures because we are posing a good image and they are aware that we are keeping up with the environmental standards”.</i></p>
	Profitability	<p>Respondent 2: <i>“Two things profitability, as I said pollution is money for some people if they can clean up someone else’s pollution we are paid for that so that the first thing money.”</i></p>

		<p>Respondent 19: <i>“I suppose it a return we get money for our waste material that we sell, we get money for the aluminium plates that we sell so at the end of the day I suppose if they just said you are not getting any returns monetary value for the paper you can think why would I do it then, you would just put it in the bin”.</i></p>
	Family	<p>Respondent 18: <i>“I grew up in a recycling family my father reused everything or recycled it we made a fish tank out of scraps of everything, he reused everything we even had a cleaning pump and machine in our pool for fish”.</i></p> <p>Respondents 8: <i>“My children they come up with so many ideas they come and nag us to make sure that we are recycling and also the future we don’t want to harm the environment we want to make sure that our footprint is minimal”.</i></p>
	Conscience	<p>Respondent 18: <i>“the things that motivate us I think that not really a factor it just that sometimes it got to do with our conscience and our conscience rules our business we throw the paper the rubbish maybe the dispose of it and it can be recycled”.</i></p>

Source: *Compiled by researcher*

According to the word cloud presented in figure 8 is business, the quotes and sub-themes emerged from this theme are presented in the table above. The results based on this objective presents that SMMEs are motivated by regulations to adopt environmental practices. Respondents mentioned that they adopt environmental practices because they avoid and fined for non-compliance, they do it because they are forced to do it. The findings further indicate that would make more companies environmental conscious.

Creating a good business image is one of the factors encouraging SMMEs to adopt environmental practices. The findings reveal that keeping the business environment clean give a good business image and it assists to attract customers when they are aware that the business is keeping up with the environmental standards. The results further highlighted that SMMEs engage in environmental practices because of profitability. Respondents mentioned that taking care of waste is a business opportunity to generate income and create employment. Furthermore, through environmental practices such as, the use of less paper and less water and electricity usage they can save operational costs.

Based on this objective, respondents were asked about their intentions of being environmentally sustainable. The findings reveal that SMMEs intend to minimise the impact they have on the environment; they want to grow their businesses in a healthy environment and transferring skills to educate more people about environmental sustainability. The respondents further indicated that they see environmental sustainability as the opportunity to balance the financial needs with environmental needs. Quick intervention on environmental issues will prevent more damage that could be caused on the environment.

4.2.4. OBJECTIVE 4: TO DETERMINE BARRIERS FACED BY PIETERMARITZBURG SMMEs IN ADVANCING ENVIRONMENTAL SUSTAINABILITY PRACTICES.

The aim of this objective was to identify the obstacles that hinders small businesses to engage in environmental practices. This study found that Pietermaritzburg SMMEs are faced with different challenges that make it hard for them to engage in environmental sustainability management. Based on this objective, respondents were asked to identify and explain their challenges to engage in environmental practices.

[illegible]

Theme	Sub-themes	Quotes
Lack	Lack of Resources	<p>Respondent 18: <i>“There is no infrastructure there is no backing there is no motivation or incentive for them to do so. Being environmental conscious people want something out of it but lot of people they do not want anything out of it they just want to do good, but the is no infrastructure to make it especially in Pietermaritzburg.”</i></p> <p>Respondent 14: <i>“The problem with more businesses is often under resourced so for them to reduce the environmental impact it may not be financially feasible.”</i></p> <p>Respondent 15: <i>“We should push the municipality having recycling unit it will force businesses to recycle and force everybody to have the lower impact.”</i></p>

	Lack of funds	<p>Respondent 17: <i>“The big challenge is right now as small businesses the banks do not even look at us when it comes to investing in the machines and all of that we are non-existent when it comes to that part”.</i></p> <p>Respondent 19: <i>“Lack of resources it takes a lot of money there's not much money in recycling the prices go up and down according to demand from the converters and processers and when prices go down, we make less money, but we still have staff to pay, transport issues basically lack resources financial and material.”</i></p>
	Lack of Knowledge	<p>Respondent 6: <i>Small businesses are not well educated, and we have less knowledge that when people start a business what principles should they follow in order to make sure that their businesses do things that are in line with nature that will not affect the environment.”</i></p>
	Regulations	<p>Respondent 2: <i>“it is actually difficult for small businesses to actually follow the bylaws of environmental management, because they are small business, they cannot get the required assistance, or required equipment to be heads-up complaint, because you need to be heads up compliant to actually impact the environment in positive way especially in that type of business.”</i></p> <p><i>“There is no education to make sure that people do understand the bylaws some of them they do not even know that there is such thing called bylaws</i></p>

		<p><i>which regulates the management of waste and the communities”.</i></p> <p>Respondent 15: <i>“If the bylaws could be implemented, we could have municipal officials that are making sure that people stick to those bylaws they would positively have influence in reduction of waste in communities”.</i></p>
	<p>Lack of Government support Government</p>	<p>Respondent 5: <i>“Lack of local government support, we try so many times to communicate with the local municipality for about the environmental issue that we have (smoke) but the process is too slow, and they do not give us more attention, and the issue is that our main body is the municipality. And this is very challenging for us as I think our municipality should be supporting us to overcome this challenge of environmental issues”.</i></p>

Source: *Compiled by researcher*

The word cloud presented in figure 9, the most frequent word is lack; however, the above table presents the quotes associated with the theme that emerged from this objective are presented in table 6. The findings reveal that SMMEs are challenged by lack of resources and financial resources to well implement environmental practices. The findings suggested that the municipality or government should have incentives invested for SMMEs as they are not financially viable to afford to invest in environmental sustainability. SMMEs do not have funds for extra activities the funding they have is for their business operation and survival. The result of this study shows that some entrepreneurs are not well informed about environmental issues, sometimes they are not sure how to act towards environmental issues because of lack of information and poor education.

In this study the findings present regulations as drivers to environmental practices, the study also found that regulations are a challenge to SMMEs. SMMEs do not have guidance and assistance that will inform them about the laws associated with their businesses. The study further found that there are no laws implemented to guide the behaviour of communities and

SMMEs which poses a challenge as they tend to not care about the environmental sustainability. The respondents suggested that environmental laws should be implemented, and the municipality needs to ensure that people and small businesses do adhere to those laws.

The findings show lack of government involvement in the environmental issues faced by SMMEs and communities at large. SMMEs need attention and support from the municipality deal with environmental challenges, more SMMEs could be encouraged to be environmentally involved. Respondents stated how they feel about the involvement of municipality in waste management, they also think that municipality should be leading in terms of managing environmental sustainability, but they see that is not the case respondent 17 that they try to keep their businesses clean, but the outside environment is not, the municipality set rules that they are failing to follow.

4.3.SECTION B: SECONDARY DATA

The section presents the secondary data of the study which presents the previous studies similar to the topic. The researcher a systematic review (PRISMA flow chart) presented in chapter 3 to select relevant studies for this research. 97 articles were identified looking at their topics, 10 articles were excluded as they were duplicates. After screening the titles and abstracts 54 articles were excluded, 21 articles were excluded after full screening and 15 were removed during data extraction as they did not meet the criteria for this research. Only 7 articles were included in this study. The 7 articles are the previous studies that were conducted in South Africa investigating the similar topic of the subject matter. The previous studies used for the study are presented below.

Haines, 2014;

Environmental issues are pertinent in global businesses but studies dealing with the environment are rare. In the South African context SMEs need a particular examination because of economic significance and potential role in sustainable development. The researcher saw lack of in-depth research on environmental management in the South African SME sector. Hence, the researcher investigated how environmental responsibility is practiced among South African SMEs and the role played by SMEs in waste management and recycling value chain. The researcher suggested that the waste sector serves as a mechanism for achieving sustainable development in South Africa, through the creation of employment and the promotion of small

business within the waste sector. The researcher did not have any suggestion about the future research.

Khumalo, 2019;

In the literature the researcher found that sustainability practices are mostly associated with large businesses on with SMEs. The researcher investigated responsible and sustainable management practices adopted by Pietermaritzburg SMEs.

Kimanzi, 2019;

In the literature of this study the researcher found that the concept of sustainability is adopted globally but developing countries are not taking adequate actions towards ensuring that their business activities do not harm the environment. Thus, the study investigated workplace and environmental practices undertaken by South African SMEs.

The study recommended owner/managers are urged to embed sustainability programs into strategic management plans and involve everyone in the organisation that enhances sustainability to improve competitive advantage. The researcher further suggested a further research exploring sustainability practices of SMEs to establish the opportunities and challenges that are experiencing in the execution of their environmental programs.

Fakoti, 2018;

SMEs are lagging behind when it comes to environmental sustainability, SMEs think they have a small impact on the environment as they are small businesses. In the literature of this study the research found that there are many immigrants owned SMEs in South Africa, and there is no research done to investigate environmental sustainability practices in immigrants owned SMEs. Hence, the study investigated environmental sustainability practices in immigrants owned SMEs. This study was conducted to improve sustainability in immigrant SMEs. The researcher recommended additional studies can investigate the effect of other measures of firm performance such as revenue, operational costs, staff turnover, customer satisfaction and market growth on environmental sustainability practices. Other studies can also examine if demographic variables can mediate the relationship between environmental sustainability practices and firm performance.

Fakoti 2019;

There are less studies investigating sustainable manufacturing by SMEs in developing countries. This study investigated barriers and drivers of sustainable manufacturing by SMEs in South Africa. The researcher suggested an additional study to investigate the effects of sustainable manufacturing practices on sustainable performance and a cross country study looking at the drivers and barriers to implement sustainable manufacturing practices. The study suggested an additional study to investigate the effects of sustainable manufacturing practices on sustainable performance and a cross country study investigating the drivers and barriers to implementation of sustainable manufacturing practices.

Okuboyejo, 2013;

The researcher of this study highlighted that research on environmental activities of SMEs are rare and mostly neglected. Hence, this study was exploring the understanding, practices, barriers and motivations for environmental practices by South African SMEs. The researcher recommended more studies focusing using large sample sizes focusing on sustainable supply chain, innovation and government policy.

The presented prior studies are focusing on the manufacturing and waste management industry, one study was researching immigrant SMEs. Only one study which was focusing on different industries In South Africa. The researchers suggested there should be more studies exploring environmentally sustainable practices looking into opportunities and challenges of implementing sustainable practices i.e. (Fakoti, 2019). Hence, this study is investigating SMMEs environmental practices, drivers and barriers limiting SMMEs to engage in environmental sustainability practices.

The study findings for the previous research are presented below according to the objectives of this particular study.

4.3.1. OBJECTIVE 1: TO EXAMINE THE PERCEPTIONS OF ENVIRONMENTAL SUSTAINABILITY BY OWNERS-MANAGERS OF PIETERMARITZBURG SMMEs

Table 7: Perceptions of Environmental Sustainability in SMMEs

Author	Research Design	Study Purpose	Population	Assessment/ Measures	Study Findings
Haines, 2014	Qualitative	Evaluating the role that SMEs play in producer responsibility from environmental sustainability perspective.	15 Durban SMEs & Large 5 enterprises	Case Studies & Qualitative interviews	Two SMEs understand environmental responsibility as taking responsibility of the impact of it impact on the environment. Two SMEs described environmental protection as future benefits for the business.
Okuboyejo, 2013	Qualitative	Examining environmental sustainability orientation of SMMEs in South Africa	9 South African SMEs	Semi- Structured interviews	Interviewed SMEs understood environmental sustainability in the context of their businesses and the impact they in the environment: (<i>climate change, human settlement, energy systems, carbon and nitrogen cycles and aquatic Systems</i>).

Khumalo, 2019	Mixed Methods	To explore the adoption of responsible and sustainable management practices by SMEs in Pietermaritzburg, KwaZulu-Natal, South Africa	91 SMEs owner-managers in Pietermaritzburg, KwaZulu-Natal	Semi-structured Interviews and Questionnaires	The study reported that SMMEs understand sustainability as taking care of the environment and complying with the environmental laws.
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Source: *Compiled by researcher*

Two research studies reported that SMMEs understand environmental sustainability based on the impact they have on the environment (Okuboyejo, 2013). In the qualitative semi-structured interviews with 15 SMMEs investigating the role played by SME producer responsibility (Haines, 2014), reported that SMEs understand environmental responsibility as an impact they have on the environment and protecting the environment for future benefits. Khumalo (2019) SMEs understand environmental sustainability as taking care of the environment and complying with the environmental laws.

4.3.2. OBJECTIVE 2: TO DETERMINE HOW PIETERMARITZBURG SMMEs, MANAGE AND MAINTAIN THEIR ENVIRONMENTAL SUSTAINABILITY

Table 8: Environmental Sustainability Practices

Author	Research Design	Study Purpose	Population	Assessment/ Measures	Study Findings
Kimanzi, 2019	Quantitative	Determining SMEs sustainable business practices	182 Pietermaritzburg SMEs	Questionnaires	The study SMMEs have organisational policies as a commitment to achieve environmental goals. The study found that SMMEs have impact on greenhouse gasses therefore they reduce their energy usage. The study further reported that SMMEs are involved in designing that are environmentally responsible products and processes; and designing packaging that can be recycled and decomposed.
Haines, 2014	Qualitative	Evaluating the role that SMEs play in producer responsibility from environmental	15 Durban SMEs & Large 5 enterprises	Case Studies & Qualitative interviews	The study reported that SMMEs are minimising their fuel consumption to save costs. SMMEs are also sourcing to reusable packaging material to reduce waste. The study further reported that SMMEs are investing in new technologies to increase profitability and financial stability, they also provide staff training to improve employees' technical skills.

		sustainability perspective.			
Okuboyejo, 2013	Qualitative	Examining environmental sustainability orientation of South African SMEs	9 South African SMEs	Semi-Structured interviews	The study reported that SMEs engage in water and electricity efficiency through efficient lighting, solar water heating and geyser control systems, motion sensor for lighting and room temperature sensor. SMEs also identified waste as an issue and mentioned that waste generated can be recycled to avoid landfill sites.
Fatoki, 2018	Quantitative	Investigating environmental sustainability practices of immigrant-owned SMEs	182 immigrant SME owners-managers in Johannesburg South Africa	Self-administered questionnaires	The study found that SMMEs are engaged in recycling (mean 3.65, SD 1.01), waste reduction (mean 3.80, SD 0.97), energy efficiency (mean 4.60, SD 0.99), environmentally friendly products but their involvement is limited (mean 1.40, SD 1.04), reduction of pollution (mean 4.62, SD 0.97) and Environmental management policy (mean 1.10, SD 1.02). The study suggested that their involvement differs according to their demographics of gender and level of education and age.

Source: *Compiled by researcher*

The study investigating sustainable business practices (Kimanzi, 2019) reported the highest agreement to environmental practices is to reduce carbon footprint. SMEs are taking strong action to reduce water and energy consumption to reduce their environmental impact. Implementation of

environmental policy, integrating environmental concerns and opportunities into product development and reporting on environmental performance received least attention and it least frequent because of lack of measures and costs associated with reporting.

Haines, (2014) study reported different environmental practices, the highest number of SMEs are reusing and recycling their products, and participants also mentioned that they are reducing water consumption, they implemented measures for energy management, minimising the use of raw material, less use of chemicals and they are also doing staff training. Okuboyejo (2013) the study examining environmental sustainability orientation in South African SMEs the main sustainability practices water and electricity efficiency through efficient lighting, solar water heating and geyser control systems. Two respondents of the study also mentioned waste as an issue and highlighted that waste can be recycled.

Fatoki, (2018) reported that immigrant SMEs are involved in recycling plastics and containers, waste reduction, some of SMEs are involved in energy efficiency and selling environmentally friendly products. Environmental practices of immigrant owned businesses are influenced by their demographics. Females showed higher engagement in recycling while male showed higher engagement in environmentally friendly products and environmental management policy.

4.3.3. OBJECTIVE 3: EXAMINE THE FACTORS DRIVING PIETERMARITZBURG SMMEs TO ADOPT ENVIRONMENTAL SUSTAINABILITY PRACTICES

Table 9: Drivers to Environmental Sustainability Practices

Author	Research Design	Study Purpose	Population	Assessment/ Measures	Study Findings
Haines, 2014	Qualitative	Evaluating the role that SMEs play in producer responsibility from environmental sustainability perspective.	15 Durban SMEs & Large 5 enterprises	Case Studies & Qualitative interviews	This study reported that SMMEs are engaging in environmental responsibility because of cost savings in terms of reducing electricity and transport costs. Being environmental responsible improves reputational benefits and competitive advantage for their businesses.
Fatoki, 2019	Quantitative	Investigating drivers and barriers of sustainability manufacturing practices	252 Johannesburg and Limpopo SMEs	Self-administered questionnaires	The major driver is an economic factor with a mean of 3.5000 and standard deviation of 0.991. The economic factors include the reduction of production cost, and operating benefits that includes, better customer services, productivity, competitive advantage and reduction of material waste.

					<p>Social factor with a mean of 3.220 and standard deviation of 0.996. This factor focuses on influence of customers and suppliers.</p> <p>The study further reported management support as driver to environmental practices as it assists in creating an organisational culture and employees' capabilities needed for sustainable practices.</p>
Okuboyejo, 2013	Qualitative	Examining environmental sustainability orientation of South African SMEs	9 South African SMEs	Semi-Structured interviews	<p>SMEs are engaged in environmental practices because of commercial opportunities, taking environmental opportunities will create wealth and create jobs. Entrepreneurs are driven by the passion they have for the environment and reducing operational expenses, i.e., decrease in electricity costs by 40%.</p>

Source: *Compiled by researcher*

Haines (2014) SMMs are engaging in environmental practices to reduce operational expenses such fuel costs and transport costs. Being environmentally sustainable improves competitive advantage and reputational benefits. Fakoti (2019) South African SMEs have negatively affected the environment, therefore, there is a need for SMEs to implement environmental initiatives in small businesses in the manufacturing industry. The study reported four factors motivating SMEs to implement sustainable manufacturing practices, environmental, economic benefits, management support and social. Okuboyejo (2013) SMEs are being environmentally sustainable because of commercial opportunity, market gap,

innovation, passion and values and reducing operational costs. The study also reported that environmental strategies are linked to ethical standards of SME owners-managers.

4.3.4. OBJECTIVE 4: TO DETERMINE BARRIERS OF PIETERMARITZBURG SMMEs IN ADVANCING ENVIRONMENTAL SUSTAINABILITY PRACTICES.

Table 10: Barriers to Environmental Sustainability Practices

Author	Research Design	Study Purpose	Population	Assessment/ Measures	Study Findings
Haines, 2014	Qualitative	Evaluating the role that SMEs play in producer responsibility from environmental sustainability perspective.	15 Durban SMEs & Large 5 enterprises	Case Studies & Qualitative interviews	The study reported that SMMEs revealed poor understanding of environmental responsibility and they have a lack of awareness regarding environmental legislation and their environmental impact. They also highlighted the poor up-take for environmental activities.
Fatoki, 2018	Quantitative	Investigating environmental sustainability practices of immigrant-owned SMEs	182 immigrant SME owners-managers in Johannesburg South Africa	Self-administered questionnaires	Findings of this study identified barriers based on the environmental sustainability practices found in the study. Immigrant SMMEs are challenged by lack of capital, lack of information and awareness of recycling services. This study also reported immigrant SMMEs have limited skills to manage

					waste. The study further reported limited capabilities, knowledge and resources is challenging them to reduce pollution.
Fatoki, 2019	Quantitative	Investigating drivers and barriers of sustainability manufacturing practices	252 Johannesburg and Limpopo SMEs	Self-administered questionnaires	<p>Barriers of implementing sustainable manufacturing practices are financial factors (mean 4.250, SD 1.0009). This study reported that financial factors are a major challenge as internal funds are not enough for SMMEs to access external debts.</p> <p>Inadequate management support (mean 3.560, SD 1.002). Management needs to support employees to create awareness and training to improve technical skills of their employees.</p> <p>The study further reported lack of pressure from suppliers and customers which can lead to inactivity in the implementation of environmental practices.</p>
Okuboyejo, 2013	Qualitative	Examining environmental sustainability orientation of	9 South African SMEs	Semi-Structured interviews	This study found that SMEs are willing to participate in environmental practices, but lack of government support and large corporate support discourage them. They are willing to take part if they can get support from the government and large businesses.

		South African SMEs			SMEs are not encouraged to initiate environmental practices because of lack of awareness about environmental benefits, and their lack of funds
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Source: *Compiled by researcher*

Haines (2014) the study reported barriers to environmental practices to waste management SMEs are poor understanding about environmental sustainability and lack of awareness about environmental legislation and their environmental impact for environmentally certified SMEs. For non-certified SMEs the study reported lack of financial and human resources and limited knowledge about environmental responsibility. Fakoti (2019) this study reported that SMEs are limited by financial, management and social and the combination of both external and internal factors, which is limited knowledge, skills and resources to deal with environmental issues. Okuboyejo (2013) reported lack of government and large corporate support, inconsistent government policies, lack of public awareness and lack of technical understanding limits South African SMEs to engage in environmental practices. In this research respondents did not identify lack of human resources as their challenge in their SMEs.

4.4. SECTION C: SUMMARY OF PRIMARY AND SECONDARY DATA

4.4.1. OBJECTIVE ONE

The analysis of both primary and secondary data revealed that SMMEs understand environmental sustainability as taking care of the environment and ensuring that their business operations have minimal impact on the environment. Environmental sustainability is also taking responsibility of the impact they have on the environment. SMMEs further defined environmental sustainability as preserving natural resources for future generations.

4.4.2. OBJECTIVE TWO

Primary and secondary data analysis revealed SMMEs engage in recycling. Both data sets highlighted that SMMEs recycle their waste materials and waste products. SMMEs also ensures that they use products and materials that are recyclable and can be decomposed to minimise waste that goes to the illegal landfill sites. They further mentioned that waste generated can be separated and recycled according to their categories, it assists waste companies to have quality waste for recycling and it ensures that there is minimal waste that goes to the dumping sites. Primary data revealed that Pietermaritzburg SMMEs resell their materials to recycling companies and generate revenue. Both data sets indicated that SMMEs are changing to environmentally friendly products and packaging that are recyclable and reusable to minimise environmental impact and ensure what they have minimal or no chemicals.

Primary data findings presented environmental awareness as their environmental practices, through collaborating with government departments such as department of environmental affairs, private companies (umngeni water) and non-profit organisations to enhance environmental consciousness to communities. The respondents also indicated the importance of environmental awareness as they believe it will improve environmental performance. Moreover, SMMEs indicated their willingness to work with organisations that promotes environmental sustainability.

Both data sets revealed that SMMEs are providing training to their employees through trainings, courses and seminars, to enhance their environmental knowledge and technical skills. SMMEs believe that employee training assist to improve environmental practices as their employees would be having the necessary knowledge and expertise to deal with environmental issues.

The findings revealed that SMMEs have implement measures to reduce water and electricity consumption. Primary and secondary data presented that SMMEs have implemented measure such as using efficient light bulbs, geyser control system, motion sensor lighting and room temperature sensor and ensuring that the lights and equipment are switched off when they are not in use. Primary data further indicated that SMMEs reduce water consumption by ensuring they do not have leaking pipes and they only use the amount of water they need. The findings further indicated that using water and electricity efficiently assist in reducing costs as less water and electricity they use the lesser the costs.

4.4.3. OBJECTIVE THREE

Primary data revealed that SMMEs motivated by regulations to engage in environmental practices. SMMEs adopt in environmental activities because of the bylaws implemented by the municipality, they adhere to the bylaws because they avoid being taxed and fined. One of the respondents highlighted that they are doing it because it is compulsory.

Both primary and secondary data presents SMMEs wants to improve their business image as they would appear as a sustainable business to the customers and the community. The secondary data revealed that SMMEs engage in environmental practices as to improve their reputational benefits competitive advantage and offer better customer service.

Analysis of both data sets revealed that SMMEs are encouraged by profitability to engage in environmental practices. SMMEs generate income from the waste material and waste products they sell to recycling companies and create job opportunities from waste that needs to be collected and separated for recycling. Environmental practices assist SMMEs to reduce their operational expenses by using less paper, reducing their water and electricity consumption and transport costs.

The primary data revealed that family have an influence in SMMEs engagement to environmental practices, the respondents further indicated that the way they grew up makes them to want to protect the environment for future generations. Primary and secondary data analysis revealed that environmental practices are driven by owners and managers conscience and passion they have towards sustainability. Secondary data sets showed that management support is an important driver to environmental practices as improves

organisational structure and employees' capabilities. Furthermore, SMMEs are influenced by pressure from customers and suppliers, customers are demanding green products.

The primary data analysis indicated that SMMEs are engaging to environmental sustainability because they intend to reduce the impact they have on the environment and growing their businesses in a healthy environment. They also intend to transfer skills and educate communities about being environmental conscious. The results further indicated that environmental sustainability create opportunities to balance financial needs and environmental needs. Attending to environmental issues assist to prevent further damage to the environment.

4.4.4. OBJECTIVE FOUR

Primary and secondary data analysis revealed that SMMEs have a challenge of limited resources to implement environmental practices. SMMEs do not have enough resources and infrastructure needed to implement environmental practices. SMMEs have limited funds to carry out environmental practices, they do not even have access to external funding such as bank loans. The funding that SMMEs have is not enough for extra activities it is limited to business survival. The findings indicated that SMMEs need backing from the municipality by provision of incentives to assist in resources and finances.

The findings both primary and secondary data indicated that SMMEs have limited knowledge and limited skills to efficiently implement environmental practices. SMMEs sometimes do not know how to act and behave on the environmental issues. The findings further showed that having less awareness on environmental legislation they need to adhere to pose a challenge in their environmental performance. The findings of the study suggested that management need to provide their employees with training improve their capabilities to deal with environmental issues. Furthermore, SMMEs should work with government departments, large businesses, and NGOs to create environmental awareness to communities and customers.

The findings showed that regulations were mentioned to be motivating factor for SMMEs to implement environmental practices. The analysis also indicated that regulations challenges SMMEs because as they do not have guidance about environmental laws they need to adhere to. The findings further highlighted inconsistent regulations make it hard for SMMEs to follow. One respondent in the primary data mentioned that there are no regulations implemented that could keep communities from dumping waste in the illegal dumping sites. The environmental laws need to be implemented and there should be authorities that will monitor if the regulations are being followed, and the municipality need to be consistent with waste collection.

Both primary and secondary data set indicates indicated lack of government support discourage SMMEs to engage in environmental practices. The findings further indicated that government promotes SMMEs, but they do not worry about their environmental side of sustainability. The findings government is not giving SMMEs attention when it comes to environmental issues and they are responding slowly with these issues. Secondary data presented that lack of support from large corporates, as they are well established businesses, they could be mentors to SMMEs as it is still hard to make sense of environmental sustainability. The findings further highlighted lack of pressure from customers and suppliers can cause inactivity to implementing environmental practices.

4.5.CONCLUSION

This chapter presented and analysed findings of this study using thematic analysis and interpretation of results. The data generated provided participants' views, thoughts and perceptions about environmental sustainability management practices. Primary and secondary data results of this study were analysed and interpreted in accordance with the objectives of the study. The researcher analysed data using NVivo software with word cloud technique that assisted the researcher to generate relevant themes. The next chapter will focus on the discussion of the research results in conjunction with the research objectives.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1.INTRODUCTION

The present chapter delves into the discussion and interpretation of the findings of the study that are presented in the previous chapter. This chapter discusses the findings obtained through interviews and by reviewing the secondary data that was collected in the research. The theory used to discuss the findings aimed to fulfil the objectives of the study. The findings are discussed in line with the research objectives of the study. This discussion of the findings of the study is a foreground of the conclusions, recommendations and propositions of the study that are treated in the concluding chapter that follows this one.

5.2.OBJECTIVE 1: TO EXAMINE THE PERCEPTIONS OF ENVIRONMENTAL SUSTAINABILITY BY OWNERS-MANAGERS OF PIETERMARITZBURG SMMEs.

The findings of the study show that SMMEs understand environmental sustainability. SMMEs understand environmental sustainability as caring for the environment and protecting the natural resources for the future generation and future business benefits. The findings indicated that environmental sustainability ensures that businesses have a minimal impact on the environment and take full responsibility for the environmental impact; a business may have on the environment. These findings are in line with the findings of Battisti and Perry (2011) reported that environmental sustainability in SMMEs is not only focusing on reducing the negative impact they also want to improve the environmental conditions. Battisti and Perry (2011) further reported that SMMEs instead of paying more attention to preserving natural resources for future generation owners-managers wish to make something that will be beneficial in the future and everyone has to take responsibility for their future natural environment as they aim to reduce negative impact. The study by Lewis *et al.* (2015) highlighted that SMMEs believe that businesses and government should share the responsibility of protecting the natural environment.

The findings also noted that environmental sustainability is complying with the environmental laws to minimise negative environmental impact. The study by Hörisch *et al.* (2015) reported that enterprises need to be responsible for their actions and ensure they abide by the environmental laws and regulations to reduce their environmental impact. The study by Chendo

(2013) investigating manager's perception of environmental sustainability in SMEs reported that SMMEs believe that they are not responsible for the environmental damage caused to the community in the process of their business operation. One respondent highlighted that environmental sustainability ensures that the business environment is clean and creates a positive image for the business. Contrary to these findings Chendo (2013) reported that SMMEs perceived that maintaining a healthy environment does not make the enterprise to be more preferred by customers to other organisations.

5.3.OBJECTIVE 2: TO DETERMINE HOW PIETERMARITZBUG SMMES, MANAGE AND MAINTAIN THEIR ENVIRONMENTAL SUSTAINABILITY.

The study found that SMMEs engage in environmental sustainability practices such as recycling, SMMEs recycle their waste products and materials they use for their business operations. SMMEs are collaborating with waste management companies and communities to collect waste for recycling and minimise waste that could end up in illegal landfill sites. The waste management SMMEs proposed the separation of waste from their sources for recycling programme. The findings further highlighted that SMMEs sell their recyclable materials to recycling companies, this assists in reducing waste and creating revenue for their businesses (Hoogendoorn *et al.* 2015). Three respondents indicated that they did try to reduce paper waste by using electronic documents and printing back to back. These findings are consistent with the previous studies by (Schmidt *et al.* 2018; Jang, 2016) who reported that some SMMEs seek for information about the significance of protecting the environment and how their practices would benefit the environment and generate revenue for the business by waste collection and separation and reduction of paper usage. The study by Marshall and Williams (2019) reported SMMEs use recycling, they also ensure they use paperless communications, by such activities they are able to reduce waste and reduce expenses for their businesses. Alayón *et al.* (2017) have demonstrated that SMMEs are using recyclable materials in their production process and they also implemented waste minimisation practices such as waste reduction pre recycling, by ensuring that waste is reused. SMMEs by recycling their waste material and waste product the conserve their natural resources that their businesses rely on.

SMMEs are changing to products and equipment that are less harmful to the environment i.e., changing from non-recyclable products to biodegradable products. Changing to biodegradable products reduces waste and contamination to the environment. SMMEs ensures that they are

using products, materials and packaging that can be recycled and reused. These findings are similar to the previous studies by (Vanderploeg and Lee, 2020; Font *et al.* 2014) who reported that SMMEs are using reusable and recyclable materials. They also encourage their customers to become environmentally friendly to reduce waste on the environment. According to Hoogendoorn *et al.* (2015); Shibin *et al.* (2018) SMMEs are offering environmentally friendly products and they ensure they are associated with the eco-friendly packaging that they will be able to recycle and reuse.

The findings indicated that awareness has a great impact on reducing and preventing detriments to in the environment. Three participants mentioned working with the communities and organisations to build environmental awareness amongst their businesses and communities, ensure they are aware of the environmental issues, and have resolutions for such issues. These findings are similar the finding of (Nulkar, 2019) who investigated environmental practices in Indian SMMEs reported that SMMEs and NGOs have successfully created environmental awareness for customers to enhance their environmental consciousness. Rashid *et al.* (2019) indicated that SMME owners and managers should take necessary steps to reduce the impact their businesses have on the environment through creation of environmental awareness to ensure sustainability. Jeyeola (2015) reported that SMMEs need to communicate their environmental strategies with the stakeholders, it will enable them to see the enterprise's sustainability value and how the enterprise overcome environmental challenges.

The results of the study further revealed that similar goals can work together and overcome their environmental issues. These findings are in line with the study by (Lewis *et al.* 2015) who reported that environmentally practices effectively adopted by SMMEs when working together with external organisations could create awareness and opportunities to improve environmental performance by sharing information and capabilities. The study by (Ashton *et al.* 2017) reported that SMMEs need to consider collaborating with businesses experiencing similar challenges and having a common goal to assist in exchanging knowledge.

The study indicated that SMMEs see the importance of skills and knowledge about environmental issues. The results of this study revealed that SMMEs provide their employees with training and necessary courses related to environmental management and environmental consciousness. SMMEs are also encouraging education and training among their businesses and surrounding communities as they strongly believe education can make a difference in

minimising their impact on the environment. These findings are similar with the findings of (Robin *et al.* 2017) who reported that employees are trained about environmental practices through courses and seminars to improve their technical capabilities that will enable them to deal with environmental issues. Trandafilovic *et al.* (2017) reported the significance of education in raising environmental awareness that would encourage people and businesses to protect the environment by recycling and efficient water and energy use. According to Chan *et al.* (2017) education assist to improve knowledge and concerns of the environment and motivate people to be more environmental conscious, hence education contributes to sustainable behaviour. Furthermore, Hossain *et al.* (2020); Giama and Papadopoulos (2018) reported that education and training develop employees' level of awareness within the enterprise it also enhances employees' skills to deal with different environmental issues.

The study found that SMMEs have a measure of reducing water and electricity consumption such as using efficient light bulbs, geyser timers and ensuring that the lights and equipment are switched off they not needed. They are also conserving water by ensuring there are no leaking pipes, and they use the scale of water needed at that certain time. These results are in line with the findings of (Jang, 2016; Giama and Papadopoulos, 2018) reported that SMMEs are taking action to reduce water and energy usage through implementing energy saving measures such as geyser control systems and ensuring lights are switched on when necessary. SMMEs are introducing renewable resources looking at reducing energy consumption (Marshall and Williams, 2019). Furthermore, SMMEs are reducing fossil fuel consumption and greenhouse gas emissions by being energy efficient, these activities assist SMMEs to reduce costs and attending to environmental issues (Ashton *et al.* 2017).

5.4.OBJECTIVE 3: EXAMINE THE FACTORS DRIVING PIETERMARITZBURG SMMEs TO ADOPT ENVIRONMENTAL SUSTAINABILITY PRACTICES.

The study reveals that SMMEs are driven by regulations to engage in environmental practices. SMMEs mentioned being involved in environmental sustainability because of the regulations implemented by the municipality, and they do not adhere to those bylaws they would be taxed or fined. Some of the SMMEs have internal regulations that they refer to when it comes to environmental issues. The respondents seemed to believe that the implementation of regulations will greatly impact improving SMMEs' involvement in environmental sustainability. These findings are similar with the previous studies by (Rizos *et al.* 2016; Shah *et al.* 2016) who reported that environmental legislation encourages SMMEs to improve their

environmental performance through imposing penalties and taxes for non-compliance. Contrary to the findings of this study (Hamann *et al.* 2017; Aboelmaged, 2018) reported that regulations are an absent driver to environmental sustainability and regulations do not have influence on sustainable practices.

The study revealed that SMMEs implement environmental practices to keep a positive business image to their customers and community. The study also indicated SMMEs environmental involvement assist to attract more customers to the business. These findings are similar to the findings of (Ghazilla *et al.* 2015; Gandhi *et al.* 2018) who reported that SMMEs engage in environmental practices to improve their business image and enhance their competitiveness as they would appear as a sustainable business to their customers. Contrary to these findings (Chendo, 2013) reported that being environmentally sustainable does not ensure that the business will be first preference to customers. The findings further indicated that SMMEs are influenced by stakeholder pressure to improve their environmental engagement. These findings are in line with the study by (Lewis *et al.* 2015) Pressure from suppliers and customers demanding green products and services and their concerns about the environment encourages SMMEs to adopt environmental practices to maintain their business image and brand reputation.

SMMEs are involved in environmental sustainability practices because of the financial benefits they obtain from selling waste products and waste materials. SMMEs further indicated that they are environmentally sustainable because of cost-saving i.e., reduction in electricity and water costs. SMMEs have a desire to reduce their operational costs through the implementation of environmental initiatives (Del Mar Miras-Rodriguez *et al.* 2018). These findings are consistent with the previous studies by (Yadav *et al.* 2018, Mendoza *et al.* 2019) who reported that environmental initiatives assist SMMEs in reducing operational costs and material costs and achieving cost saving and profit. Marshall and Williams (2019) and Bossle *et al.* (2016) further noted that cost saving has been a significant driver for environmental initiatives, less consumption of material, water and electricity would reduce their expenses.

Four respondents mentioned that they are influenced by families and the way they grew up to be environmentally responsible. The findings are similar to the findings of Battisti and Perry (2011) who indicated that SMMEs engage in environmental sustainability as a responsibility to family and operating a profitable business. The study revealed being environmentally

sustainable is influenced by owners-managers conscience, as it relies on management passion and values for businesses to adopt environmental initiatives. These findings are in line with the study by (Salimzadeh, 2016) who reported that managers' attitude and conscience towards environmental sustainability inspires SMMEs to adopt environmental practices. Sáez-Martínez *et al.* (2016) reported that owners and managers values and commitment to environmental sustainability is linked to the environmental behaviour of the business. The study further revealed that management support and commitment encourage the adoption of environmental practices as it enhances organisational culture and assist to improve employees' technical skills. These findings are similar to the findings of (Del Mar Miras-Rodriguez *et al.* 2018) who demonstrated that management commitment and support make businesses to be proactive in adopting environmental practices it further allows the adoption of different environmental initiatives.

SMMEs indicated their intention of environmental sustainability is to reduce the impact they have on the environment and to grow and operate their businesses in a healthy environment. These findings are similar to the findings presented by (Tay *et al.* 2015) reported that SMMEs are longing to minimise negative environmental impact generated by their business operations. The study further established that SMMEs intend to transfer skills and educate more people and communities about being environmentally conscious, as they believe that if communities and business are aware about environmental sustainability, they would be able to deal with environmental issues that it will assist to reduce negative environmental impact (Millar and Russell, 2011). SMMEs further indicated that is an opportunity of balancing financial needs and environmental needs. A quick intervention to environmental issues will prevent more contamination and pollution that can make any business fail.

5.5.OBJECTIVE 4: TO DETERMINE BARRIERS OF PIETERMARITZBURG SMMEs IN ADVANCING ENVIRONMENTAL SUSTAINABILITY PRACTICES.

The findings revealed that SMMEs do not have sufficient resources, equipment and infrastructure to adopt environmental practices. One respondent mentioned that there are no recycling facilities in Pietermaritzburg that are in line with their business industry hence, they end up outsourcing recycling facilities from Durban. These findings are similar with the findings presented by (Ghazilla *et al.* 2015) who reported that SMMEs experience the challenge of poor infrastructure to carry out environmental initiatives such as lack of recycling facilities that would enable SMMEs to recycle their own waste materials and products. Buffa,

et al. (2018) reported that lack of resources makes SMME owner-managers to ignore their environmental issues and practices as they do not have the needed resources to initiate environmental practices. The findings of Van Eyssen and Lehner (2017) reported that lack of resources is indeed a challenge for SMMEs to adopt environmental practices, but it does not hold sustainable entrepreneurs to pursue their goals of protecting the environment.

The results of this study showed that lack of funding is challenging SMMEs to adopt environmental practices. The findings raised the concern that they do not have sufficient funding to carry out environmental practices, the funding they have is only for the business survival. Insufficient funding limits their environmental engagement, and it is a huge challenge because SMMEs do not even have access to external funding such as bank loans as they are regarded as risk. These findings are in line with the findings presented by (Shah *et al.* 2016; Hoogendoorn *et al.* 2015) SMMEs usually have limited funding to support environmental practices and they end up being neglected. Rizos *et al.* (2016) further indicated that SMMEs are tactful when it comes to initiatives that requires additional costs and they have insufficient funding, and they are unable to access bank financing as they do not have collateral required. The study by Otto (2019) reported that costs restrict South African SMMEs engagement in environmental initiatives as they have limited access to external funds.

This study also indicated SMMEs can overcome limited resources by getting assistance from the government/municipality, and the municipality should have incentives invested in SMMEs. Purwandani (2020); Ashton *et al.* (2017) noted that government could provide assistance to SMMEs through incentives, providing technical and funding assistance, however these activities could encourage SMMEs to improve their environmental engagement. In some instances, businesses cannot be forced into adopting certain structures, but the incentive can do so.

The findings indicated that SMMEs have limited knowledge and skills to efficiently engage in environmental practices. The respondents highlighted that they are not well educated about environmental issues and how to become environmentally sustainable, they also mentioned that in some instances they are not sure how to act on environmental issues. These findings are similar to the finding presented by (Marshall and Williams, 2019) who reported that SMMEs are not sure how to respond to environmental issues in a sustainable manner, hence some SMMEs end up not attending to environmental issues. The results of this study further indicated

that SMMEs have lack of awareness about the financial benefits of being environmentally sustainable. Studies by Meath *et al.* (2016); Dey *et al.* (2018) reported that SMMEs have limited knowledge about the cost benefits and opportunities related improving environmental engagement. The respondents of this study highlighted that they could overcome lack of knowledge by educating people and the community about environmental sustainability and environmental laws, SMMEs should provide training to their employees to enhance their environmental awareness and their capabilities (Ghazilla *et al.* 2015).

Two respondents of the study indicated that find it difficult to follow the regulations as there is no assistance that will inform them about the laws that are associates with their business operations. The findings are similar with the study by (Dey *et al.* 2018) who noted that SMMEs have limited knowledge and understanding about environmental legislation related to their businesses and it discourages SMMEs environmental engagement. The study further found that the absence of regulations is a challenge in implementing environmental practices as it causes businesses not to care about the environment. These findings are in line with the findings presented by (Rizos *et al.* 2016) who reported that lack of effective legislation poses a challenge in adopting environmental practices as SMMEs would have no motivation that pushes them, SMMEs may do any activities that could negatively affect the environment. Hence, strict regulations and legislation influences SMMEs environmental engagement. The interviewed respondents mentioned that the municipality should implement regulations and ensures that there are officials that will be responsible to ensure that the regulations are adhered to.

The findings indicated that SMMEs are not getting attention from the municipality. The study further found that the municipality is failing to assist in managing waste that needs to be collected in businesses. Failure of municipal waste management leads SMMEs to dump their waste in the nearby landfill sites. These findings are similar to the study by (Robin *et al.* 2017) reported that government or municipality insufficient preparation for recycling which displays through limited collection of waste spots pose a challenge in keeping the environment clean. The study further reported that lack of government large businesses support discourages SMMEs environmental engagement. These findings are in line with the findings of (Rizos *et al.* 2016) reported that lack of government support and encouragement leads to poor uptake of environmental practices. Respondents suggested that the municipality needs to supportive and proactive in sorting the waste issues in the whole area of Pietermaritzburg.

The study showed that lack of stakeholder pressure limits SMMEs encouragement to change and engagement in environmental practices. If SMMEs do not demand for green products and services, it could lead to poor uptake of environmental practices. These findings are similar to the findings of (Yadav *et al.* 2018; Dey *et al.* 2018) studies found that less customer demand for eco-friendly products limits their environmental improvement and it results to less effort by SMMEs in environmental sustainability.

5.6.CONCLUSION

The purpose of this chapter was to discuss the findings of the study in concurrence with the existing literature to interpret and make sense of the findings of the study. The findings revealed that SMMEs have an understanding of environmental sustainability and the impact they have on the environment. SMMEs engage in various environmental practices such as recycling, environmental awareness, and conserving water and electricity. SMMEs are driven by building a positive business image, municipal regulation, and revenue they obtain by being environmentally sustainable. The biggest challenge faced by SMMEs in well managing their environmental practices is the lack of resources and funding. The findings revealed challenges do not stop SMMEs from engaging in environmental practices, they still engage in such practices the challenges do not allow them to well manage their practices. The following chapter presents the conclusions and recommendations of the study, areas for future research, and the limitations of the study.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1.INTRODUCTION

In summation, the present chapter engages with the conclusions, recommendations and propositions for further research that this study makes. The limitations of the study are also treated in this concluding chapter. The previous chapter presented the discussions of the findings to fulfil the research objectives linking the findings with previous studies. In chapter four, primary and secondary data were presented, analysed, and interpreted according to the study's research objectives. By way of conclusion, this study notes that by and large, the owners and managers of small and medium size businesses in South Africa have the knowledge and will for sustainable environmental management. What they need is capacity in form of further information and education, financial resources and regulatory enforcement of sustainable environmental management that local governments and the state of South Africa can support them with.

6.2.CONCLUSIONS

6.2.1. OBJECTIVE 1: TO EXAMINE THE PERCEPTIONS OF ENVIRONMENTAL SUSTAINABILITY BY OWNERS-MANAGERS OF PIETERMARITZBURG SMMEs.

This objective aimed to find out SMMEs insights on environmental sustainability. Based on the analysis of both primary and secondary data, SMMEs understand environmental sustainability as taking care of the environment and preserving the natural resources for the future generation. Environmental sustainability to SMMEs also means taking responsibility and reducing their negative impact on the environment by practicing environmentally friendly business operations. Therefore, the study concludes that SMMEs have an idea of environmental sustainability. They understand environmental sustainability as taking care of the environment and ensuring their business operations have minimal negative impact on the environment.

6.2.2. OBJECTIVE 2: TO DETERMINE HOW PIETERMARITZBURG SMMEs, MANAGE AND MAINTAIN THEIR ENVIRONMENTAL SUSTAINABILITY.

The findings of this study indicated that the majority of SMMEs do engage in environmentally friendly practices where they can. The study revealed that SMMEs engage in recycling where they recycle their waste. They also sell their waste material to recycling companies. SMMEs

are changing from using non-recyclable materials to recyclable and reusable materials to minimise waste they are generating. SMMEs further suggested the separation of waste from the source by carrying out recycling effectively. Very few respondents highlighted printing fewer documents and using electronic copies to ensure they use less paper. Three SMMEs highlighted creating awareness through working with communities, organisations and government to enhance environmental consciousness in communities. Few participants indicated providing training for their employees through courses; however, SMMEs suggested the need for education in improving environmental awareness within businesses and communities. Lastly, primary and secondary data indicated that SMMEs have implemented water and energy measures to reduce their consumption by using energy-efficient light bulbs, geyser timer systems, and ensuring lights and equipment are off when not in use. Based on the findings of the study it can be concluded that SMMEs do engage in environmental sustainability practices. Practices implemented by SMMEs include recycling, the use of environmentally friendly materials, and efficient use of water and electricity and advancing environmental awareness.

6.2.3. OBJECTIVE 3: EXAMINE THE FACTORS DRIVING OF PIETERMARITZBURG SMMEs TO ADOPT ENVIRONMENTAL SUSTAINABILITY PRACTICES.

This objective aimed to investigate factors motivating SMMEs to engage in environmental practices. SMMEs are motivated by the municipal regulations and bylaws to avoid being fined or taxed. The study revealed that SMMEs want to improve their business image and reputational benefits as they would appear as the sustainable businesses to their customers by implementing environmental practices. Revenue and monetary benefits such as cost-saving, profit, and competitive advantage influences SMMEs to adopt environmental practices. The study further reported that SMME owners-managers' passion, values, support, and commitment encourages SMMEs to make an effort and be proactive in environmental engagement. The study indicated that their families influence SMMEs, and their conscience to be environmentally conscious and have a desire to reduce the impact they have on the environment. Stakeholder pressure improves SMMEs environmental engagement as customers demand products that are friendly to the environment. Based on these findings, the study concludes that factors encouraging SMMEs to engage in environmental sustainability practices are regulations, improving business image, family, and cost-saving benefits.

6.2.4. OBJECTIVE 4: TO DETERMINE BARRIERS OF PIETERMARITZBURG SMMEs IN ADVANCING ENVIRONMENTAL SUSTAINABILITY PRACTICES.

The main aim of this objective was to explore the challenges faced by SMMEs in implementing environmental sustainability practices. The study highlighted lack of resources and financial resources as a major barrier to implement environmental measures. SMMEs do not have enough resources to adopt extra activities and they have limited funding for business survival. Some SMMEs are limited by a lack of knowledge and insufficient education on environmental concerns and the benefits and opportunities associated with environmental performance. SMMEs emphasised the lack of government support as they feel central government and municipality do not give them attention and support, they need as they are still small businesses they are struggling hence, they need guidance. The absence of and ineffective regulations challenges SMMEs adoption of environmental practices as businesses and communities would not be motivated to improve their environmental performance. The study further, reported lack of stakeholder pressure, where customers are not demanding eco-friendly products which pressure can help discourage SMMEs from environmentally unfriendly practices in business. Therefore, the study concludes that barriers to implementing environmental practices are lack of resources, access to finance, lack of knowledge, government support, and regulations.

6.3.RECOMMENDATIONS

The researcher proposes the following recommendations based on the findings of the study.

- The findings indicated that SMMEs have lack of resources including financial resources. The study recommends that central government and municipality engage with SMMEs to discuss their challenges and assist by providing subsidies and incentives and providing recycling facilities that will assist to reduce waste. These may encourage SMMEs to improve their environmental engagement business practices.
- The analysis of the findings indicated that some SMMEs are not well informed about environmental sustainability and environmental laws. Therefore, the study suggests that relevant governmental departments should assist SMMEs by conducting workshops and seminars that will inform them about environmental sustainability, and the environmental laws and policies that are associated with their businesses. The study further suggests that the municipalities should implement strict regulations and have officials that will follow up and ensure the policies and regulations that are in place are adhered to by businesses and communities.

- Lack of government support was indicated as discouraging SMMEs to effectively implement environmental practices. This study suggests that government should provide support and guidance to SMMEs on what they need to do to be environmentally sustainable.
- The respondents of the study emphasised that inconsistent waste collection poses a challenge to their businesses, which leads them to dump their waste in illegal dumpsites. Thus, the study suggests that the municipality needs to be consistent and proactive to ensure that waste is collected on time.

6.4.LIMITATIONS OF THE STUDY

Due to the nature of a qualitative study a small sample size was utilised therefore the results of the study could not be generalised. Despite this limitation the study provides insights of environmental sustainability management by SMMEs and it provides information for future research.

6.5.RECOMMENDATIONS FOR FUTURE RESEARCH

The researcher observed that SMMEs emphasised lack of government support and inconsistent regulations when it comes to environmental practices hence, there could be a study that will investigate the impact of government regulations on SMMEs environmental business practices, this could assist by providing understating to government on what support they could offer to SMMEs to ensure they adopt environmental practices. A quantitative study could be conducted nationally on similar topic with a larger sample size to allow the generalisability of the results. Future studies may adopt the mixed methods approach that combines the good qualities of qualitative research and those of quantitative research which will make the studies more rigorous and profound in their findings, observations, arguments and conclusions.

6.6.CONCLUSION OF THE STUDY

In summation, the present study noted that Small, Medium and Micro Enterprises in South Africa are meaningful contributors to the economy; they create employment, mediate poverty and sustain livelihoods in the country. They also have a telling impact on the environment hence the need to study that impact and support them in their endeavours to practice sustainable environmental management in their daily business operations. The aim of this study was to investigate environmental sustainability management in SMMEs looking at the barriers and drivers that affect SMMEs environmental engagement. The sample of 21 SMMEs for semi-

structured face-to-face interviews were used for the primary data using convenience sampling and 7 articles were reviewed using PRISMA method for secondary data. Thematic analysis was used to analyse the findings through NVivo software. Based on the findings of the study it is concluded that most SMMEs understand environmental sustainability in protecting and preserving the environment and reducing the negative impact their businesses have on the environment. Despite the challenges identified in the findings evidence is visible that the SMMEs actually do a lot to conduct their businesses in an environmentally sustainable manner by engaging in recycling of products, use of environmentally friendly raw materials and the efficient use of water and other forms of energy. They understand that environmental management sustainability is good not only for the environment but also their good names and reputations as businesses in the communities. There is even a business case of profitability and sustainability through compliance with environmentally friendly policies and regulations. Notably, the challenges affecting the implementation of environmental practices by SMMEs is the lack of resources, limited funding, limited information about the benefits of environmental regulations compliance and bylaws, ineffective regulations and lack of government support. Recommendations made included government support through incentives, guidance on environmental laws, the enforcement of strict legislations and government consistency in waste collection. Future studies on this subject area should, perhaps adopt a mixed methods approach that will add rigour to the observations, arguments and conclusions of the studies in this important and relevant area.

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APPENDIX A

ETHICAL CLEARANCE LETTER



09 October 2018

Ms Nonkululeko Cellular Bhengu (214538559)
School of Management, IT & Governance
Pietermaritzburg Campus

Dear Ms Bhengu,

Protocol reference number: HSS/1108/018M

Project title: Environmental Sustainability Management in Small Business Sector: A case of Pietermaritzburg Small, Micro and Medium Enterprises (SMMEs)

Full Approval – Expedited Application

In response to your application received on 03 August 2018, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. **PLEASE NOTE:** Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully



Dr Rosemary Sibanda (Deputy Chair)

/ms

Cc Supervisor: Mr Nigel Chiweshe
cc Academic Leader Research: Professor Isabel Martins
cc School Administrator: Ms Debbie Cunyngame

Humanities & Social Sciences Research Ethics Committee
Professor Shamsa Singh (Chair) / Dr Shamila Naidoo (Deputy Chair)
Westville Campus, Govan Mbeki Building

Postal Address: Private Bag X54001, Durban 4000

Telephone: +27 (0) 31 260 3587/6350/4557 Facsimile: +27 (0) 31 260 4009 Email: shamsa@ukzn.ac.za / samir@ukzn.ac.za / robert@ukzn.ac.za

Website: www.ukzn.ac.za



Founding Campuses: Edgewood Howard College Medical School Pietermaritzburg Westville

APPENDIX B

AMENDED ETHICAL CLEARANCE



UNIVERSITY OF
KWAZULU-NATAL
INYUVESI
YAKWAZULU-NATALI

26 August 2021

Ms Nonkululeko Cellular Bhengu (214538559)
School of Management, IT & Governance
Pietermaritzburg Campus

Dear Ms Bhengu,

Protocol reference number: HSS/1108/018M
Project title: Environmental Sustainability Management in Small Business Sector: A case of Pietermaritzburg Small, Micro and Medium Enterprises (SMMEs)
Amended title: Environmental sustainability management in the small business sector: A case of Pietermaritzburg small, medium and micro enterprises

Approval Notification – Amendment Application

This letter serves to notify you that your application and request for an amendment received on 18 August 2021 has now been approved as follows:

- Change in title

Any alterations to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form; Title of the Project, Location of the Study must be reviewed and approved through an amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

All research conducted during the COVID-19 period must adhere to the national and UKZN guidelines.

Best wishes for the successful completion of your research protocol.

Yours faithfully



Professor Dipane Hlalele (Chair)

/ms

Humanities & Social Sciences Research Ethics Committee
UKZN Research Ethics Office Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Tel: +27 31 260 8350 / 4557 / 3587
Website: www.ukzn.ac.za/research-ethics

Founding Campuses:  Edgewood  Pietermaritzburg  Westville
 Howard College  Medical School

INSPIRING GREATNESS

APPENDIX C
CONSENT FORM
UNIVERSITY OF KWAZULU-NATAL
School of Management, IT and Governance

Dear Respondent,

Research Project

Researcher: Nonkululeko Cellular Bhengu Telephone number: 0791358315 Email:
214538559@stu.ukzn.ac.za

Supervisor: Mr Nigel Chiweshe, Telephone number: 033 260 5355 Email: chiweshen@ukzn.ac.za

Research Office: Humanities & Social Sciences Research Ethics Administration, Govan Mbeki Building,
Westville Campus, Tel: + 27 (0)31 260 8350, Email: hssreclms@ukzn.ac.za

I, Nonkululeko Cellular Bhengu am a MCom in Entrepreneurship student in the School of Management, at the University of KwaZulu-Natal. You are invited to participate in a research project entitled Environmental Sustainability Management in Small Business Sector: A case of Small, Micro and Medium Enterprises (SMMEs) in Pietermaritzburg.

The aim of this study is to understand the environmental sustainability management undertaken by Pietermaritzburg SMMEs.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this research project. Confidentiality and anonymity of records will be maintained by the researcher and [School of Management in Pietermaritzburg Campus], UKZN. All collected data will be used solely for research purposes and will be destroyed after 5 years.

This study has been ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee (HSS/1108/018M).

The interview should take about 45 minutes/s to complete. Thank you for your time.

Sincerely

Researcher's signature _____ Date _____

[Nonkululeko Bhengu]

This page is to be retained by participant

UNIVERSITY OF KWAZULU-NATAL
School of Management, IT and Governance

Research Project

Researcher: Nonkululeko Bhengu Telephone number: 079 135 8315 Email: 214538559@stu.ukzn.ac.za

Supervisor: Nigel Chiweshe Telephone number: 033 260 5355 Email: chiweshen@ukzn.ac.za

Research Office: Humanities & Social Sciences Research Ethics Administration, Govan Mbeki Building, Westville Campus, Tel: 27 31 2604557, Email: hssreclms@ukzn.ac.za

CONSENT

I _____ (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project. I understand that I am at liberty to withdraw from the project at any time, should I so desire.

Additional consent, where applicable

I hereby provide consent to:

Audio-record my interview

YES / NO

Signature of Participant

Date

This page is to be retained by researcher

APPENDIX D
INTERVIEW GUIDE

1. What is your understanding or perceptions about environmental sustainability when it comes to your business?

2. In your opinion what can small businesses do to reduce its negative environmental impact?

3. What does your enterprise do to ensure that it is involved in environmental practices that can improve environmental sustainability?

4. What are the environmental issues that are of concern to your company?

5. What impact do you think your enterprise has on the environment?

6. In your opinion what do you think small businesses can do to reduce its negative environmental impact?

7. What are the measures your company takes to prevent or minimize and manage its environmental impact?

8. Is attending to environmental issues a great opportunity to reduce environmental impact? Please justify.

9. What are the factors motivating your enterprise to engage in environmental practices?

10. If your company is involved in environmental practices, what are the intentions for your company by being involved in environmental practices?

11. What are the challenges faced by your enterprise to consider environmental practices?

12. How does your enterprise deal with the challenges your enterprise comes across concerning environmental practices?

APPENDIX E

LANGUAGE EDITING CERTIFICATE

WITS CENTRE FOR DIVERSITY STUDIES (WICDS)

University of the Witwatersrand

13th Floor, University Corner

Wits Arts Museum Building



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Editorial Letter

09 July 2012

This is to confirm that I have conducted some language editing on the dissertation: **Environmental Sustainability Management in the Small Business Sector: A Case of Pietermaritzburg small, micro and medium enterprises (SMMEs).**

For any further information please do not hesitate to contact me.

Kind Regards

William J. Mpofu (0027-718022947)

William.mpofu@wits.ac.za